

**THE LAW AND ECONOMICS DEBATE ABOUT SECURED LENDING:
LESSONS FOR EUROPEAN LAWMAKING?**

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by

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Abstract

This review paper is a contribution to a symposium on the 'Future of Secured Credit in Europe'. Its theme is the way in which empirical research has shed light on earlier theoretical literature. These findings tend to suggest that the legal institution of secured credit is, on the whole, socially beneficial, and that such benefits are likely to outweigh any associated social costs. Having made this general claim, the paper then turns to consider the effects of four particular dimensions across which systems of secured credit may differ, and which may therefore be of interest to European law-makers. These are: (i) the scope of permissible collateral; (ii) the efficacy of enforcement; (iii) the priority treatment of secured creditors; and (iv) the mechanisms employed to assist third parties in discovering that security has been granted. In each case, consideration is paid first to the theoretical position, and then empirical findings. It is argued that perhaps the most difficult of these issues for European law-makers concerns the appropriate design of publicity mechanisms for third parties.

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1. Introduction

The desirability of secured lending was extensively debated in the early law and economics literature. On the one hand, it was argued that secured credit helped to mitigate problems flowing from information asymmetries in credit markets, and thereby facilitated the provision of debt finance to borrowers. Others, however, took a less benign view of the institution of secured credit, arguing that could facilitate the redistribution of wealth away from those unable to adjust the terms on which they advanced credit. This would be undesirable not only on distributional grounds, but on efficiency grounds as well: deadweight costs would be incurred by the excessive grant of secured credit in order to bring about such redistribution.

This literature has, in the eyes of many legal scholars and practitioners, lacked persuasive force because of its apparent divorce from reality. This criticism was famously articulated by Homer Kripke, who wrote in 1985 that contributions to the law and economics literature were, ‘notable for their use entirely of examples with assumed facts ... and for the absence of any attempt to determine whether these factual assumptions are typical of real world events’.¹ This type of criticism became a slogan under which many dismissed economic analysis as irrelevant to legal scholarship. However, in the interim, law and economics scholars have heeded Kripke’s call for more empirical research.² A growing empirical literature now exists on the use of secured credit, and the impact of changing laws that facilitate it. This paper reviews the empirical literature and argues that the findings tend to suggest that secured credit is, on the whole, socially beneficial, and that such benefits are highly likely to outweigh the social costs of any transactions motivated by redistribution.

Having made this general claim, this essay then turns to consider the effects of four particular dimensions across which systems of secured credit may differ, and which may therefore be of interest to European law-makers. These are: (i) the scope of permissible collateral; (ii) the efficacy of enforcement; (iii) the priority treatment of secured creditors; and (iv) the mechanisms employed to assist third parties in discovering that security has been granted. In each case, we will consider first the theoretical position, and then discuss empirical findings. In conclusion, it is argued that perhaps the most difficult of these issues for European law-makers concerns the appropriate design of publicity mechanisms for third parties.

2. General theories of secured credit

2.1 What does secured credit do?

The grant of a security interest may be understood from a functional perspective as conferring upon the lender two sets of entitlements, which relate respectively

to *priority* of payment and to *control* of the collateral.³ The control rights are what economists call ‘state contingent’, because their extent is contingent on whether the debtor continues to meet their obligations under the loan.⁴ Provided the debtor is not in default, the secured creditor’s control is of a purely negative variety, consisting of the ability to veto sales of the collateral. If the debtor is in default, then the secured creditor has a positive right (subject to any procedural restrictions imposed by insolvency law)⁵ to control the liquidation of the collateral. Moreover, the secured creditor is entitled to priority of repayment out of the proceeds of sale of the collateral.

From the point of view of the secured creditor, a grant of security lowers default risk. All other things being equal, a creditor may therefore be expected to offer a debtor more advantageous terms—for example, a reduced interest rate—when lending on a secured than an unsecured basis. However, the priority accorded to a secured creditor means that unsecured creditors will now fare worse in insolvency. They may therefore be expected to demand terms that are correspondingly less advantageous for the debtor—for example, an increased interest rate. From the debtor’s point of view, these adjustments in borrowing terms might be expected, in markets in which creditors adjust perfectly to the risks they undertake, to cancel each other out.⁶ Moreover, a grant of secured credit creates costs for the debtor—in terms of restrictions over alienation of assets—that are not present in an unsecured borrowing arrangement. The early literature on secured credit viewed these stylised facts as giving rise to a ‘puzzle’ over why debtors grant security: if the effect of security on a debtor’s aggregate cost of capital is neutral (secured creditors reduce rates, unsecured creditors increase them), and there are costs to the debtor associated with a grant of security, why bother?⁷

Various theories were advanced to explain why debtors might nevertheless be motivated to offer security to their creditors. These fall into two broad categories. ‘Efficiency’ theories of secured credit suggest that its use generates benefits not present in an all-unsecured capital structure, such that the total cost of credit goes down. ‘Redistributive’ theories, on the other hand, suggest that a reduced overall cost of credit is obtained at the expense of creditors who do not adjust their terms to reflect the fact that a grant of security has reduced the expected value of their claims. We will now briefly review each of these theories.

2.2 *Security and signalling*

Two principal theories—with diametrically opposed empirical predictions—were advanced to suggest that security interests could enhance efficiency in credit markets characterised by asymmetric information.⁸ The first, the

‘signalling’ theory, viewed security as a ‘hostage’ offered by a debtor to a creditor to demonstrate the seriousness of the debtor’s commitment to repayment.⁹ If security is something that would be more costly for a ‘low-quality’ borrower to offer than a ‘high-quality’ borrower, then willingness to offer it can be a credible signal of quality. In a market characterised by asymmetric information, the ability to use a signal can assist creditors in reducing their costs of screening potential borrowers. The prediction of the signalling theory is therefore that more creditworthy borrowers will be more willing to offer security. This is, however, contrary to available empirical evidence on the use of security, which finds that it tends to be granted more frequently by younger, and smaller firms—both known proxies for lower creditworthiness.¹⁰

The problem with the application of signalling theory to secured credit lies in a simplistic interpretation of the cost of granting security. It is assumed that a grant of security is costly for a debtor, because the debtor runs the risk of losing the collateral, and that this cost is greater (in expected value terms) for a less creditworthy debtor, because the risk of losing the collateral is greater. But from the debtor’s point of view, there is no difference in the consequences of default as between secured and unsecured borrowing: *in either case*, the debtor’s assets will be seized by creditors. The benefit of being a secured creditor under such circumstances is not vis-à-vis the debtor, but against other creditors—the secured creditor has priority as regards repayment. The difference between secured and unsecured borrowing, as perceived by the debtor, will rather be felt in states of the world in which default does *not* occur. Secured borrowing involves giving creditors rights to control the alienation of assets that are not present in unsecured lending. This means that the marginal cost to the debtor of granting security, as opposed to borrowing unsecured, is therefore *decreasing* with the probability of default, because the ‘cost’ is only incurred so long as the debtor does not default.¹¹ In other words, the early application of the signalling model in the literature was mis-specified, deriving the inverse prediction. In fact, properly specified, willingness on the debtor’s part may actually be a signal of *lack* of quality.¹²

2.3 Security and monitoring and bonding

A second theory posits social benefits from the use of secured credit as a means of preventing debtors from engaging in acts harmful to creditors’ interests.¹³ Security is thought to be able to assist creditors in lowering ‘financial agency costs’; that is, the costs of conflicts of interest between shareholders and creditors.¹⁴ For example, if the business is financially distressed, shareholders—or managers acting on their behalf—may have incentives to pursue highly risky strategies that actually have a negative net present value, simply because they

stand to benefit from the upside in the unlikely event that the strategy is successful. By restricting the ability of a debtor to alienate collateral, security enables the creditor to prevent the debtor from selling assets of stable value to fund more risky business ventures. Security also restricts the debtor's ability to borrow to fund such ventures. By granting existing lenders priority to the firm's assets, security forces new lenders to look primarily to the value generated by the ventures they fund, and thereby to scrutinise more carefully the purposes for which the debtor is borrowing.¹⁵

On the agency costs view, the grant of security is thus a bond by the debtor not to engage in wealth-reducing transactions.¹⁶ Such a bond is valuable to the debtor, because by 'tying its hands' to prevent itself entering such transactions *ex post*, it increases its borrowing capacity *ex ante*.¹⁷ This theory views security as closely related in function to loan covenants and contractual priority arrangements, which also impose restrictions on the debtor's freedom of action that may be justified as bonds against wealth-reducing transactions.¹⁸ In each case, we would expect these arrangements only to be agreed to if the benefits to the debtor outweigh the costs—hence riskier firms, which we might expect to be more prone to financial agency costs, would be more likely to use loan covenants and security.

In this context, the utility of secured credit is a function of its advantages over and above contractual covenants.¹⁹ The key to the difference lies in the consequences if the debtor ultimately defaults. As security creates proprietary rights, it is 'self-enforcing', whereas loan covenants are not. Security also has another difference from loan covenants: it allocates control (subject to restrictions imposed by insolvency law) over the enforcement process.²⁰ This permits creditors to allocate control over enforcement to those best-placed to maximise the value realised, and to deter other creditors from engaging in a wasteful 'race to collect' when the debtor is in financial difficulty.²¹ We would therefore expect security to be used by those firms which are riskiest, or about which creditors have least information. Risky firms are more likely to default, and hence more likely to go into insolvency proceedings. In keeping with these predictions, empirical studies from a number of jurisdictions establish that security tends to be used principally in relation to smaller, younger, and riskier firms.²²

On this view, the ability of corporate debtors to grant security has the potential to yield social benefits extending beyond the parties to the security agreement (that is, 'positive externalities').²³ *Ex ante*, by facilitating bonding and monitoring activity, security lowers the probability that the debtor will engage in wealth-reducing transactions, and helps to reduce the probability of default.

This increases the value of all creditors' claims. *Ex post*, by facilitating efficient enforcement, it can increase the overall 'size of the pie' for distribution.

2.4 Security and redistribution

A third theoretical explanation for the use of secured credit posits that it is or can be a mechanism for the transfer of wealth from one party to another. The mechanism for such wealth transfers depends on the presence of so-called 'non-adjusting' creditors: that is, creditors whose decision to extend credit does not fully reflect the increased risk (to them) associated with the fact that the debtor has granted security.²⁴ The intuition is that, all other things being equal, a loan made on a secured rather than an unsecured basis will carry with it a lower rate of interest, reflecting the reduction in risk that the lender will bear. Correlatively, an unsecured creditor is worse off if his debtor has granted security to another creditor. Thus unless unsecured creditors 'adjust' the terms of their credit to reflect the increased risk it brings for them, a grant of security may result in a transfer of wealth—in an expected-value sense—from unsecured debtors to the borrower.²⁵ By borrowing on a secured basis, the debtor obtains a lower interest rate; by failing to adjust, the 'cost' is borne by unsecured creditors.

This claim does not necessarily imply that the benefits of security discussed in the previous section do not exist.²⁶ Yet at the very least it implies that, even if such benefits exist, the possibility of such wealth transfers will lead debtors to take 'too much' security.²⁷ The costs of granting such 'unnecessary' security will be wasted. Moreover, non-adjusting creditors who thereby end up bearing the additional risk may be poorly diversified and so least well-placed to bear it.²⁸ Determining the extent to which these theories account for the use of secured credit is, however, an empirical question, and so we now turn to the empirical literature.

2.5 Empirical studies

Doubt has sometimes been cast on propositions made in the theoretical literature regarding secured credit about interest rate reductions. Each of the theories about security—whether they characterise it as efficiency-enhancing or redistributive—posits that a debtor grants security because it receives an interest rate reduction for doing so. Yet empirically, it appears that secured loans granted by banks in the UK, Germany and France are associated with interest rates no lower than for unsecured loans.²⁹ This leads some to question the extent to which the theories describe reality.³⁰ However, it is important to note that the theoretical claims about interest rate reductions are made *ceteris paribus*—that is, all other things being equal. Both the agency costs theory and the redistribution theory predict that security will tend to be most valuable in

relation to more risky borrowers. This means that when comparing secured and unsecured interest rates, all other things are not likely to be equal. Riskier borrowers would be likely to incur higher interest rates. So both security *and* increased interest rates are associated with riskier borrowers. Because of this selection effect, a comparison of interest rates for secured and unsecured loans may associate secured loans with higher interest rates. However, the appropriate comparison is rather with the terms on which borrowers with similar levels of credit risk to those observed to borrow on a secured basis would be offered *unsecured* credit. Studies which have sought explicitly to take this selection effect into account have found that borrowing on a secured basis tends to lower the cost of credit for debtors.³¹

Having clarified this point, we may now consider which of these theories derives most support from empirical studies of use of secured credit. As we have seen, in developed countries, security tends to be granted by firms which are at relatively greater risk of default.³² This is consistent with the predictions of both the agency costs and redistribution theories. The benefits of policing a debtor so as to reduce their likelihood of default will clearly increase with the debtor's riskiness. At the same time, the expected value of the 'insolvency share' of unsecured creditors, which the critics of security argue it permits to be 'sold' to secured creditors, also increases with the probability of the debtor's default. Evidence on the types of firm that obtain secured credit is therefore inconclusive: it could be explained by reference to either, or a combination of both, effects.

More specific studies allow us to draw some distinctions between the theories of secured credit. A recent study by Yair Listokin sets out to test the redistributive theory directly.³³ Listokin examines the capital structures of firms of a type that are likely to have significant numbers of tort non-adjusting creditors: US tobacco manufacturers. The redistributive theory would predict that these firms, likely to be on the receiving end of mass tort litigation, would be likely to carry more secured credit than the average borrower. This is because the tort victims are unable to adjust the terms on which they become creditors to reflect their subordination to secured claims. As such, tobacco firms ought, if security is used to transfer wealth from non-adjusting creditors, to load up with secured debt. Yet Listokin finds the opposite: tobacco companies actually use *less* secured debt than average. This strongly contradicts the redistributive theory. Other findings emerge from empirical studies that also tend to contradict the redistributive theory and support the agency costs view. Franks and Sussman, in a study of relations between UK banks and troubled borrowers, report that the presence of a secured corporate loan is correlated with the grant of personal guarantees by company directors.³⁴ Such guarantees assist the creditor in

controlling debtor misbehaviour. Mokal argues that their presence also tends to contradict the view that security is granted in order to transfer value from non-adjusting creditors to the debtor.³⁵ This is because, to the extent that a grant of corporate security precipitates a grant of personal security by the debtor company's directors, the latter incur a cost by granting corporate security.

More generally, it seems unlikely that there are significant numbers of 'non-adjusting' creditors, at least for firms outside the reach of US mass tort litigation. On the one hand, tort claims sufficient to bankrupt a defendant are rare outside the US.³⁶ On the other, the interests of tort victims are well-protected in the UK and in some other jurisdictions through systems of mandatory insurance for the most empirically significant categories of tort claim, coupled with statutory provisions that transfer an insolvent company's claim against a liability insurer to the injured party.³⁷

Those claiming that security is used to transfer wealth typically assume that trade creditors' adjustment is only partial, on the basis that they face relatively high information and transaction costs relative to the amount at stake. Yet we have seen that security tends to be ubiquitous amongst smaller, younger firms.³⁸ *A priori*, it would be surprising if trade creditors could not use these borrower characteristics as readily observable proxies for whether or not security had been granted. Moreover, the assumption that trade creditors only adjust to a limited extent does not seem consistent with empirical data. Whilst trade creditors do tend to offer the same *terms* to all 'borrowers' (that is, customers who purchase on credit),³⁹ the non-adjustment idea is contradicted by evidence that trade creditors tend to adjust the *amount* of trade credit granted in accordance with the debtor's creditworthiness and the scope for misbehaviour by the debtor.⁴⁰

Thus, whilst it is possible that some grants of security may be harmful to non-adjusting creditors, it seems likely that the beneficial aspects of security are empirically more significant.

3. Domestic laws and secured credit

Clearly, the institution of secured credit must be facilitated by a country's legal system in order to function. The essence of the institution is a rule whereby one creditor is entitled to claim control and/or priority to payment from an asset as regards an open-ended set of other parties. However, the choices for policymakers go far beyond a simple binary choice as to whether or not secured credit should be made available. Domestic systems of secured credit vary widely across a number of dimensions, from those granting plenary rights to senior creditors to those keeping the institution in much greater check. The

economic implications of policy choices over four of these dimensions will now be considered: (i) the *scope* of the collateral over which security may be taken; (ii) the extent to which secured creditors are given more rapid powers of *enforcement* than unsecured creditors; (iii) the extent to which secured creditors are accorded *priority* over unsecured creditors; and (iv) the manner, and extent to which, efforts are made to bring the existence of security to the attention of *third parties* so as to facilitate their adjustment.

In the discussion that follows, we wish to focus on the effects of choices made across each dimension individually. In order to elucidate these, the effects of each are considered *ceteris paribus*—that is, ‘all other things being equal’. Of course, in the real world, all other things are seldom equal, and so we should be very cautious about inferring that simply because *in theory* or *on aggregate* a particular change has a propensity towards a particular effect, that this will happen *in any given legal system* were such a change to be implemented. Most importantly, there are likely to be complementarities and substitutions between these different dimensions (and across others not discussed), such that national regimes which have formally different configurations may have functionally equivalent impacts on the real economy.⁴¹

It is commonly suggested in comparative discussions that common law systems are characteristically more liberal in their treatment of secured creditors’ rights than are their civilian counterparts.⁴² This receives some support from cross-country studies that seek to assign numerical values to the strength of creditor protection. A study of 129 countries using an index of creditor rights based on four aspects of the treatment of secured creditors in insolvency reports that jurisdictions the authors classify as being in the ‘French civil law’ tradition have significantly weaker protection than do those classified as ‘common law’, or ‘Germanic civil law’.⁴³ A subsequent study has sought to measure differences across 60 different dimensions by which creditor rights may vary, in four leading developed jurisdictions: France, Germany, the US and the UK.⁴⁴ It also reports that the extent to which creditors are able to take security is more restricted in France than in the other jurisdictions considered. Thus the discussion can readily be interpreted as having implications for European policymakers.

3.1 Scope of collateral

Jurisdictions vary in the extent to which they permit security to be granted over a debtor’s assets. Particular differences include the treatment of non-possessory security and of the availability of a general security interest over the entirety of a debtor’s assets.⁴⁵ Theoretically, we may predict that the legal facilitation of both non-possessory security and general security interests will be associated

with increased availability of debt finance.

The theoretical case for non-possessory security is straightforward. Requiring a creditor to take possession of the collateral greatly increases the cost to the debtor of granting security, and may impede the debtor's ability to conduct his business: the debtor is likely to have comparative advantage, as against the creditor, in putting his assets to use in his business. Thus we would expect restrictions on the use of non-possessory security to impose a significant constraint on the use of secured credit. If security has the benefits posited above, we would anticipate that the introduction of non-possessory security would increase the availability of debt finance.

Empirically, the transition economies of Eastern Europe provide an interesting 'natural experiment' regarding the introduction of non-possessory security. Whilst in the early 1990s all of these economies made available at least a basic security interest such as a mortgage of land, many did not permit non-possessory security interests. Haselmann, Pistor and Vig examine the impact on bank lending practices of changes in the laws of these countries relating to secured credit and bankruptcy during the period 1994-2002.⁴⁶ They use a simple index of collateral involving three measures: whether land may be taken as security; whether non-possessory security interests are recognised; and whether non-possessory security interests must be registered. Haselmann *et al* report that changes in collateral laws—the introduction of non-possessory security and associated registration mechanisms—are precursors to increases in bank lending to firms in the country in question in subsequent years, controlling for a range of other factors.⁴⁷ Moreover, the impact on bank lending of changes in collateral laws is more significant than changes in bankruptcy laws. Complementing this finding about banks' lending decisions, a study by Safavian and Sharma examines the impact of such changes on firms' access to finance.⁴⁸ They report that expansions in the scope of secured creditors' rights in 27 European countries during the period 2002-2005 were associated with increases in the amount of finance raised by firms. Facilitating greater scope for security appears therefore to stimulate lending and facilitate access to finance for firms. A second important dimension over which secured credit regimes differ concerns the availability, or otherwise, of general security interests covering the entirety of the debtor's assets. The theoretical case for such interests depends on a demonstration that the way in which security generates benefits depends in part upon the identity and lending strategy of the creditor and the scope of the collateral. In the discussion that follows, we consider first the case of security over specific assets, and secondly, the case of general security over the entirety of a debtor's assets.⁴⁹

Consider first a security interest in a single asset, or a particular class of assets.⁵⁰ This would be a natural complement for a creditor following an asset-based lending strategy. Such a lender relies not upon its predictions about the debtor firm's creditworthiness, but on the ability of specific asset classes to cover repayment.⁵¹ Such a security interest is therefore most valuable for a financier who has specialist knowledge about the asset class in question, and/or the market(s) in which it is sold. The lender's expertise would enable her to exercise her control rights effectively, and thereby facilitate the monitoring of the debtor's use of the collateral and—should default occur—enforcement against it. Moreover, the *priority* associated with the security interest can sharpen the lender's incentive to do so. As the lender's priority will be limited to the proceeds of sale of these assets, this will focus her attention on the fate of that asset, as opposed to that of the debtor company's business generally.⁵² Thus a security interest in a particular asset is most usefully granted to a creditor with specialist knowledge regarding the asset class in question. It not only allocates control rights to the party best placed to exercise them, but also gives the lender a powerful incentive to care about how they are exercised.

Now consider a general 'floating' security interest, over the entirety of the debtor's assets. In contrast to asset financiers, the approach generally adopted by banks is to advance funds on the basis of the debtor's general business prospects. A bank's credit decision could either be made using publicly available financial information, or could involve the creditor developing a relationship with the debtor where 'soft' information may be gathered on an ongoing basis to assist in making decisions about further advances in the future—so called 'relationship' lending.⁵³

A lender advancing credit on business-based criteria may be expected to invest in specialist knowledge about business generally, or—in the case of relationship lending—the debtor's business in particular. Granting a general security interest to such a lender can assist in controlling financial agency costs.⁵⁴ Where the debtor is relatively high-risk—as is the case with small businesses—then a relatively tight control is called for.⁵⁵ Giving veto rights to a range of creditors will lead to coordination costs in their decision-making. In contrast, concentrating the decision rights in the hands of a single, well-informed, creditor (which for simplicity we will call a 'bank') may be the most efficient way of managing the problem.⁵⁶ Financial economists speak of the bank acting as a 'delegated' monitor on behalf of the other creditors.⁵⁷

It might be thought that the priority associated with such a general security would weaken the bank's incentive to invest in gathering information about, and monitoring, the debtor's business.⁵⁸ The intuition is that if the bank is a senior

claimant, it will not be sufficiently concerned with monitoring the debtor. This intuition is based on two assumptions: (i) that more creditor control is always better than less; and (ii) that a junior creditor always has the strongest incentives to monitor. However, it may be that neither is reliable.

Creditor control has significant costs as well as benefits. These costs are the inverse of the costs of shareholder control. Just as the shareholders have an incentive to prefer excess risk; creditors have an incentive to prefer too *little* risk.⁵⁹ And just as shareholder's incentives are misaligned from maximising the firm's value when it is financially distressed, creditors' incentives are misaligned from value maximisation when it is solvent. It follows that the more financially distressed the debtor's position, the greater will be the benefits of creditor control, and the lower the costs. Thus it makes sense to give a concentrated creditor an incentive to intervene which will become progressively greater with the severity of the firm's financial distress.

However, a junior creditor's incentive (and ability) to exert control does not increase in linear fashion with the financial difficulties of the firm as a whole. Rather, a junior creditor's incentive to intervene begins early, when its claim is 'close to the money'. This may result in too much creditor 'discipline' for the firm.⁶⁰ Moreover, if the firm's financial position deteriorates seriously, a junior creditor will find its incentive and ability to intervene will decline, at the very point when it is potentially most valuable. Its incentive will be dulled by the fact that the marginal benefit of its efforts will now go to creditors ranked above it.⁶¹ Its ability to influence the debtor by threatening insolvency proceedings will weaken. The threat will cease to be credible as the creditor's likelihood of repayment in insolvency diminishes.⁶² Thus making bank debt senior may give the concentrated creditor an incentive to intervene when it matters most, and the ability to exert meaningful control.

That banks, with senior priority status, do in fact exercise this control when the debtor is financially distressed, in a way that is beneficial for other creditors, is apparent from empirical studies of banks' orchestration of informal rescues in the UK.⁶³ Franks and Sussman found that the average firm in their sample of financially distressed borrowers spent seven and a half months with banks' Business Support Units, and that—depending on the bank—somewhere between half to three quarters of these firms emerged from the process without going into formal insolvency proceedings.⁶⁴ Moreover, this is put into comparative context by a recent study of banks' recoveries in insolvencies in the UK, France and Germany.⁶⁵ The authors note that, despite the relatively high level of control rights accorded to creditors in the UK, as compared with the two other jurisdictions in their study, the incidence of formal insolvencies was

actually *lower*—and the use of informal ‘workouts’ correspondingly *higher*—in the UK than the other two countries. They attribute this to, amongst other things, the greater control rights granted to UK lenders through the use of general security.⁶⁶ The theoretical claim that the availability of general security—covering the entirety of the debtor’s assets—will tend to generate additional benefits over and above specific security therefore seems to find some empirical support.

To summarise the conclusions of this section: in theory, the facilitation of more extensive security—both in terms of the types of assets over which security may be granted, and the facilitation of a general wraparound security interest—is likely to foster access to credit and assist in reducing default risk for borrowers. Empirically, the introduction of non-possessory security is associated with greater availability of credit. The empirical literature on general security interests suggests that they may facilitate out-of-court restructurings of distressed firms.

3.2 *Enforcement of security*

The procedures which must be followed prior to the enforcement of security against collateral also vary widely across legal regimes.⁶⁷ Intuitively, we might expect that the more powerful the enforcement mechanism, the more effective security will be as a means of controlling debtor misbehaviour, because the ‘threat value’ of the collateral will increase.⁶⁸ Consequentially, we would expect stronger enforcement rights to be associated with greater availability of credit, less use of collateral for equivalent levels of borrowing, and lower interest rates. Empirical support exists for each of these propositions.⁶⁹ Most strikingly, in their study of the impact of changes in secured creditors’ rights across 27 European jurisdictions between 2002 and 2005 on firms’ access to bank loans, Safavian and Sharma found that changes in the law had ‘little impact’ in the presence of poor enforcement, but a ‘remarkable’ effect where enforcement was effective.⁷⁰

Having considered the case for facilitating enforcement of security *generally*, it is worth turning to a particularly difficult subset of issues—namely the extent to which secured creditors are permitted to enforce *in the insolvency of the debtor*.⁷¹ The first point to note in this regard is that granting secured creditors plenary enforcement rights in insolvency creates a potential problem. If there are multiple secured creditors, each having taken collateral over a particular asset or group of assets, then their simultaneous enforcement will lead to the dismemberment of the debtor’s business, and loss of any ‘going concern’ surplus.⁷² That is, where the firm’s assets may be worth more as a going concern than if broken up and sold separately, then the seizure of particular assets by

secured creditors will result in a loss of overall value *ex post*. For this reason, it may be desirable to stay the enforcement of security on the debtor's insolvency, through a moratorium or 'automatic stay'.

It is, however, important to understand the limits to the previous point's implications. First, it only provides a rationale for staying the enforcement of security insofar as there is in fact a going concern surplus to be realised. In many cases of business insolvency, the firm is 'economically distressed'—that is, its assets are worth more in some other use.⁷³ Under such circumstances, there will be no necessary synergies to liquidating the firm's assets together, as opposed to piecemeal. Staying secured creditors will not lead to higher realisations for the firm's assets. It will, however, impose delay costs on secured creditors, and hence a net social loss. To be sure, it may not be apparent at the commencement of insolvency proceedings whether a going concern exists. Under such uncertainty, it may make sense to have a presumptive stay, which can be waived in cases where it becomes clear that there is no going concern surplus generally, or that a particular asset in which security subsists is unnecessary to the successful continuation of the firm's business.⁷⁴

Secondly, concerns about dismemberment of the debtor's business by secured creditors do not extend to the enforcement of general floating security interests over the entirety of the debtor's assets.⁷⁵ This is because the enforcement of such a security interest can involve the sale of all of the debtor's assets, either together as a going concern, or broken up on a piecemeal basis, as is appropriate. This mode of enforcement was, until recently, permitted in the UK for the holder of a floating charge covering all, or substantially all, of the debtor company's assets, where the process was known as 'administrative receivership'.⁷⁶

However, a different problem arises where a single creditor enforces a general hypothecation. This does not so much concern the possible dismemberment of the business, but rather that giving control over the realisation of the assets to a creditor with a senior priority position might result in them applying less effort in realising them than might be optimal. This might happen where the value of the company's assets is greater than the amount owing to the secured creditor. Under such circumstances, the creditor lacks an incentive to expend effort on realising the assets for more than the amount of the secured claim. This would reduce recoveries for unsecured creditors and potentially lead to the inappropriate closure of good firms.⁷⁷

Theoretical literature has debated how great a problem this 'perverse incentive' problem actually is. To be sure, if the secured creditor is not in fact oversecured,

then it is the residual claimant in the debtor's insolvency, and has perfectly aligned incentives to carry out the liquidation of the collateral.⁷⁸ However, concern over possible lost value where the secured creditor was oversecured lead the UK government to abolish (prospectively) the administrative receivership procedure from 2003, and to replace it with a more collective mechanism, administration.⁷⁹ This places the administrator running the case under a fiduciary duty to act in the interests of all creditors, and requires him to refer his proposals to a vote of the unsecured creditors.⁸⁰ However, control by unsecured creditors may not be a panacea: it brings with it increased coordination costs, and reduced decision-making efficiency, because the unsecured creditors are more dispersed and typically less well-informed about the debtor company's business than would be a single secured creditor in a relational lending association with a debtor.⁸¹

Two recent empirical studies appear to bear out the idea that control by a single secured creditor, who is owed a large proportion of the firm's outstanding debt, does no worse in generating recoveries for creditors than does control of a collectivised insolvency process by unsecured creditors. In the first of these, Djankov *et al* study the operation of insolvency procedures around the world, which they divide roughly into 'foreclosure' procedures (run for the benefit of secured lenders) and 'reorganisation' procedures (run for the benefit of the creditors collectively).⁸² They ask practitioners in each jurisdiction to estimate likely recoveries for a hypothetical case. The results suggest that, for this set of facts, 'foreclosure' procedures where general floating charge security is available are in fact more efficient—measured by time, costs, and propensity to allocate the debtor's assets to their highest-valued use, than 'reorganisation' procedures.⁸³ The second study, by Armour *et al*,⁸⁴ is an empirical investigation of the impact of the change in UK insolvency law that replaced the administrative receivership procedure with the more collective administration. The authors find that whilst overall realisations have increased under the new procedure—and, in keeping with the criticisms of foreclosure procedures, the increase is principally found in cases where the debtor is oversecured—so too have costs, such that there appears to be little overall difference for unsecured creditors.⁸⁵

To conclude this section: it appears desirable to permit secured creditors to enforce effectively, to the greatest degree possible, outside of insolvency, and even in insolvency proceedings if there is no going concern surplus to be realised. Even where a going concern surplus exists in insolvency, enforcement by a single secured creditor may on average achieve outcomes that are not significantly different from a more collectivised process.

3.3 Priority and Redistribution

It is a core feature of security that the secured creditor enjoys a right to priority of payment from the sale of the collateral on enforcement. In the debtor's insolvency, this right entitles the secured creditor to payment ahead of the general unsecured creditors. However, concerns about the possible redistributive features of security discussed in section 2.4 above lead some to argue that the claims of secured creditors should be subordinated to the claims of certain unsecured creditors.

One suggestion, first proposed by David Leebron, is to prioritise the claims of non-adjusting creditors—principally, tort victims—ahead of all other creditors.⁸⁶ This would mean that the firm's likely exposure to non-adjusting creditors would affect the expected payoffs in default of the firms *adjusting* creditors. Hence these creditors—who do bargain over the terms of their loans—would take this likely exposure into account *ex ante* when negotiating. This would encourage the firm to internalise the expected costs of its activities vis-a-vis non-adjusting claimants.

A more extensive policy involves a (partial) subordination of secured creditors in favour of unsecured creditors generally, on the basis that distinguishing between adjusting and non-adjusting creditors may be difficult to do, and that most unsecured creditors are in any event likely to have made incomplete adjustment to the risk of the debtor's insolvency.⁸⁷ To avoid this amounting to the effective abolition of secured credit, the proposal is usually made for some limit on the extent to which subordination occurs—for example, that it be effective only with respect to a fixed percentage of the collateral, or only up to a fixed ceiling in value, or both.

Clearly, such statutory subordination will tend to reduce the value of secured credit to lenders. Yet at the same time such a change may be expected to have a positive impact on unsecured creditors, or those groups of unsecured creditors which are prioritised. To the extent that such creditors are unable to adjust *ex ante*, this may, as with Leebron's proposal, be expected to have a positive effect on debtor firms' incentives to internalise risk that otherwise might fall onto unsecured creditors. However, to the extent that unsecured creditors *are* able to adjust their claims *ex ante*, such *ex post* redistribution simply reallocates value as between two classes of claimant. This may be thought to have two potentially undesirable effects. First, it may affect firms' financing choices, by biasing them against the use of particular forms of secured debt. At the margin, unsecured debt may become more attractive relative to secured debt. More significantly, lenders may substitute asset-based financing techniques involving true sales (such as factoring or invoice discounting of receivables, or sale-and-leaseback

transactions with respect to tangible assets) for secured debt that might previously have been used. To the extent that certain forms of secured debt may yield ‘positive externalities’ for unsecured creditors that these substitutes do not, this may be a retrograde step. Secondly, the very process of effecting redistributive payments will be costly, and if no additional value is created by the transfer (as with a transfer from one adjusting creditor to another) then this cost is simply a deadweight loss to society.⁸⁸

Some light may be shed on these issues by the experience of jurisdictions which have enacted such partial priority rules. In Finland, recoveries from security interests over circulating assets were, from 1993, subjected to a 40% carve-out in favour of unsecured creditors.⁸⁹ Bergström *et al* study the effect of this on recoveries and costs in Finnish insolvency proceedings. As might be expected, there is an increase in recoveries for unsecured creditors (from, on average, 0.9% of face value to 4.0%);⁹⁰ contrary to some predictions, however, the implementation does not appear to have resulted in any increased direct costs in insolvency proceedings.⁹¹ As the authors of the study acknowledge, their data includes only *ex post* variables on outcomes in insolvency, and so does not permit them to investigate whether or not the change resulted in differences in firms’ financial structures. A similar change in priorities was adopted in the UK in 2003, requiring that a proportion of the recoveries from floating charges created after this date, known as the ‘prescribed part’, be set aside to satisfy unsecured creditors’ claims.⁹² There is some evidence that this may have encouraged a substitution from floating charges to more use of asset-based finance, and that consequently this may be hampering the resolution of financial distress by increasing the number of negotiating parties.⁹³ More general evidence on the *ex ante* impact of differences in priority comes from a cross-sectional study of secured lending in the UK, France, and Germany. The authors find that in jurisdictions where statutory re-ordering of priorities occurs, creditors demand a higher ratio of collateral to loan value, and focus their lending activity to a greater degree on classes of collateral not subject to such re-ordering.⁹⁴

The following tentative conclusions may be drawn from this section. *Ex post* redistribution can result in increased recoveries for unsecured creditors, and its implementation does not appear to generate in significant additional direct costs in insolvency proceedings. Where the beneficiaries are non-adjusting creditors, this may encourage debtors to internalise the costs that their activities may impose on such parties. However, such redistribution may also be associated with a reduction in the use of any types of secured credit which are subjected to subordination. Where it is easy for creditors to substitute into different types of financing structure, this may defeat the object of subordination, and may detract

from some of the benefits of having secured credit in a capital structure. That said, the effects either way do not appear to be particularly large.

3.4 Informing third parties

All jurisdictions permitting non-possessory security implement some mechanism for bringing the existence of security interests to the attention of other creditors.⁹⁵ It is common to combine this with rules that deny proprietary effect to security interests that are not appropriately publicised. In simple terms, the policy goal here might be understood as a desire to minimise the search costs that subsequent parties—whether they are adjusting creditors or purchasers of assets potentially subject to security interests—may need to incur in order to determine the extent of any security previously granted by the debtor.⁹⁶ However, there may be a trade-off to be made between facilitating discovery by third parties and permitting customisation and innovation in the nature and use of security, as between debtor and creditor.

Broadly speaking, legal systems employ three types of strategy to reduce the search costs of subsequent creditors.⁹⁷ The first strategy, historically characteristic of civil law regimes, is to limit the varieties of security interest which may be granted, and the extent to which they may be customised, to a fixed list, or *numerus clausus*. The idea in this case is that parties operating within the system will familiarise themselves with and learn the contents of the list, so being aware, at least in general terms, of the types of interest which may be used. This understanding can be used to reduce their search routines into a list of questions or enquiries specific to the interests on the list.⁹⁸ A second mechanism, historically characteristic of common law systems' treatment of non-possessory equitable proprietary rights, is what may be termed 'selective enforcement'.⁹⁹ Under this strategy, non-possessory proprietary rights are only enforceable against third parties if (broadly speaking) that party's costs to discover the right's existence would be lower than the costs the holder of the right would incur to publicise the right's existence. In other words, something that may be roughly equated with a 'least-cost avoider' analysis is applied to determine whether or not such proprietary rights should be effective.¹⁰⁰ In legal terms, this is the application of a (contextual) 'constructive notice' rule: the third party may succeed in trumping the holder of the non-possessory proprietary right if they are unable to discover at low cost that an asset is subject to such a right.

A third technique, now employed in many jurisdictions, is to require those taking security interests to publicise their existence through inclusion on some variety of public register.¹⁰¹ Here the search costs of creditors are reduced by examining the register to determine the existence of security interests. The

extent to which this is effective depends, however, on the technology employed to disseminate information on the register. Historically, the transaction costs associated with the use of public registers were very high, and so the *numerus clausus* and selective enforcement strategies were realistic alternatives. However, the advent of the internet has greatly reduced the costs involved in updating and searching registers, giving this strategy a clear advantage, at least in theory, over the others.

The choice of publicity strategy affects more than third parties' search costs. Each of these strategies also has some degree of impact on the extent to which debtors and creditors may customise or innovate over aspects of security interests. Under a *numerus clausus* regime, for example, new types of security interest cannot readily be countenanced. In contrast, selective enforcement allows for much greater innovation in financial contracts, although it requires greater judicial engagement with specific facts.¹⁰² Under a selective enforcement regime, the contours of a security interest can in principle vary according to how debtor and creditor find it to their mutual advantage to arrange things: however, this will only bind third parties to the extent that they are able to discover the terms at low cost.

Turning to the registration strategy, the impact on customisation and innovation depends on the particular way in which the system operates. Some are structured so as to specify a list of types of security interest that must be registered, and the details which must be included in the public notice. We may term this a 'specific' registration system. An example of this type of approach is found in the UK's companies legislation, which sets out a list of different types of security that are registrable, and specifies the type of information that must be disclosed.¹⁰³ Others apply a more general test, utilising a functional or open-ended definition of what counts as a registrable security interest, and impose minimal obligations concerning the content of disclosure. We may term this a 'generic' registration system. Article 9 of the Uniform Commercial Code is perhaps the best-known example of such a system. This applies to any 'security interest' falling within an open-ended functional test,¹⁰⁴ and requires very little in the way of notification other than the names of the parties.¹⁰⁵

As between the two, it will be seen that the more specific the determination of which types of security are registrable and what must be registered, the lesser innovation as regards the scope and terms of the security interest may be permissible. That is, having a fixed list of registrable securities is akin to a form of the *numerus clausus* principle, and tends to focus attention on the characteristics of particular types of security; whereas a generic test, by avoiding this, permits greater customisation and innovation in the form of

security arrangements. This may be thought to come at the price of higher search costs for third parties: a generic registration system does not specify particular details that must be registered in relation to a security interest, and hence requires third parties not only to consult the register, but also to seek warranties from the debtor or to consult the secured creditor as to the scope and nature of the security. However, the benefit of a specific registration system, in terms of third party search costs, may be illusory. This is because even a specific registration system is unlikely to provide all details that subsequent lenders wish to know, hence necessitating them to consult the secured creditor in any event. Under such circumstances, the costs associated with the transmission of the specific registration information may be wasted.

It can be seen that the choice of mechanism for disseminating information about the existence of security interests has implications not only for the search costs of third parties, but also for the ability of lenders and borrowers to customise and innovate secured credit arrangements. This latter ability may have important benefits for the provision of finance.¹⁰⁶ The literature on this topic is relatively underdeveloped compared to many of the other issues discussed, and so any conclusions must be tentative. Nevertheless, it seems tolerably clear that the restriction of customisation and innovation is a serious limitation of the *numerus clausus* approach. As between the other mechanisms, both a selective enforcement strategy and a generic registration regime are capable of achieving a trade-off between customisation and search costs. Of these two, a registration regime seems clearly preferable for any kind of pan-European endeavour. This is because selective enforcement works best when third parties have relatively homogeneous expectations regarding the dimensions of security interests. However, as domestic laws differ widely, such an approach would be better avoided at the European level. A generic registration system would notify third parties of the identity of secured creditors, but not the dimensions of their security, which could be left to private enquiry.

4. Conclusions

This essay has surveyed the law and economics literature on secured credit, with a view to extracting propositions salient to European lawmakers. It seems clear that the empirical turn in the law and economics literature means that it is able to offer more lessons for European law-making than might previously have been imagined. Of the theories that have been advanced to explain the use of secured credit, the most plausible is that it functions to assist creditors in monitoring debtor behaviour, and in bonding debtors not to misbehave. This theory views secured credit as a beneficial social institution. The alternative view, that security functions to effect redistribution from non-adjusting creditors, receives scant support from the empirical literature. The starting point

for discussion by lawmakers is therefore that security has the potential to generate social benefits, through reducing the default risk of marginal firms.

In theory, the facilitation of more extensive security—both in terms of the types of assets over which security may be granted, and the facilitation of a general floating security interest—is likely to foster access to credit and assist in reducing default risk for borrowers. Empirically, the introduction of non-possessory security is associated with greater availability of credit. The empirical literature on general floating security interests suggests that they may facilitate out-of-court restructurings of distressed firms.

There is an interaction between the scope of permitted security and the extent of secured creditors' ability to enforce against their collateral: stronger enforcement powers are associated with greater willingness to lend. It appears desirable to permit secured creditors to enforce effectively even on the insolvency of the debtor, in circumstances where there is no going concern surplus to be realised. Even where a going concern surplus exists in insolvency, enforcement by a single secured creditor may achieve similar outcomes to a more collectivised process.

Finally, there are potentially important, but seldom-analysed, trade-offs between the mechanisms used to facilitate the discovery by third parties of existing security interests and the extent to which debtors and creditors are able to customise and innovate regarding the terms of their security. Whilst our understanding of these trade-offs is not yet supported by any empirical work, a plausible *a priori* case can be made for reliance on a generic registration mechanism—that is, a system that does not attempt to segment the form of the registration obligation according to the type of security interest involved. This is likely to be particularly beneficial in circumstances where, as within the EU, the parties who may deal with a debtor have heterogeneous expectations as to the types of security interest that may be encountered.

Notes

¹ H Kripke, 'Law and Economics: Measuring the Economic Efficiency of Commercial Law in a Vacuum of Fact' (1985) 133 *University of Pennsylvania Law Review* 929, 961.

² *Ibid.*, 984.

³ See generally, RM Goode, *Legal Problems of Credit and Security* (3rd ed., 2003), 1-3.

⁴ On the terminology, see, e.g., A Kalay and JF Zender, 'Bankruptcy, Warrants, and State-Contingent Changes in the Ownership of Control' (1997) 6 *Journal of Financial Intermediation* 347, 349.

⁵ Such as the moratorium imposed by UK law on the enforcement of security in administration proceedings: Insolvency Act 1986 Sch B1, para 43.

⁶ TH Jackson and AT Kronman, 'Secured Financing and Priorities Among Creditors' (1979) 88 *Yale Law Journal* 1143, 1148.

⁷ See A Schwartz, 'Security Interests and Bankruptcy Priorities: A Review of Current Theories' (1981) 10 *Journal of Legal Studies* 1.

⁸ For reviews, see *ibid*; GG Triantis, 'Secured Debt Under Conditions of Imperfect Information' (1992) 21 *Journal of Legal Studies* 225; BE Adler, 'Secured Credit Contracts', in P Newman (ed.), *The New Palgrave Dictionary Of Economics And The Law* (Basingstoke: Macmillan, 1998), Vol. 3, 405; J Tirole, *The Theory of Corporate Finance* (Princeton, NJ: Princeton University Press, 2006), 164-170; 251-254.

⁹ See, e.g., H Bester, 'The Role of Collateral in Credit Markets with Imperfect Information' (1987) 31 *European Economic Review* 887.

¹⁰ See AN Berger and GF Udell, 'Collateral, Loan Quality, and Bank Risk' (1990) 25 *Journal of Monetary Economics* 21; SS Chen, GHH Yeo, and KW Ho, 'Further Evidence on the Determinants of Secured Versus Unsecured Loans' (1998) 25 *Journal of Business Finance and Accounting* 371; MA Lasfer, 'Debt Structure, Agency Costs and Firm's Size: An Empirical Investigation', working paper, Cass Business School (2000).

¹¹ This may be demonstrated formally as follows. Let b denote the private benefits the debtor enjoys from retaining complete control of the collateral and let p (where $0 < p < 1$) denote the probability of default. The additional cost of borrowing on a secured basis (as opposed to unsecured), from the debtor's point of view, which we will term c , is determined as follows: $c = (1 - p) b$. It can be seen that as $p \rightarrow 1$, $c \rightarrow 0$.

¹² A point made by Kripke, above n 1, 969-970. It should be noted, however, that security can act as a signal of quality where it is given by a party other than the principal debtor. The clearest example is where a company director offers a guarantee of corporate debts: from the point of view of the guarantor, the cost of such an arrangement is clearly rising with the probability of default. Further, we may expect this cost to be priced into the deal by which the principal debtor induces the guarantor to offer this undertaking. So-called 'outside' security is thus a genuine signal of debtor quality.

¹³ CW Smith and JB Warner, 'Bankruptcy, Secured Debt, and Optimal Capital Structure: Comment' (1979) 34 *Journal of Finance* 247.

¹⁴ MC Jensen and WH Meckling, 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure' (1976) 3 *Journal of Financial Economics* 305, 333-343. The term 'financial agency costs' is taken from GG Triantis, 'A Free-Cash-Flow Theory of Secured Debt and Creditor Priorities' (1994) 80 *Virginia Law Review* 2155, 2158. This account is, like the signalling theory, also based on mitigating the effects of asymmetric information. Whereas the signalling explanation focuses on asymmetries of information between debtor and creditor *prior* to contracting, the agency costs story focuses on asymmetries of information *after* a loan contract has been agreed.

¹⁵ A Schwartz, 'A Theory of Loan Priorities' (1989) 18 *Journal of Legal Studies* 209; O Hart, *Firms, Contracts and Financial Structure* (Oxford: Clarendon Press, 1995), 126-151. Were the existing lender not granted priority, the new lender would be able to poach, as its cushion against default, part of the 'cushion' of assets which protected the earlier lender against the risk of default. The competitive interest rate required for the second loan would therefore be commensurately lower. In effect, the firm would have been able to secure finance at less than the competitive rate by expropriating the earlier creditor: Schwartz, *ibid*, 228-234.

¹⁶ See Triantis, above n 8.

¹⁷ The impact on debt capacity could be interpreted either as an interest rate reduction from the secured creditor, or, in a market characterised by credit rationing owing to adverse selection problems (see J Stiglitz and A Weiss, 'Credit Rationing in Markets with Imperfect Information' (1981) 71 *American Economic Review* 393), an increase in the amount of credit offered.

¹⁸ CW Smith and JB Warner, 'On Financial Contracting: An Analysis of Bond Covenants' (1979) 7 *Journal of Financial Economics* 117; MJ Barclay and CW Smith, 'The Priority Structure of Corporate Liabilities' (1995) 50 *Journal of Finance* 899; GG Triantis, 'Financial Slack Policy and the Laws of Secured Transactions' (2000) 29 *Journal of Legal Studies* 35.

¹⁹ A Schwartz, 'Priority Contracts and Priority in Bankruptcy' (1997) 82 *Cornell Law Review* 1396.

²⁰ RE Scott, 'The Truth About Secured Lending' (1997) 82 *Cornell Law Review* 1436.

²¹ RC Picker, 'Security Interests, Misbehaviour, and Common Pools' (1992) 59 *University of Chicago Law Review* 645.

²² See sources cited above n 10.

²³ See Triantis, above n 8; S Schwarcz, 'The Easy Case for the Priority of Secured Claims in Bankruptcy' (1997) 47 *Duke Law Journal* 425; RJ Mokal, 'The Search for Someone to Save: A Defensive Case for the Priority of Secured Credit' (2002) 22 *Oxford Journal of Legal Studies* 687.

²⁴ JH Scott, Jr, 'Bankruptcy, Secured Debt and Optimal Capital Structure' (1977) 32 *Journal of Finance* 1; L LoPucki, 'The Unsecured Creditor's Bargain' (1994) 80 *Virginia Law Review* 1887; LA Bebchuk, and JM Fried, 'The Uneasy Case for the Priority of Secured Claims in Bankruptcy' (1996) 105 *Yale Law Journal* 857; V Finch, 'Security, Insolvency and Risk: Who Pays the Price?' (1999) 62 *Modern Law Review* 633. The terminology 'non-adjusting' is taken from Bebchuk and Fried, *ibid*, 885-886.

²⁵ Even outside the case of the debtor's insolvency, unsecured creditors are prejudiced if their expected return on default decreases, should they wish to realise the value of the loan before maturity through a secondary market.

²⁶ In its strongest form, this theory denies security has any social benefit, and is purely redistributive in operation. In a more modest form, proponents accept that security may have social benefits, but nevertheless point to the possibility for redistribution that may lead debtors to grant security to an extent greater than is efficient

²⁷ Bebchuk and Fried, above n 24, 895-903.

²⁸ Finch, above n 24, 645.

²⁹ SA Davydenko and JR Franks, 'Do Bankruptcy Codes Matter? A Study of Defaults in France, Germany and the UK' forthcoming (2008) 63 *Journal of Finance*, available at www.ssrn.com, 49 (Table XII) (presence of security is, if anything, positively correlated with loan interest margins). However, *cf* H Fleisig, M Safavian, and N de la Peña, *Reforming Collateral Laws to Expand Access to Finance* (Washington, DC: World Bank, 2006), 6 (terms offered to Bolivian borrowers include lower interest rate for secured than unsecured loans).

³⁰ See e.g., RM Goode, *Principles of Corporate Insolvency Law*, 3rd ed. (London: Sweet & Maxwell, 2005), 47.

³¹ See JR Booth and LC Booth, 'Loan Collateral Decisions and Corporate Borrowing Costs' (2006) 38 *Journal of Money, Credit and Banking* 67; E Benmelich and N Bergman, 'Collateral Pricing', working paper, Harvard University Department of Economics/MIT Sloan School of Management (2007).

³² See above, n 10, and text thereto.

³³ YJ Listokin, 'Is Secured Debt Used to Redistribute Value from Tort Claimants in Bankruptcy? An Empirical Analysis', forthcoming (2008) 58 *Duke Law Journal*.

³⁴ J Franks and O Sussman, 'Financial Distress and Bank Restructuring of Small to Medium-Size UK Companies' (2005) 9 *Review of Finance*, 65, 80.

³⁵ Mokal, above n 23, 713-717.

³⁶ The author conducted interviews with approximately 20 Insolvency Practitioners during 1999-2000 (see J Armour and S Frisby, 'Rethinking Receivership' (2001) 21 *Oxford Journal of Legal Studies* 73, 102), amongst other things asking subjects whether they had ever had to deal with significant tort liabilities in relation to a case they had conducted. No subject was able to identify a case where this had occurred.

³⁷ In the UK, this is done by the Third Parties (Rights Against Insurers) Act 1930.

³⁸ See sources cited above, n 10.

³⁹ Trade credit is typically offered on very similar terms within an industry: CK Ng, JK Smith and RL Smith, 'Evidence on the Determinants of Trade Credit Terms in Interfirm Trade' (1999) 54 *Journal of Finance* 1109, 1120-1121.

⁴⁰ See, e.g., MA Petersen and R.J Rajan, 'Trade Credit: Theories and Evidence' (1997) 10 *Review of Financial Studies* 661, 678-679 (borrowers with observably higher credit quality obtain more trade credit); M Burkart, T Ellingsen, and M Giannetti, 'What You Sell is What You Lend? Explaining Trade Credit Contracts', ECGI Finance Working Paper 071/2005, November 2004 (more trade credit is granted where buyer is less able to divert inputs supplied to another use).

⁴¹ On the terminology, see RJ Gilson, 'Globalizing Corporate Governance: Convergence of Form or Function' (2001) 49 *American Journal of Comparative Law* 329, 338-339.

⁴² See, e.g., PR Wood, *Maps of World Financial Law*, 5th ed. (London: Allen & Overy LLP, 2005), 89-105.

⁴³ See S Djankov, C McLiesh and A Shleifer, 'Private Credit in 129 Countries' (2007) 84 *Journal of Financial Economics* 299, 308. It should be noted that

there are significant doubts amongst comparative lawyers as to whether the exercise of seeking to classify so many countries into a limited number of legal ‘families’ is meaningful: see M Siems, ‘Legal Origins—Reconciling Law & Finance and Comparative Law’ (2007) 52 *McGill Law Journal* 55.

⁴⁴ J Armour, S Deakin, P Lele and M Siems, ‘How Does Law Evolve? Evidence from Cross-Country Data’, working paper, University of Cambridge Centre for Business Research (2007).

⁴⁵ See, e.g., Wood, above n 42, 90-91; Jan-Hendrik Röver, *Secured Lending in Eastern Europe: Comparative Law of Secured Transactions and the EBRD Model Law* (Oxford: Oxford University Press, 2007), 161-166; M Bridge, ‘The Scope and Limits of Security Interests’ (2008) 5 *European Company and Financial Law Review* ____.

⁴⁶ R Haselmann, K Pistor, and V Vig, ‘How Law Affects Lending’, Columbia Law and Economics Working Paper No 285 (2006).

⁴⁷ An obvious concern with such a study is the risk of endogeneity—that is, that changes in collateral laws are themselves triggered by increases in lending. The authors respond to this by testing for links between changes in collateral laws and differences in the supply of credit one year later. The interpretation that legal changes in credit markets cause changes in collateral laws in previous years is implausible, thereby clarifying the direction of any causal links.

⁴⁸ M Safavian and S Sharma, ‘When Do Creditor Rights Work?’, World Bank Policy Research Working Paper No 4296 (2007), 36 (Table 8).

⁴⁹ The discussion in this section draws on J Armour, ‘Should We Redistribute in Insolvency?’ in J Getzler and J Payne (eds), *Company Charges: Spectrum and Beyond* (Oxford: OUP, 2006), 189, 208-212.

⁵⁰ The following discussion holds equally if the transaction is structured as a title retention, hire purchase, or finance lease, each of which is functionally similar to a security interest in a specific asset.

⁵¹ See AN Berger and GF Udell, ‘Small Business and Debt Finance’ in ZJ Acs and DB Audretsch (eds), *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction* (Boston, MA: Kluwer, 2003).

⁵² S Levmore, ‘Monitors and Freeriders in Commercial and Corporate Settings’ (1982) 92 *Yale Law Journal* 49; SD Longhofer and JAC Santos, ‘The Paradox of Priority’ (2003) 32 *Financial Management* 69.

⁵³ See Berger and Udell, above n 51.

⁵⁴ RE Scott, ‘A Relational Theory of Secured Financing’ (1986) 86 *Columbia Law Review* 901, 926-929; Armour and Frisby, above n 37, 79-86.

⁵⁵ See M Carey, M Post and SA Sharpe, ‘Does Corporate Lending by Banks and Finance Companies Differ? Evidence on Specialization in Private Debt Contracting’ (1998) 53 *Journal of Finance* 845, 847.

⁵⁶ MA Petersen and RJ Rajan, ‘The Benefits of Lending Relationships: Evidence from Small Business Data’ (1994) 49 *Journal of Finance* 3.

⁵⁷ See, e.g., DW Diamond, ‘Financial Intermediation and Delegated Monitoring’ (1984) 51 *Review of Economic Studies* 393.

⁵⁸ Jackson and Kronman, above n 6, 1149-1161; E Fama, ‘Contract Costs and Financing Decisions’ (1990) 63 *Journal of Business* S71, S84; Finch, above n 24, 258.

⁵⁹ Jensen and Meckling, above n 14.

⁶⁰ DW Diamond, ‘Seniority and Maturity of Debt Contracts’ (1993) 33 *Journal of Financial Economics* 341.

⁶¹ C Park, ‘Monitoring and the Structure of Debt Contracts’ (2000) 55 *Journal of Finance* 2157; SD Longhofer and JAC Santos, ‘The Importance of Bank Seniority for Relationship Lending’ (2000) 9 *Journal of Financial Intermediation* 57.

⁶² Park, *ibid*; R Elsas and JP Krahen, ‘Collateral, Relationship Lending and Financial Distress: An Empirical Study on Financial Contracting’, working paper, Department of Finance, Goethe-Universität Frankfurt (2002).

⁶³ Armour and Frisby, above n 37, 91-95; Franks and Sussman, above n 34, 84-93. See also, in an historical context, M Baker and M Collins, ‘English Commercial Banks and Business Client Distress, 1946-63’ (2003) 7 *European Review of Economic History* 365.

⁶⁴ Franks and Sussman, above n 34, 76-77.

⁶⁵ Davydenko and Franks, above n 29.

⁶⁶ *Ibid.*, 21.

⁶⁷ See generally, Röver, above n 45, 289; E Dirix, ‘Remedies of Secured Creditors Outside Insolvency’ (2008) 5 *European Company and Financial Law Review* ____.

⁶⁸ See Tirole, above n 8, 540.

⁶⁹ See J Qian and PE Strahan, ‘How Law and Institutions Shape Financial Contracts: The Case of Bank Loans’, working paper, Boston College and Wharton Financial Institutions Center (2004) (when a country’s laws provide stronger protection of creditor rights, interest rates are lower, lenders use less collateral); V Vig, ‘Access to Collateral and Corporate Debt Structure: Evidence from a Natural Experiment’, working paper, Columbia University

Business School (2006) (enhancement of enforcement rights of secured creditors in India in 2002 resulted in less use of collateral).

⁷⁰ Safavian and Sharma, above n 48, 15-17. The ‘effectiveness’ of enforcement was measured using indicators based on (i) length of time in judicial proceedings and (ii) survey evidence on domestic firms’ perceptions as to confidence in judicial enforcement: *ibid.*, 29.

⁷¹ See generally, M Brinkmann, ‘The Position of Secured Creditors in Insolvency’ (2008) 5 *European Company and Financial Law Review* ____.

⁷² TH Jackson, ‘Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors’ Bargain’ (1982) 91 *Yale Law Journal* 857, 864-865; D Webb, ‘An Economic Evaluation of Insolvency Processes in the UK: Does the 1986 Insolvency Act Satisfy the Creditors’ Bargain’ (1991) 43 *Oxford Economic Papers* 139, 143-146.

⁷³ On the terminology, see, e.g., DG Baird, ‘Bankruptcy’s Uncontested Axioms’ (1998) 108 *Yale Law Journal* 573, 580.

⁷⁴ Such a strategy is, for example, adopted in English administration proceedings, in which a moratorium is presumptively imposed on the enforcement of security, but may be waived if the secured creditor applies to the court and the administrator is unable to demonstrate that the asset concerned is necessary for the realisation of going-concern surplus: see, e.g., *Re Atlantic Computer Systems plc* [1990] BCC 859, 880-882.

⁷⁵ Picker, above n 21; FH Buckley, ‘The American Stay’ (1994) 3 *Southern California Interdisciplinary Law Journal* 733; Armour and Frisby, above n 37.

⁷⁶ See generally G Lightman and G Moss, *The Law of Administrators and Receivers of Companies*, 4th ed. (London: Sweet & Maxwell, 2007).

⁷⁷ Hart, above n 15, 168 n 17.

⁷⁸ Armour and Frisby, above n 37, 90-91.

⁷⁹ Insolvency Service, *Productivity and Enterprise: Insolvency—A Second Chance*, Cm 5234 (2001), 9; RJ Mokal, ‘Administrative Receivership and Administration—An Analysis’ (2004) 57 *Current Legal Problems* 355.

⁸⁰ For details, see S Frisby, ‘In Search of a Rescue Culture—The Enterprise Act 2002’ (2004) 67 *Modern Law Review* 247; J Armour and RJ Mokal, ‘Reforming the Governance of Corporate Rescue: The Enterprise Act 2002’ (2005) *Lloyds’ Maritime and Commercial Law Quarterly* 28; R Stevens, ‘Security After the Enterprise Act’, in J Getzler and J Payne (eds), *Company Charges: Spectrum and Beyond* (Oxford: OUP, 2006), 153.

⁸¹ Armour and Frisby, above n 37, 84-86.

⁸² S Djankov, O Hart, C McLiesh and A Shleifer, 'Debt Enforcement Around the World', NBER Working Paper No. 12807 (2006).

⁸³ *Ibid.*, 28.

⁸⁴ J Armour, A Hsu, and A Walters, 'The Costs and Benefits of Secured Creditor Control in Bankruptcy: Evidence from the UK', ESRC Centre for Business Research Working Paper No 332 (2006).

⁸⁵ In a related study, Frisby finds that recoveries for unsecured creditors have increased slightly under the new procedure, from an average of 1.9% to 2.8% of face value (S Frisby, *Interim Report to the Insolvency Service on Returns to Creditors from Pre- and Post-Enterprise Act Insolvency Procedures* (2007), 5, 34-43). However, it is not reported whether these differences are statistically significant in the sample.

⁸⁶ D Leebron, 'Limited Liability, Tort Victims, and Creditors' (1991) 91 *Columbia Law Review* 1565.

⁸⁷ Insolvency Law Review Committee, *Insolvency Law and Practice* (1982), Cmnd 8558, paras 1538-1549; Bebchuk and Fried, above n 24, 904-912; Finch, above n 24, 664-665.

⁸⁸ See D Baird, 'The Importance of Priority' (1997) 82 *Cornell Law Review* 1420, 1431-1435.

⁸⁹ See C Bergström, T Eisenberg, and S Sundgren, 'On the Design of Efficient Priority Rules for Secured Creditors: Empirical Evidence from a Change in Law' (2004) 18 *European Journal of Law and Economics* 273, 275-277.

⁹⁰ *Ibid.*, 282-284.

⁹¹ *Ibid.*, 287-288.

⁹² Insolvency Act 1986 s 176A. The relevant amount is 50% of the first £10,000, then 20% of subsequent realisations up to a ceiling of £600,000.

⁹³ Armour, above n 49, 202-206, 219-220; S Frisby, *Report on Insolvency Outcomes*, Report prepared for Insolvency Service (2006), 32-43, available at <http://www.insolvency.gov.uk/insolvencyprofessionandlegislation/research/corpdocs.htm>.

⁹⁴ See Davydenko and Franks, above n 29.

⁹⁵ See generally, Röver, above n 45, 230-232, HG Sigman, 'Perfection and Priority of Security Interests' (2008) 5 *European Company and Financial Law Review* ____.

⁹⁶ It is worth noting that as regards creditors who are unable to adjust the terms on which they lend, mandatory disclosure of security interests will have no effect.

⁹⁷ See J Armour and MJ Whincop, 'The Proprietary Foundations of Corporate Law' (2007) 27 *Oxford Journal of Legal Studies* 429, 455-459.

⁹⁸ B Rudden, 'Economic Theory v. Property Law: The *Numerus Clausus* Problem', in J Eekelaar and J Bell (eds), *Oxford Essays on Jurisprudence*, 3rd ed (Oxford: Oxford University Press, 1987), 239, 254-256; U Mattei, *Basic Principles of Property Law* (Westport, CT: Greenwood Press, 2000), 39; TW Merrill and HE Smith, 'Optimal Standardization in the Law of Property: The *Numerus Clausus* Principle', (2000) 110 *Yale Law Journal* 1, 38-41.

⁹⁹ J Armour and MJ Whincop, 'An Economic Analysis of Shared Property in Partnership and Close Corporations Law' (2001) 26 *Journal of Corporation Law* 983, 993-994; Armour and Whincop, above n 97, 456-457.

¹⁰⁰ See A Schwartz and RE Scott, *Commercial Transactions: Principles and Policies*, 2nd ed. (Westbury, NY: Foundation Press, 1991), 488-494; MJ Whincop, 'Nexuses of Contracts, The Authority of Corporate Agents, and Doctrinal Indeterminacy: From Formalism to Law and Economics' (1997) 20 *University of New South Wales Law Journal* 274, 284-97; D Fox, 'Constructive Notice and Knowing Receipt: An Economic Analysis' [1998] 57 *Cambridge Law Journal* 391.

¹⁰¹ DG Baird, 'Notice Filing and the Problem of Ostensible Ownership' (1983) 12 *Journal of Legal Studies* 53; H Hansmann and R Kraakman, 'Property, Contract, and Verification: The *Numerus Clausus* Problem and the Divisibility of Rights' (2002) 31 *Journal of Legal Studies* S373.

¹⁰² Perhaps because of the need for *ex post* judicial regulation, the traditional equitable rules regarding selective enforcement against third parties applied in the case of purchasers of collateral, but not to subsequent creditors, who were always subordinated; perhaps because the intensive evidential requirements associated with the selective enforcement strategy made it inappropriate for application should the debtor subsequently become insolvent several years later.

¹⁰³ See Companies Act 2006, ss 860(7) (types of registrable security), 869(4) (particulars to be registered).

¹⁰⁴ UCC §§ 1-201(b)(35) ("security interest" means an interest in personal property or fixtures which secures payment or performance of an obligation); 9-109(a)(1) ('this article applies to a transaction, regardless of its form, that creates a security interest in personal property or fixtures by contract').

¹⁰⁵ UCC § 9-502(a) (financing statement must contain (1) debtor's name; (2) secured party's name; (3) indicate the collateral covered).

¹⁰⁶ See NR Lamoreaux and J-L Rosenthal, 'Legal Regime and Contractual Flexibility: A Comparison of Business's Organizational Choices in France and the United States during the Era of Industrialization' (2005) 7 *American Law and Economics Review* 28.

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