University of Oxford

Essays in Corporate Restructuring, Reputation and Law

Andrea Polo

Balliol College

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A thesis submitted in requirement for the degree of

Doctor of Philosophy

Trinity Term 2012

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This dissertation consists of three essays which examine topics at the intersection of law and finance.

The first essay investigates the role of regulatory sanctions and reputational damage in financial markets. We study the impact of the announcement of enforcement of financial and securities regulation by the UK's financial regulators on the market price of penalized firms. We find that reputational sanctions are very real: their stock price impact is on average almost 9 times larger than the financial penalties imposed. Furthermore, reputational losses are confined to misconduct that directly affects parties who trade with the firm (such as customers and investors).

In the second essay we analyze the costs and benefits associated with secured creditor control in bankruptcy. We do it by studying the highly contested practice of UK pre-packs, where a deal to sell the business is agreed before publicly entering into bankruptcy. Contrary to widespread criticism that this procedure leads to collusion, we find no evidence of exploitation of conflict of interests and we find that it preserves the value of the business and maximizes recovery in circumstances in which a public announcement of bankruptcy would destroy value. In small businesses where secured creditors are concentrated the benefits of their control seem to outweigh the costs.

Finally, in the last essay we examine whether mandatory shareholder voting prevents wealth destruction in corporate acquisitions. We study the UK setting where all large transactions must have shareholder approval. We observe that such Class 1 transactions always get consent. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. The finding is most pronounced for transactions in a narrow neighbourhood of the size threshold, and is robust to a large set of controls for confounding effects.

To the memory of Tom Karkinsky

'We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.'

T. S. Eliot, *Four Quartets*

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ABSTRACT

This dissertation consists of three essays which examine topics at the intersection of law and finance.

The first essay investigates the role of regulatory sanctions and reputational damage in financial markets. We study the impact of the announcement of enforcement of financial and securities regulation by the UK's financial regulators on the market price of penalized firms. We find that reputational sanctions are very real: their stock price impact is on average almost 9 times larger than the financial penalties imposed. Furthermore, reputational losses are confined to misconduct that directly affects parties who trade with the firm (such as customers and investors).

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1

INTRODUCTION

This dissertation presents empirical evidence to answer three important questions in the areas of the enforcement of financial regulation, bankruptcy and corporate governance. In the first essay we discuss how large are reputational sanctions and when they occur in financial markets. In the second essay we analyze the costs and benefits of having a secured creditor in control in the resolution of small and medium size enterprises. Finally, in the last essay we evaluate whether shareholder voting can prevent wealth destruction in corporate acquisitions.

Reputational sanctions

In the first essay we investigate the role of regulatory sanctions and reputational damage in financial markets. A primary function of regulation of financial markets is to uncover and discipline misconduct. The threat of legal

sanctions should deter companies from behaving badly. But even in a society without legal enforcement of contracts and regulation, the prospect of recurrent business should act as a deterrent to opportunistic behavior. A firm's reputation reflects the expectations that its partners have of the benefits of trading with it. Developing a reputation for honest dealing should be associated with more favorable terms of contracts with customers, employees, suppliers, and investors. In general this is difficult to measure but the release of new information provides an opportunity to do so.

In this chapter, we study the effect of regulatory announcements of corporate misconduct on firms' reputations. To the extent that such losses are large, we can infer whether, and where, reputation matters. Prior literature on reputational penalties[1] has suffered from the existence of a number of confounding factors that render it hard to disentangle reputational losses from other facts such as the regulatory fines themselves, class action settlements or new information about the firm's financial position. In this chapter, we present findings from a uniquely clean dataset of enforcement actions drawn from the UK: those taken by the UK's Financial Services Authority ('FSA') and the London Stock Exchange ('LSE'). The FSA and LSE investigate firms for possible violations of financial regulation and listing rules, but only make the investigation (and its result) public if and when the firm is found to have breached the rules and incurs a fine and/or an order to pay compensation. This means that the announcement of a breach is

[1] See Karpoff (2012) for a review of the literature.

an exceptionally clean signal to the market about the extent to which the firm in question abides by its legal obligations. We conduct an event study of the impact of the announcement of such enforcement notices of breach on the stock price of the disciplined firm.

We find that reputational sanctions are very real: their stock price impact is on average nine times larger than the financial penalties imposed by the FSA. Still more strikingly, reputational losses are confined to misconduct that directly affects parties who trade with the firm (such as customers and investors). The announcement of a fine for wrongdoing that harms third parties has, if anything, a weakly positive effect on stock price. We find evidence of an enduring effect on the solvency of unlisted firms subject to second party sanctions.

Secured creditor control in bankruptcy

In the second essay we analyze the costs and benefits associated with secured creditor control in bankruptcy. The secured creditor control in the resolution of distress in small businesses can have two effects: it can reduce the ex-post cost of financial distress but, on the other hand, secured creditors and business owners may collude to divert value from junior creditors. This type of trade-off is not present only in the UK where, as Franks and Sussman (2005) have clearly shown, the main bank is in full control over the company in the event of default, but exists also in countries with very different approaches to bankruptcy like the US and Sweden. In particular, this concern about the potential expropriation of

unsecured creditors has been particularly discussed in the context of the US for state procedures under which a large percentage of small businesses are restructured (Morrison, 2009).

We analyze the effects of the secured creditor control in small businesses in the UK where the secured creditors have introduced the highly contested practice of pre-packs which vividly highlights this trade-off. In a pre-pack, an insolvency practitioner, appointed by the secured creditor, can privately sell the company without involving the courts or consulting with junior creditors and in 50% of the cases the company is sold back to the original owner. Selling the business back to the owners is not uncommon in bankruptcy but in Sweden, for instance, the procedure is supervised by the court and in the US a public auction is mandatory for selling an insolvent business. The absence of all the potential constraints to the sale of the business makes the UK- pre-packs an extreme test. The speed and discretion minimizes the disruption but also maximizes the potential for collusion. In comparison with the previous literature, we are also better positioned to analyse the distributional concerns because we have information on both secured and unsecured debt recovery rates.

Contrary to the widespread criticism related to the lack of transparency that pre-packs, and in particular pre-packs to connected parties, involve, we find no evidence of exploitation of conflict of interests by the insolvency practitioner under the direction of the main bank. These procedures seem to be used to

preserve the value of the business: the sales to a connected party are pre-packaged in cases where the significance of intangibles, reputation and employees is particularly great. In these circumstances, exposing the firm to the market would lead to the value of the business evaporating. We observe that these "contested" transactions do not have a poorer recovery rate or refiling rate than alternative procedures. Finally we find that, given the size and the industry characteristics of these companies, absent this insolvency tool, they would probably be liquidated piecemeal with a destruction of value for creditors and society.

Shareholder voting and acquisitions

In the last essay we examine whether mandatory shareholder voting prevents wealth destruction in corporate acquisitions. Takeovers are among the largest forms of corporate investment and have generated extensive controversy. It is not just that the performance of many firms engaged in acquisitions is disappointing in the long-term, a high proportion of acquisitions reduce the value of acquiring companies on their announcement. Previous literature has suggested two explanations for these value-destroying activities: either managers are conflicted because of agency conflicts (Berle and Means, 1933; Jensen and Meckling, 1976) or they are overconfident (Malmandier and Tate, 2008). Shareholder voting provides a potential solution to this problem. Boards and managers are prevented from acting autonomously. They have to seek shareholder approval before taking

decisions that can have large and adverse material consequences for the owners of the firm.

We want to empirically test whether giving more power to acquirer's shareholders can reduce the destruction of value associated with M&As. A number of papers have tried to investigate this issue in the US but their authors face the challenge of appropriately dealing with the endogenous nature of requiring shareholder approval which in the US is left to managerial discretion. US managers can easily adopt certain deal structures to avoid shareholder approval if they believe the acquisition proposals would not gain support from shareholders. We meet this challenge by focusing on the U.K. setting, whereby M&A transactions whose assets exceed certain size thresholds are mandated to be subject to shareholder voting (Class 1 transactions).

We find that shareholders in the UK never vote against Class 1 transactions but many poorly received transactions are withdrawn before the vote. We also observe a striking difference between the performance of acquirers between Class 1 and other transactions. We find that the abnormal announcement returns for Class 1 are more positive than for Class 2 transactions. The finding is most pronounced for transactions in a narrow neighbourhood of the size threshold, and is robust to a large set of controls for confounding effects. Moreover, if we consider the economic impact of these transactions we find that while transactions which are not subject to shareholder approval on average destroy

wealth, Class 1 transactions are associated with a large dollar gain to the acquirer shareholders. However, we also find that mandatory voting stops many but not all transactions that are poorly received at announcement and/or up to the shareholder vote.

Structure

The main contributions of the thesis are in chapters: 2, 3, and 4. Each chapter is presented in the format of a discrete research `paper.' Each chapter has its own introduction with relevant literature outlined, followed by data, methodology and result sections and conclusion.

2

REPUTATIONAL SANCTIONS

'The threat of fines from the FSA are seen as a footling expense, just another cost of doing business, no different from paying the quarterly phone bill. The embarrassment factor no longer counts for much, alas. There is not much shame in being on the receiving end of a fine. Only the size of the fine has come to matter. In some areas, this has proved laughably inadequate in producing better behaviour.' The Times, July 7, 2009.

2.1 Introduction[2]

A primary function of regulation of financial markets is to uncover and discipline misconduct. In the absence of effective monitoring and enforcement of rules of conduct, financial markets are particularly prone to abuse. The imposition of penalties on firms is an important part of the armory available to regulators and, following the financial crisis, regulatory authorities have shown a

[2] This chapter is entirely based on the working paper "Regulatory Sanctions and Reputational Damage in Financial Markets" co-authored with John Armour and Colin Mayer.

greater willingness to employ them. However, this chapter reveals that they are only one, and a surprisingly small, component of the overall sanctions available to regulators. There is another that has received less attention to date but is revealed in this chapter to be potentially far more potent than direct penalties.

A firm's reputation reflects the expectations that its partners have of the benefits of trading with it. In general this is difficult to measure but the release of new information provides an opportunity to do so. In this chapter, we study the effect on firms' reputations of the announcement by a regulator of corporate misconduct and examine whether following a firm's 'naming' as a wrongdoer by a regulator, it suffers 'shaming' in terms of lost reputation.

The role of 'reputational sanctions' in regulating corporate enterprise is controversial. According to the author of the article in *The Times* quoted above, the very existence of reputational penalties is highly questionable; certainly to the degree necessary to add meaningfully to deterrence. Understanding enforcement is crucial to making sense of the links between legal institutions and financial development, much emphasized in the 'law and finance' literature (La Porta et al., 1997, 1998). Whilst there is agreement that accurate indexing of the efficacy of legal institutions requires account to be taken of enforcement, there is as yet no clear consensus as to the best way to measure its intensity or effect. Looking at regulators' legal powers (La Porta et al., 2006) or budgets (Jackson and Roe, 2009) fails to account for differing institutional efficiency amongst enforcers and

looking at the size of financial penalties imposed (Coffee, 2007) omits any deterrent effects of reputational penalties.

Prior literature on reputational penalties has suffered from the existence of a number of confounding factors that render it hard to disentangle reputational from other losses. In this chapter, we present findings from a uniquely clean dataset of enforcement actions drawn from the UK: those taken by the UK's Financial Services Authority ('FSA') and the London Stock Exchange ('LSE'). The FSA and LSE investigate firms respectively for possible violations of financial regulation and listing rules, but only make the investigation (and its result) public if and when the firm is found to have breached the rules and incurs a fine and/or an order to pay compensation. This means that the announcement of a breach is an exceptionally clean signal to the market about the extent to which the firm in question abides by its legal obligations.

We conduct an event study of the impact of the announcement of such enforcement notices of breach on the stock price of the disciplined firm. We find that reputational sanctions are very real: their stock price impact is on average nine times larger than the financial penalties imposed by the FSA. Still more strikingly, reputational losses are confined to misconduct that directly affects parties who trade with the firm (such as customers and investors). The announcement of a fine for wrongdoing that harms third parties has, if anything, a weakly positive effect on stock price. We evaluate the long-term impact of

regulatory sanctions by comparing the attrition rate of unlisted companies sanctioned by the FSA with matched samples of firms that were not subject to sanctions. We find that the failure rate of firms sanctioned for second party wrongs is much higher than that in the matched samples. Our results have significant implications for understanding both the determinants of corporate reputations and regulatory policy.

The rest of this chapter is structured as follows. Section 2.2 reviews theory and prior literature on the role of law enforcement in stimulating corporate finance, and the role of reputational sanctions in particular. Section 2.3 outlines the institutional framework of enforcement in the UK, and formulates hypotheses. In Section 2.4, we describe our data and methodology. Section 2.5 presents the results and conclusions, and implications are discussed in Section 2.6.

2.2 Theory and Prior Literature

2.2.1 Corporate Reputation

A firm's 'reputation' reflects the expectations of partners of the benefits of trading with it in the future. With asymmetries of information in product and capital markets, firms commit resources to activities which, independently of the quality of their past performance, might raise these expectations. For product markets, this includes investment in advertising and brand development. Such

investment, which is lost if performance subsequently turns out to be poor, is thought to act as a credible commitment by the firm not to renege opportunistically (Klein and Laffler, 1981; Shapiro, 1983). For capital markets, firms invest in the production of reports for investors, and pay out free cash flows as dividends in order to signal the quality of their future projects (Bhattacharya, 1979; Easterbrook, 1984).

Certain types of revelation may be expected to impact negatively on trading parties' expectations of a firm's future performance. For example, if a firm is found to have produced goods which do not meet mandated standards of quality or to have been at fault in accidents in which it was involved then it may be deemed to have taken inadequate prior precautions (Jarrell and Peltzman, 1985; Mitchell and Maloney, 1989). Or if information conveyed to trading partners through advertising or financial statements is found to be false then trading partners will be skeptical about relying on them in the future (Peltzmann, 1981; Karpoff and Lott, 1993; Alexander, 1999; Karpoff, Lee and Martin, 2008). Similarly, providers of finance offer less generous terms to firms that are revealed to have made accounting misstatements (Graham, Li and Qiul, 2008). An announcement by a regulator that a firm has engaged in misconduct may constitute precisely this type of revelation.

Adverse revisions of trading partners' expectations should negatively affect a firm's future terms of trade and consequently its market value. The firm may also

need to commit additional resources to bonding or monitoring mechanisms, such as advertising and brand investment. Murphy, Shrieves and Tibbs (2009) show that share price reactions to the announcement of corporate misconduct are associated with subsequent changes in the level or certainty of earnings. We define the present value of such losses as a reputational cost.

Conversely, since reputation is associated with the value of future trading opportunities, revelations of misconduct that do not have implications for parties who contract with the firm should not devalue its reputation. For example, the firm's degree of compliance with laws designed to internalize social costs—tort laws, environmental regulations, and the like—will not affect its consumers and investors, other than through the direct costs of compliance (and penalties for non-compliance). Consequently, an adjudication that a firm is in breach of such laws should result in a decline in market value equivalent to no more than the expected cost of legally imposed penalties, compensation awards and remedial measures. This prediction receives support from US studies considering breaches of environmental law (Jones and Rubin, 1999; Karpoff, Lott and Wehrly, 2005), tort law (Karpoff and Lott, 1999), and other regulatory crimes which do not affect parties in contractual arrangements with the defendant (Karpoff and Lott, 1993).

2.2.2 Financial Regulation and Enforcement

The 'law and finance' literature emphasizes the significance of legal institutions for the successful functioning of capital markets (La Porta et al., 1997; 1998). Effective investor protection rules, it is argued, mitigate agency problems between outside investors and management or controlling shareholders, thereby stimulating investment (Shleifer and Vishny, 1997). A recurring criticism of this literature, however, has been its reductionist conception of 'legal institutions' (Armour et al., 2009; Spamann, 2009). In particular, it is said to underplay the potential role of enforcement in measuring the efficacy of laws (Coffee, 2007; Jackson and Roe, 2009).

If legal rules are understood as shaping the incentives of market actors, their practical impact will be a function of *both* the substantive rule and the enforcement technology. It is probably much more difficult to create effective enforcement institutions than it is to transplant substantive rules. Consequently to focus simply on the 'law on the books' is to omit potentially the most important variables relating to legal institutions.

Whilst the potential significance of enforcement is now widely understood, no consensus has yet emerged on how best to measure its efficacy. An early attempt looks simply at the extent of the statutory powers available to regulators as regards penalties, compensation orders and the like (La Porta et al., 2006). The authors conclude that private enforcement (class action lawsuits) is more strongly

associated with deep and liquid securities markets than is public enforcement. However, their measure of enforcement fails to take into account differences in the *use* of enforcement powers.

Jackson and Roe (2009) proxy for enforcement intensity by focusing on the resources available to securities regulators: that is, their annual staffing and budget. They report that this measure of public enforcement explains variations in stock market liquidity better than measures of private enforcement used in La Porta et al. (2006). However, this measure itself fails to take into account differences in deployment of resources allocated to enforcers. Coffee (2007) argues that the most meaningful measure of enforcement intensity is one that focuses on outputs rather than inputs: that is, how many dollars of fines are paid, or years of jail time served, by wrongdoers? These measures, divided by the population of those regulated, give a clearer indication of the incentive effects of legal rules on rational parties' behavior. Even measuring such penalties, however, will be misleading if announcements of enforcement activity carry with them additional reputational losses for malefactors.

In particular, if enforcement intensity is measured by financial penalties imposed, the US looks to be an outlier in world enforcement activity (Coffee, 2007; Armour et al., 2009). The gap in aggregate fines, even adjusted for differences in market capitalization, is so large (an order of four or five times anywhere else) as to pose the question whether misconduct outside the US in fact

goes unpunished. However, it may be that regulators elsewhere—whose budgets are no less, in per capita terms, than the US—rely more heavily on reputational than financial penalties (Jackson, 2008; Armour, 2009). The difference may be more one of enforcement style than intensity.

2.2.3 Deterrence, Compensation, and Reputation

For a legal penalty to deter a wrong from which the defendant can gain a benefit w, the inequality

$$w < pD \qquad (1)$$

must be satisfied (Becker, 1968), where D is size of financial penalty and p ($0 < p < 1$) is the probability of enforcement. w can be earned at the expense of the firm's own customers and investors (causing loss to such 'second parties', s) or third parties (such as other firms, market participants and the general public, which we denote t).[3] Put in legal terms, this distinction captures the essence of the difference between breaches of contract (harming second parties) and torts (harming third parties).[4] The theory of optimal deterrence implies that policymakers should calibrate the right hand side of inequality (1) according to the social cost of the wrong in question (s or t), through either the amount spent on detection and enforcement (p) or the size of the penalty (D). In reality, budget

[3] The terminology is derived from the legal literature on enforcement (e.g. Ellickson, 1991), which distinguishes between the 'first party' (the actor itself), 'second parties' (private persons contracting with the actor) and 'third parties' (persons who have no prior relationship with the actor).

[4] Of course, in the context we examine, enforcement is by a public agency, rather than private actors as in the case of contracts and torts.

constraints for regulators mean that p is often quite small. Moreover, there may be constitutional law restrictions on the maximum size of D (D_{max}) that can be levied, such that for serious offences, $w > pD_{max}$. However, if the announcement of a penalty D triggers an additional reputational sanction R for the defendant, deterrence is now achieved where

$$w < p(D + R) \qquad (2)$$

This implies that reputational sanctions may help regulators to increase the upper bound of sanction efficacy in the presence of limitations on the size of feasible p and D.

When a corporate penalty for wrongdoing is announced, any associated reputational damage, R, comes from a worsening of the terms of trade of the firm with its second parties. We would therefore expect that R to be related to the magnitude of s but not t, with customers and investors trading on less favourable terms than previously with a firm that has inflicted a sizeable loss s on them but not third parties, t. In contrast, regulators will be concerned with the total social losses, $s + t$. If markets sanction s but not t, it is optimal for D to be smaller in 'contract pattern' wrongs, where R is larger, but for D to be larger in 'tort pattern' wrongs, where R is smaller. This would imply a negative correlation between D

and *R*; that is, regulatory sanctions would substitute for reputational ones across but not within the two classes of wrongs.[5]

We would anticipate the worsening in the terms of trade of the firm to be reflected in a decline in its market value, *V*. The total fall in value on revelation of a wrong will reflect *R,* the loss in value of the profitable activities (*W* – the present value of forgone future values of *w*) and D. To the extent that the market anticipates that firms engage in wrongs then the market reaction will reflect new information that is not available from private sources such as market analysts and credit ratings about the size and composition of wrongs. To the extent that *D* is informative about this then it will be correlated with *V* and *R* so making regulatory sanctions and reputational damage complementary within types of wrongs.[6]

The presence of reputational sanctions may also have implications for the design of prudential regulation for financial firms. Whilst capital adequacy regulation is primarily aimed at the mitigation of systemic risk, it is also applied

[5] However, this posited correlation may not hold if regulators hold firms liable not as primary wrongdoers, but as gatekeepers. Wrongs 'committed' by a corporate actor are in fact committed by individuals working for the firm. Where the social harm is large, then large financial penalties will likely exceed the budget constraints of individual wrongdoers. Greater marginal deterrence is consequently achieved by increasing the associated probability of enforcement. In the context of wrongdoing associated with corporate activity, it is possible to recruit the firm as an additional monitor of its employees, in what may be termed a 'gatekeeper' view of corporate liability (Arlen and Kraakman, 1997). If corporate penalties for such wrongs are conditioned not directly on the social cost of the harm, but on the level of monitoring and policing in which the firm had engaged to prevent employees taking proscribed actions, then firms will have incentives to engage in monitoring of employees *ex ante*. This in turn increases the effective size of *p* faced by individual would-be wrongdoers.

[6] Whereas there is no direction of causation implied in the substitutability relation across types, there is a suggestion here that the complementarity causation runs from the disclosure of information by regulators to the reputational response by markets. We examine this empirically below.

to non-systemically important financial institutions with the goal of ensuring that financial firms have sufficient assets to pay regulatory penalties, thereby avoiding the problem of 'judgment-proofing' (Clark, 1976; Correia, Franks and Mayer, 2002). Capital is conventionally measured in accounting terms and, indeed, if it is held in part to ensure sufficient resources are available to pay for regulatory penalties (*D)* then there will be a need for adequate assets on the books. However, to the extent that the 'true' sanction, including a reputational component ($D + R$), differs from the financial payment (D), then capital requirements calibrated on D alone will not be effective.

A further difficulty with reputational sanctions is that, unlike a financial payment, but like incarceration (Becker 1968), they do not represent a transfer of resources but a destruction of value. For the firm to remain solvent after the regulatory intervention (that is, $V_a > 0$, where V_a is the post-event equity market value of the firm), the compensation payable (C) together with the combined regulatory and reputational penalties ($D + R$) cannot exceed the pre-event equity market value of the firm (V_b). That is, $V_b > C + D + R$ and $C < V_b - D - R$.[7] Conventional measures of capital, which do not take into account the expected destruction in value of R, may therefore be insufficient to ensure that compensation can be paid.[8] This negative-sum feature of reputational sanctions

[7] Note that this assumes that it is solvency not liquidity that determines the amount of compensation that can be paid. That is, if necessary, firms can raise external finance to pay compensation.

[8] Conversely, if the inequality holds, conventional capital requirements are unnecessary.

introduces a tension between *ex ante* deterrence and *ex post* compensation: the greater the reputational damage imposed by the revelation of wrongdoing, the smaller is the capacity of the firm to pay compensation to its victims.

This poses a potential dilemma for regulators concerned about the ability of firms to pay compensation to customers and investors as well as the incentive effects of markets: the more adverse the likely market reaction to the revelation of failure, the less will remain in the pot for compensation. The dilemma is particularly acute if the reputational effects might not be restricted to the firm in question but could spill over to others and thereby have wider systemic consequences. Arguably some of the past inadequacies of regulation reflect a failure to resolve this dilemma. For example, there are currently concerns about revelation of the results of stress tests on banks since revelation of the true degree of their fragility may provoke precisely the runs and systemic crises that the tests are designed to avoid.

The above raises several empirical questions:

How large is *R* relative to *D?*

How predictable is the relation between *R* and *D* and what are the factors that influence the relation?

Are *R* and *D* sufficiently large relative to the value of the firm as to threaten the solvency of the firm and its ability to pay compensation?

Reputational losses will enhance regulatory enforcement if they are large and predictable relative to *D*, but not so large as to threaten solvency. On the other hand, regulators may be reluctant to disclose failures if the reputational consequences are unpredictable and potentially so large as to threaten the solvency of firms. The remainder of the chapter attempts to address these empirical questions and consider their implications for regulatory policy.

2.2.4 Measuring Reputational Losses from Regulatory Intervention

Previous studies have estimated reputational losses by measuring stock price reactions around announcements by regulators of misconduct at US public companies (e.g. Karpoff et al., 2008). The approach they take is to subtract any financial payments the firm is required to make (fines, compensation orders, etc) from the total stock price effect, and to measure reputational loss as the residual component of the firm's stock price decline.

A problem with this methodology is that there are frequently multiple announcements associated with a particular enforcement action. The first announcement is often that the regulator has commenced an investigation (though even this may be preceded by speculation in the press of a potential investigation). The second announcement concerns the conclusion of the investigation and whether the defendant has been found guilty or innocent, along with the size of any fine. Finally, consequent on the regulatory ruling, there may be subsequent private litigation by investors. Indeed, firms more often make

payments in response to follow-on class actions by investors than fines imposed by regulators; for example, Karpoff et al. (2008) report 231 cases in their dataset of financial settlements as part of class actions but only 47 cases of regulatory fines.

The approach that previous researchers have taken to such multiple events is simply to sum the total abnormal returns across all the events. However, with multi- stage events it is difficult to be sure that the later stages really relate to the original announcement and not to further information that was released during subsequent stages, or conversely that relevant information was not released between the reported stages. Summing share price reactions therefore risks both over- and under-inclusion of information.

The foregoing allows us to state a number of properties that an ideal empirical analysis of reputational loss should possess: (i) there should be a clearly defined revelation of information relating to a firm's conduct; (ii) all information relevant to the firm's conduct should be released simultaneously; (iii) the direct costs associated with the revelation of information (for example, in this case the size of both publicly imposed fines/ compensation and private litigation) should be measurable when it is disclosed and distinguishable from the additional reputational loss. Data limitations owing in particular to the structure of US enforcement institutions have meant that these three conditions have not all been satisfied in prior literature. We believe that the analysis reported in this chapter

satisfies these three conditions and therefore provides a more robust evaluation of reputational loss than has been available to date.[9] We now turn to a description of our analysis.

2.3 Institutional Structure and Hypotheses

The Financial Services Authority and its approach to enforcement

The Financial Services Authority ('FSA') is the UK's integrated financial regulator, with responsibility for banking, insurance, and financial market supervision. It was established in 1997, and took over as regulator for the full range of activities from December 2001 under the Financial Services and Markets Act ('FSMA') 2000.[10] The FSA is responsible both for the supervision of regulated persons and for enforcement of the rules in appropriate cases. The FSA's *Handbook* of rules contains a wide range of conduct of business and prudential requirements for financial firms, as well as the UK Listing Rules applicable to publicly-traded companies listed on the London Stock Exchange ('LSE')'s Main List. These rules are drafted with the FSA's statutory objectives

[9] This is true not only of the reputational sanctions literature related to enforcement of regulation but also of the empirical literature in economics and finance which tries to evaluate loss of reputation. None of the three most quoted papers in the area of reputational losses, namely Peltzman (1981) on false advertising, Jarrell and Peltzman (1985) on product recalls and Mitchell and Maloney (1989) on airline crashes satisfy all three conditions. The first two papers involve multiple events and all of them have to make assumptions about the direct costs (of destroying or repairing defective products, product liabilities lawsuits or market losses).

[10] From 2012, the FSA will be split into two separate agencies, the Prudential Regulation Authority and the Financial Conduct Authority: see http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100617/debtext/100617-0010.htm

in mind: maintaining market confidence; consumer protection; promoting public awareness of the financial system; and the reduction of financial crime.[11]

The FSA has very wide enforcement powers, including the ability to pursue civil, and in certain serious cases criminal, sanctions against wrongdoers.[12] Another significant tool is the power to sanction wrongdoers by withdrawing their licence to conduct investment business in the UK and/or prohibiting them from doing so.[13] The FSA also has power simply to issue a public censure, without any formal penalty.[14] However, the FSA's stated position is that it prefers where possible not to resort to any type enforcement, but rather to resolve issues through supervision. Consequently, if a firm has an open and cooperative relationship with the regulator, the latter will be willing not to take enforcement action where a breach is identified, provided that the breach is not serious and the firm commits to putting matters right forthwith (FSA, 2009: 12).

The FSA's enforcement activity consequently results in far fewer cases of publicly sanctioning defendants than does the SEC, even controlling for differences in size of the economy (Coffee, 2007). Figure 2.1 shows the number and amount of fines and the statements of public criticism issued by the FSA each year. At first blush, the FSA's relatively modest enforcement intensity raises

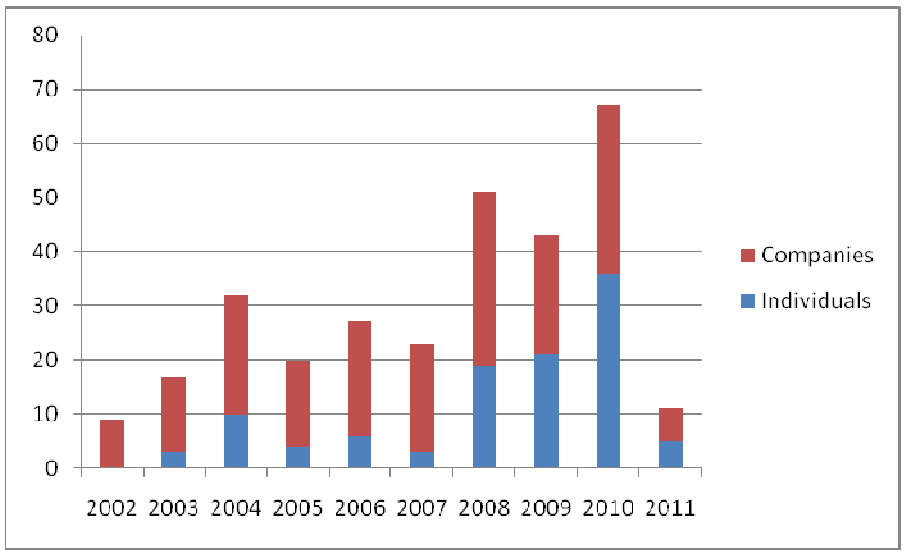
[11] FSMA 2000 ss 3-6.
[12] See FSMA 2000 ss 401-02 (criminal prosecution powers, particularly in relation to insider dealing under the Criminal Justice Act 1993 Part V), 91, 123 (civil penalties for breaches of Listing Rules or market abuse), 66 (civil penalties against authorised persons). See also ss 380-384 (ancillary powers to seek injunctions and/or restitution orders).
[13] FSMA 2000 ss 56, 63.
[14] FSMA 2000 ss 66, 87M, 89, 89K.

the question of whether too little effort is applied to punishing (and thereby deterring) wrongdoers. However, without a clear sense of the role played by reputational sanctions in the UK, such a conclusion may be premature. The FSA explicitly describes its strategy as focusing its enforcement efforts on the most serious wrongs (FSA, 2009). If there is a diminishing marginal reputational impact of enforcement—a plausible assumption—this might suggest that average reputational costs imposed would be higher in the UK than in a more enforcement-intensive regime such as the US.

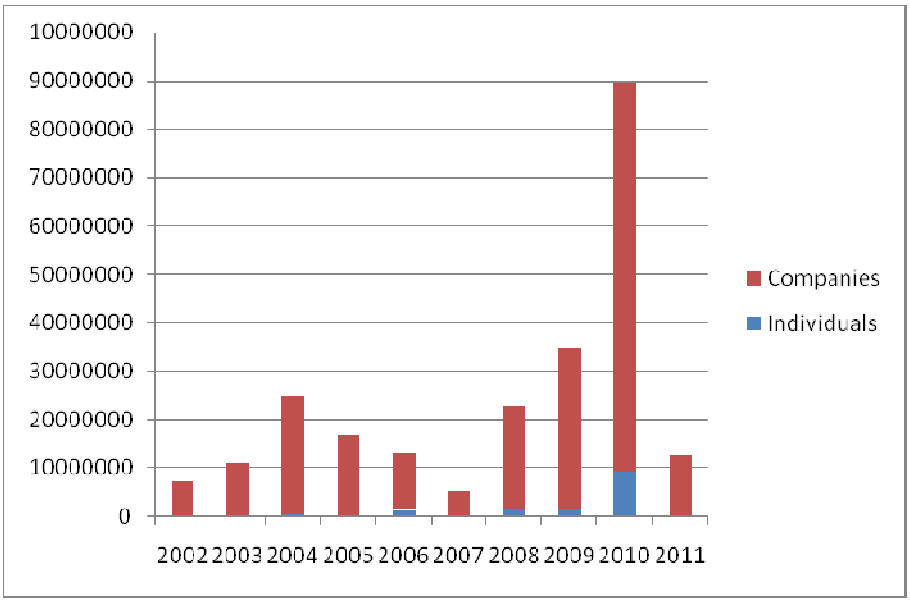
Figure 2.1 Enforcement Activity by the FSA

This figure reports the number and amount of fines and the number of statements of public criticism issued by the FSA each year. Data collection stops at the end of January 2011.

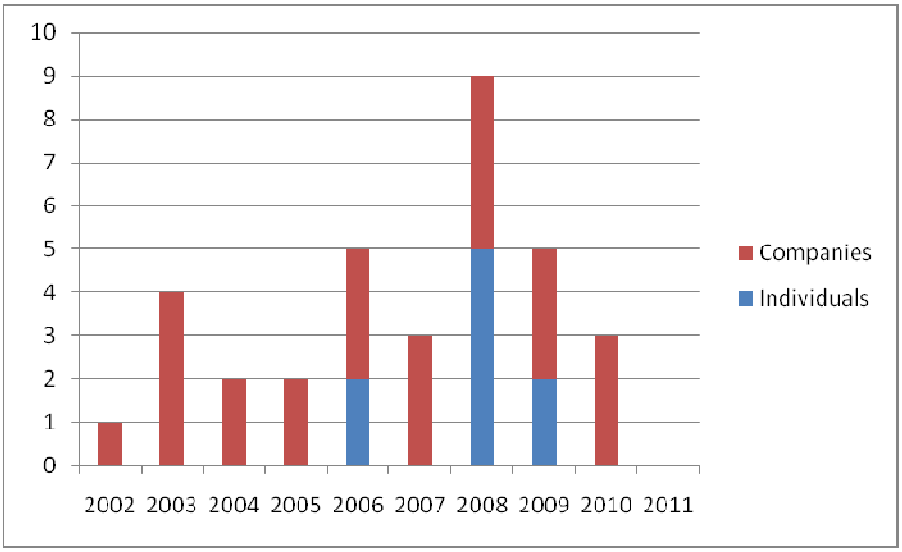
2.1.A Total Number of Fines



2.1.B Total Amount of Fines



2.1.C Total Number of Cases of Public Criticism



Where enforcement action is taken, this ordinarily begins with an investigation (Blair et al., 2009).[15] If the results of this suggest that misconduct has occurred, the FSA must decide what action, if any, to take and send a

[15] FSMA 2000 Part XI;

'warning notice' about this to the firm in question.[16] This must set out details of what the FSA proposes to do and the reasons for this.[17] The firm then has an opportunity to respond to and address the issues raised by the FSA. If the regulator is unpersuaded by the response, it will issue a 'final notice' giving details of any penalty or order.[18] Typically the firm will not contest the matter, but will rather agree to a settlement with the FSA in the hope of obtaining a more lenient penalty. However, a final notice is still made even in cases where the settlement procedure has been used.[19] Consequently, the problems of sample selection that would arise if settlements between regulator and firm could be reached in private are not relevant here.

The timing of the release of information by the FSA concerning its enforcement activity is very different from that employed by the SEC in the US. The governing legislation provides that the FSA shall not release information about ongoing investigations until they have been concluded and a final notice issued,[20] and even then only to release information in such a way as is 'fair' to the party who has been investigated. Final notices consequently usually contain no more than a summary statement of the facts supporting the FSA's conclusions, and details of all the fines and payments of compensation ordered.

[16] FSMA 2000 ss 67, 387. See also DEPP 2.2.
[17] FSMA 2000 s 387.
[18] FSMA 2000 s 390.
[19] DEPP 5.1.1.
[20] FSMA 2000 s 391. See also s 348 (prohibition on release of confidential information).

Again in contrast to the US, the announcement of an FSA enforcement action is unlikely to trigger any private litigation. Securities litigation, for example, is practically non-existent in the UK (Armour et al., 2009), owing to differences in substantive law and litigation funding rules (Davies, 2007). The foregoing features mean that the FSA's announcement of a final notice is a unique event associated with each enforcement action, conveying information that in a typical SEC case would encompass three or four separate announcements—investigation, conclusion, penalty, and civil actions.[21] This is highly significant for our purposes, because it gives a much 'cleaner' and more complete announcement to the market. This makes the event study less prone to confusion over multiple announcements. Moreover, the immediate inclusion of information about the size of financial payments and lack of class action claims mean that no assumptions need be made about the accuracy of the market's estimates of future financial penalties.

The London Stock Exchange and AIM Rules

Whilst the FSA is responsible for the setting and enforcement of the Listing Rules governing firms on the LSE's Main List, the LSE itself is responsible for setting and enforcing the Rules of its Alternative Investment Market ('AIM') (LSE, 2010). Similarly to the FSA, the LSE has power to levy fines, to de-list, or simply to issue statements of public censure against firms found to be in breach

[21] It is, however, possible that in the case of international firms also publicly-traded in the US, an announcement of enforcement by the UK FSA might trigger subsequent class actions in the US. We check for this possibility in our data. See infra

of the rules.[22] The process of enforcement is similar to the FSA: no public announcement is made about enforcement activity until an investigation is completed, and the LSE prefers not to issue a public censure, reserving this for particularly serious cases (LSE, 2009).

Formulation of hypotheses

A popular perception—as illustrated by the quotation from *The Times* at the start of this chapter—is that the FSA and LSE's enforcement activities do not impose any meaningful sanction on wrongdoer firms. On this basis, the level of financial penalties is so low as to have no meaningful deterrent effect (Coffee, 2007). However, a market reaction should be expected from either non-trivial financial payments or reputational losses, or both. If we state an initial hypothesis in positive terms, then the view expressed in *The Times* corresponds to a rejection of the following:

H1: *Non-triviality*. Enforcement by the FSA or LSE is non-trivial, such that its announcement has a measurable and statistically significant negative effect on the stock price of the defendant firm.

[22] AIM Rules for Companies, February 2010, rule 42. In contrast to the FSA, whose powers are derived from statute, the LSE's powers in relation to AIM-listed firms derive from firms' listing agreements, under which firms undertake to submit to LSE enforcement and to pay any fines levied against them. Prior to April 2010, the LSE had used those powers in only seven cases.

The FSA and LSE's approach to enforcement is consistent with the existence of reputational sanctions associated with the announcement of a breach by regulated firms of the FSA's rulebook or the AIM Rules, respectively. We therefore hypothesize that there will be a 'reputational sanction':

H2: *Reputational sanction*. The publication of final notices of enforcement activity will be associated with abnormal losses to the firm's shareholders which exceed the value of any financial payments the firm is required to make.

The theory of reputation predicts that any such losses should, if they are *reputational*, be greater where the harm of the proscribed activity is felt by trading partners (customers and investors) as opposed to third parties.

H3: *Second party vs. third party wrongs*. Abnormal losses associated with the publication of financial notices should be significantly larger where the prohibited conduct imposes losses on customers and/or investors than where the injured parties do not trade with the firm.

Theory predicts that regulators should set higher penalties in respect of third than second party wrongs and that if they possess information that is not available to the market about the scale of the wrong then reputational losses

should be complementary (i.e. positively correlated) with penalties when second party wrongs are revealed.

H4: *Regulatory penalties*. Penalties are negatively correlated with reputational loss between second and third party wrongs and positively correlated with reputational loss within the class of second party wrongs.[23]

We conjecture that the reputational loss will be related to the information content of the regulatory announcement. In particular we consider whether it is less: (a) for large firms on which more information is in the market in any event; and (b) post the financial crisis of 2007 after which the degree of regulatory activity increased and may therefore be less informative about any particular case.

Finally, as described in the theoretical session, we examine another possible explanation of a market sanction exceeding the value of any mandated payments, namely that it is simply due to a loss of profits on the prohibited activity (Karpoff and Lott, 1993).

[23] According to the Decision Procedures and Penalties Manual of the FSA (2010), one of the principles of determining the level of penalties is that they should reflect the seriousness of the breach.

2.4 Data and Methodology

FSA and LSE enforcement data

We examine all the press statements related to enforcement actions by the FSA and the LSE on their websites over the period 2001 - January 2011. We find 341 cases. Since we are interested in the share price reaction following the press statements we construct a database of all the press statements announcing sanctions imposed on listed companies or subsidiaries of listed companies. We drop all the cases regarding individuals or non listed companies. After this first filter has been applied, we obtain a sample of 83 cases.

Since the innovation of this study relative to the previous literature is the fact that the announcement of a sanction by the FSA and the LSE is a unique event, we take pains to exclude all cases where this may not have been the case. First, we exclude cases in which information about the specific case or about the investigation leaked into the market before the regulator's press statement. To identify these, for each of the 83 cases, we check FACTIVA to see whether in the two years before the event, there were any press reports about the specific cases. We complement the analysis on FACTIVA with a search on the Lexis-Nexis database looking at the news in the categories 'Law and Legal System' and 'Crime, Law Enforcement & Corrections' in the two years before the announcement and up to two years following the announcement to confirm that there is no additional public or private enforcement on the case. In most we find

nothing, indicating that the regulator's press statement is unanticipated by the market. However, we find announcements in three types of case: (i) where there is media speculation about an investigation at a particular company; (ii) where there is "voluntary" disclosure by the company that it is under investigation; (iii) where the FSA decides to make an investigation public, because, for instance, they think that this will bring forward witnesses (FSA, 2009: 31); and (iv) where an enforcement action on the same case starts in another country. In total we find 28 such cases where the information was already out before the regulator's press statement. We drop these from the sample.

Secondly, we filter out 7 cases where the press statements by the FSA or the LSE simply state that, "customers will be compensated as appropriate" without specifying the actual amount of the compensation. Any share price decrease in such cases could be a consequence of uncertainty about the amount of the compensation that the company will offer. Such announcements are not the only, or unique, events relevant for the firms in question. We therefore also exclude these cases.

Moreover, we exclude 3 cases for which there has been a change of ownership in the investigation period and 5 further cases for which other potentially confounding news about the company was announced in the newspapers the day before, the day of, or the day after the press announcement about the misconduct.

Having conducted these filtering exercises, we obtain a highly clean dataset of 40 events, for which the regulatory announcement is unique and contains full details of any financial payments by way of fine or compensation that the firm will as a consequence be required to pay. Of these, 37 are enforcement actions by the FSA and 3 are by the LSE. For the FSA, enforcement activity covers the full range of financial services regulation and the UK Listing Rules. For the LSE, it only covers breaches of the AIM Rules. A brief description of each case is reported in the Appendix and descriptive statistics are reported in Table 2.1.

[Table 2.1 about here]

Characterization of wrongs

In order to test Hypothesis 2, we subdivide the sample according to whether the sanctioned misconduct was committed against customers and/or investors (26) or against a third party (14). This classification is performed on a functional, rather than a legal, basis. In the first category, we include mis-selling of financial products and misleading advertisements, each of which harms customers, and tardy or inadequate announcements of information to the market where mandated, which we take to harm the firm's investors. We refer to this category as second party wrongs, because the harm in each case is done to persons who are in an existing contractual relation with the firm.

In the second category, we include failure to comply with 'gatekeeper' obligations designed to minimize the risk of money laundering by a firm's

clients, market misconduct (for instance, trading in stocks to move the market price) and failures to comply with obligations to report transactions in other firms' securities. Any harm caused by this sort of failing is incurred by persons other than the firm's customers or investors. We refer to this category as 'third party' wrongs.

Event study methodology

We employ standard event study methodology pioneered by Fama et al. (1969) to evaluate the stock price reaction to the public announcement of misconduct. We calculate the abnormal share price reaction around the event. We use the market model as a benchmark model of normal returns[24]. The abnormal return for firm *i* at time *t* is defined as

$$AR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t} \qquad (3)$$

where $R_{i,t}$ and $R_{m,t}$ are the returns on firm *i*'s common stock on day *t* and the index of market returns on day *t*, respectively. The coefficient α_i and β_i are estimated from an ordinary least squares regression of $R_{i,t}$ on $R_{m,t}$ using a 260-day period consisting of days -261 to -2 relative to the announcement day. The average abnormal return for each day *t* in the event window is computed as

$$AR_t = \frac{\sum_{i=1}^{N} AR_{i,t}}{N} \qquad (4)$$

[24] On this, we follow Bhagat and Romano (2002): "Since several studies have found evidence inconsistent with the economic models, in particular CAPM, the use of such restrictions is not appropriate. Hence most researchers have begun to rely on the statistical models to estimate the expected returns." In any event, in short-horizon event studies the test statistic specification is not highly sensitive to the benchmark model of normal returns (Kothari and Warner, 2008).

Where *N* is the number of firms over which abnormal returns are averaged on day *t*. The cumulative average abnormal return for the window t_1, t_2 is defined as

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t \qquad (5)$$

Parametric t-statistics for the mean abnormal returns are calculated from the cross- section standard error of abnormal returns. To make sure that the presence of outliers do not bias our results we winsorize the abnormal returns before estimating the test statistic. We set all outliers to a 90% percentile of the data, meaning that all data below the 5th percentile are set to the 5th percentile, and data above the 95th percentile set to the 95th percentile.

2.5 Results

2.5.1 Effect on Market Valuation

Panel A of Table 2.2 shows the average cumulative abnormal returns in the event windows (0), (0,1), (-1,1) and the associated t-statistics and non parametric z-statistics. We find that press statements by the FSA and the LSE about corporate misconduct result in statistically significant losses in shareholder wealth[25]. We focus our attention on the event window (-1,1) in order to capture all the impact of the event on the share price and to account for potential leakage of information the day before the press statement by the regulators. The 3-day

[25] These results are robust to: a) using the non winsorized variables b) dropping the outlier instead of winsorizing and c) using a different benchmark model of normal returns (market model with $\alpha=0$ and $\beta=1$).

average cumulative abnormal return is -1.68% and statistically significant (the t-statistic is -1.97, the Wilcoxon signed-rank z-statistic is -2.94).[26] This is consistent with H1 (non-triviality). Consequently we reject the null hypothesis that FSA enforcement is trivial.

[Table 2.2 about here]

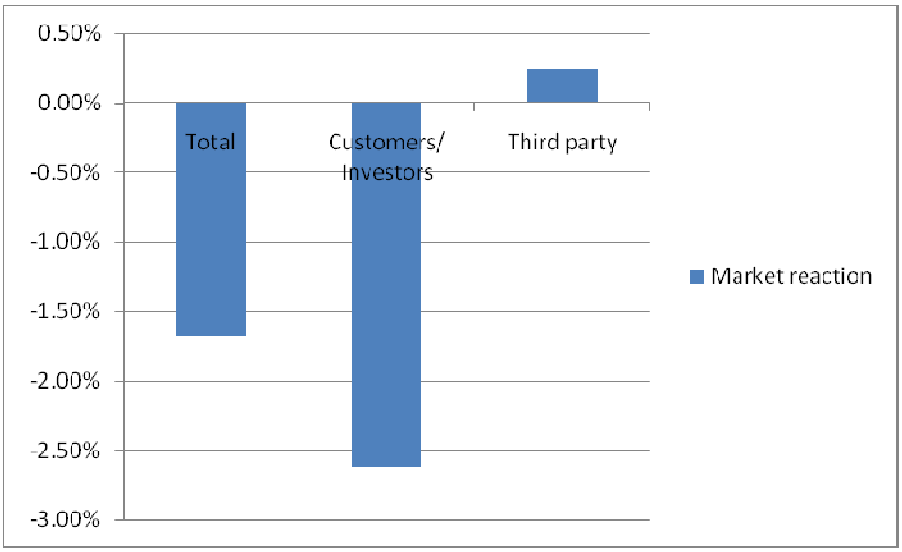
The reported abnormal share price reaction of -1.68% is an average of the effect of all press statements in our sample. By decomposing the sample into cases we characterise as involving second- and third-party wrongs, we can observe the specific effects associated with press statements referring, respectively, to misconduct affecting investors and customers, and to misconduct affecting third parties (such as the state, or other companies' investors). Panel B of Table 2.2 and Figure 2.2 report the CARs in the event window (-1,1) for each of these two categories. Doing this allows us to see that shareholder wealth effects are highly dependent on this stratification. While second-party wrongs (against customers and investors) are associated with a -2.62% share price reaction that is strongly statistically significant (the t-statistic is -2.21, the Wilcoxon signed-rank z-statistic is -3.54), third party wrongs are in fact characterized by a *positive* stock price reaction of 0.24%, although this is not

[26] This result is robust to: a) excluding the 3 LSE cases and b) excluding also 5 cases for which it may be argued that they were not totally unexpected (3 cases for which we find evidence of media speculating before the announcement that a company, together with the rest of the companies in the same industry, may be characterized by a common malpractice, 1 case where JP Morgan was sanctioned one year before in the US for a similar wrongdoing but in a completely different case and 1 case in the third party subgroup where RBS, together with other 19 banks, was named by the UK High Court as having handled money of the Nigerian dictator, a year afterwards RBS receives a fine for money laundering for a different case)

statistically significant.[27] The difference in market reactions among the two groups is statistically significant using both parametric and non parametric tests[28].

Figure 2.2 CARs (-1,1) around the Press Statement of Misconduct

This figure shows the cumulative abnormal returns (CARs) over the three days around the announcement for the total sample, and wrongdoings against second and third parties.



In Figure 2.3 we enlarge the event window to -10 days, + 10 days and plot the CARs for the two subgroups of press. From this picture we can confirm that there is no evidence of leakage of information before day -1 and that the negative share

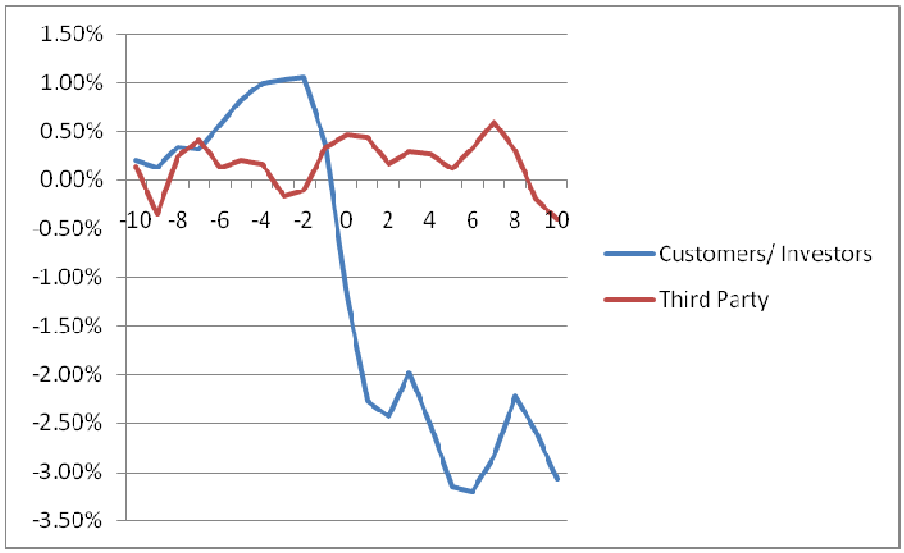
[27] In so far as share price reactions represent an updating of investors' priors about the likelihood of misconduct and the form that it takes, the positive but insignificant share price reaction to revelation of third party cases may reflect a positive reaction to the news that a second party violation was not uncovered rather than a positive perceived benefit of a third party violation.

[28] As a test of the filtering exercise, in Table 2.3 we report the results of three larger samples (51, 63 and 80) obtained by progressively reintroducing the cases that we filtered out according to their degree of reliability. In Panel A, we reintroduce 11 cases of leakage of information (but not where there is also a confounding event or a parallel enforcement case in the US) summing the share price reactions during the announcement date and the first day in which the market became aware either of the misconduct or the investigation. In Panel B, we reintroduce further 12 cases where there was no leakage but there was some confounding information during the actual date (i.e. the compensation was not determined). In the last sample, in Panel C, we reintroduce also cases where there was both leakage (so we need to sum up two events) and some confounding information. The results in Table 2.3 confirm the general pattern.

price reaction for the customers/investors subgroup is not reversed in the subsequent ten days.

Figure 2.3 CARs (-10, 10) for the Two Types of Wrongdoings

This figure shows cumulative abnormal returns (CARS) over the 21 days from -10 to + 10 for wrongdoings against second and third parties. Three cases (numbers 27, 30 and 31 in the Appendix) have been excluded because of substantial confounding announcements over the same period.



At this point, we do not know whether these market valuation effects are due to reputational losses, or to (differences in) financial payments required of the defendant firms. The next section explores this question in order to test hypotheses H2 and H3.

2.5.2 Measuring Reputational Loss

To measure reputational losses, we follow the "residual approach" used by Jarrel and Peltzman (1985), Karpoff and Lott (1993) and Karpoff, Lee and Martin (2008). We calculate the change in the share price $\Delta V_t = V_t - V_{t-1}$ in the event

window around the announcement of misconduct by the regulator and then subtract the amount of financial payments (fines and/or compensation) imposed by the regulator.[29]

$$\text{Reputational loss} = \Delta V_t - \text{Fine} - \text{Compensation} \qquad (6)$$

As noted in section 2.3, there are two significant methodological advantages to studying data on FSA and LSE enforcement, as compared to the prior literature. First, ΔV_t is calculated around a unique and well-defined announcement event, as opposed to aggregating the effects of multiple announcements over a period of time. Second, we do not need to make any assumptions about the ability of the market to estimate the size of future financial payments because this information is known in our sample at the time of the initial announcement. Consequently we simply need to subtract the financial payment (fine plus compensation) stated in the press statement from the total market effect.

For each statement, we calculate the mandated financial payments (fines and compensation) as a percentage of the firm's value prior to the announcement event. Panel A of Table 2.4 reports that the average fine for the entire sample is 0.15% of firm value. If we decompose the sample into the two types of wrong with which we are concerned, we observe that the proportionate fine tends to be higher for wrongs against third parties (0.19%) than for wrongs against the

[29] In some cases the press statements report two figures: the compensation to be paid and the compensation that has already been paid. We sum these figures because this is the first time that the misconduct and the associated amount of compensation have been announced to the market.

customers and/or investors subgroup (0.13%). The amount of compensation is zero for the former subgroup and 0.18% for the latter. The overall average compensation amounts to 0.12% of firm value. It is therefore clear that differences in financial payments do not explain the differences in market reaction between the two subgroups of wrongs.

[Table 2.4 about here]

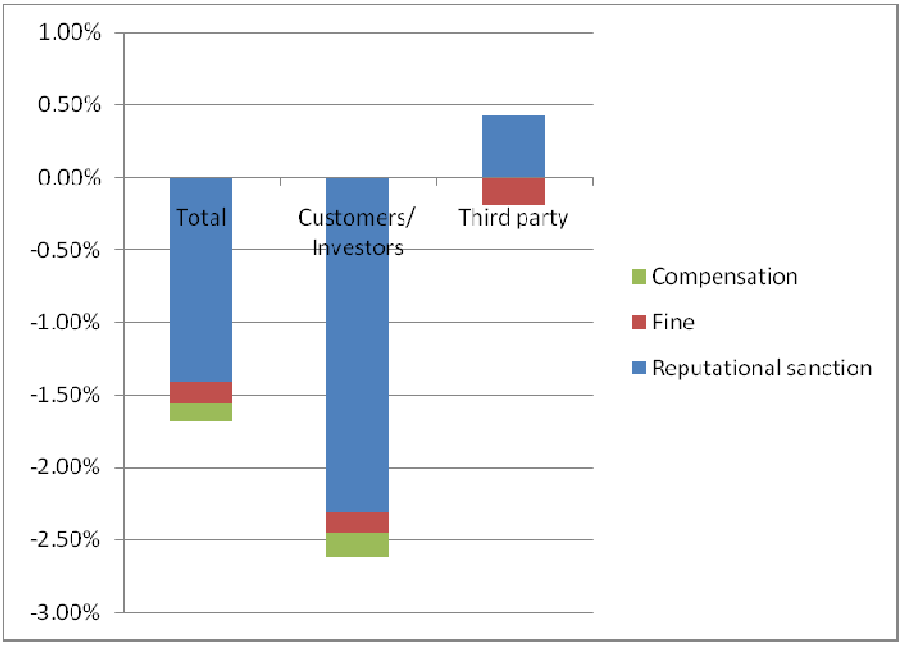
In Panel B of Table 2.4, we subtract the total financial payment from the market reaction to measure the reputational loss as the residual. We observe that reputational losses are negative and statistically significant for the entire sample (-1.41%). This allows us to reject the null hypothesis in relation to H2, namely that there is no reputational sanction associated with regulators' announcements.

Decomposing the sample, we see that the differences in overall market reaction are driven by differences in reputational losses rather than financial payments. The reputational loss for the customers/investors subgroup (that is, second-party wrongs) is -2.31% of market value, and is strongly statistically significant.[30] For wrongs to third parties, the reputational effect is in fact positive (0.43%), although it is not statistically significant. Figure 2.4 shows these results graphically. They are consistent with hypothesis H3, namely that reputational losses are only incurred where harm is done to parties who trade with the firm.

[30] This result is robust to excluding the 3 LSE cases and excluding also the 5 cases as discussed in note 20.

Figure 2.4 The Reputational Loss

This figure shows the reputational calculated by subtracting the financial penalty from the market reaction for the total sample, and wrongdoings against second and third parties.



2.5.3. Cross-Sectional Differences in Reputational Sanctions

In this section, we employ a cross-sectional multivariate regression analysis to examine the determinants of the reputational sanctions. The dependent variable is the reputational sanction as defined in equation (6).[31] Table 2.5 reports the results. In the first model, we simply use a dummy variable *customers/investors* as regressor, which takes the value of one when the wrongdoing is against customers/investors and zero otherwise. The positive and statistically significant coefficient is consistent with our earlier results.

[31] We run OLS regressions with robust standard errors. We then multiply both sides of the equation by -1 to make the interpretation of regression results more intuitive: that is a higher reputational loss is associated with a higher coefficient.

[Table 2.5 about here]

In the second model we introduce additional independent variables to test further hypotheses about the cross sectional determinants of reputational sanctions. H4 posits that the size of the financial penalty may act as a signal to the market of the seriousness of the wrong. We perform the first tests of the degree of complementarity between penalties and reputational sanctions by including *financial payment*, which is the amount of the fine plus the compensation as a percentage of firm value, as an independent variable in the regression. We also include *market size*, defined as the log of market value of common equity before the press statement and a dummy *post-crisis*, which takes the value of 1 if the date of the press statement is after June 2007. Finally, we control for possible differences in the reaction of investors in financial and non-financial firms through a dummy variable taking the value of 1 for financial firms. [32] Having added these additional regressors, the coefficient of *customers/investors* is smaller but still highly statistically significant.

The variable *financial payment* is not statistically significant, implying that the size of the penalty does not serve as a signal of the seriousness of the reputational consequence of a wrong. One possible explanation is that the fines are set according to a 'gatekeeper' view of corporate liability (Arlen and

[32] The small sample size means it is not possible to introduce industry fixed effects at a higher level of granularity.

Kraakman, 1997), under which leniency is accorded to firms that have adopted systems to monitor and sanction employees engaging in proscribed behavior.[33]

However, the inclusion of *financial payment* as a regressor raises an issue of possible endogeneity if the FSA and the LSE take into consideration the potential market impact of the penalties they levy. There is no reference in the regulatory handbooks of the FSA to concerns of reputational damage when determining the size of fines. According to the handbooks, the penalty is set in relation to: a) the financial benefit, b) the seriousness of the breach, c) deterrence effects, and d) other mitigating factors (for instance, the degree of cooperation of the firm in question) (FSA, 2009). Nevertheless, to test for possible endogeneity, we undertake a two-stage regression, using a variable that distinguishes between abuses that were "clearly profit enhancing" in impacting the cash flow of companies - for instance, mis-selling of products or misleading advertisements - from those that were not - for example, failure to have effective systems and controls in place to protect consumers' confidential information, not carrying out customer orders on a timely basis, and failure to keep the market informed of price sensitive information. Given the objectives of the FSA, this variable should be correlated with the financial penalty but not with reputational losses that reflect future worsening of terms of trade and it should therefore satisfy the conditions of being an appropriate instrument[34]. We found evidence that the

[33] See *supra* note 5.
[34] Section 5.4 provides some evidence for this.

variable was correlated with the financial penalty in the first stage regression; however, the predicted value of the financial penalty was never significant in the second stage, suggesting that the absence of a correlation between the financial penalty and reputational losses is robust to corrections for possible endogeneity.

Reputational sanctions are negatively and statistically significantly associated with *market size* (H5): the bigger the company, the smaller is the reputational sanction as a proportion of size. This is consistent with the prediction that there is more information in the market about larger firms and consequently the informational value to the market of an announcement by the regulator is proportionately smaller.[35] Finally, we observe that the coefficient for *post-crisis* is positive and statistically significant, implying that in the post-financial crisis world, reputational sanctions are more significant: *ceteris paribus*, press statements after the beginning of the crisis are associated with higher reputational damage. This suggests that revelation of misconduct had a greater effect on anticipated future earnings after the crisis than before it.[36]

[35] It is also possible that in larger firms the section of the business that generated the wrong may be more clearly separated from other parts of the business, leading to a lower proportionate impact on expected future performance.

[36] Very similar results are obtained when Tobit regressions are run instead of OLS, where the dependent variable is set to zero when reputational sanctions are positive to avoid treating these cases as reputation enhancing events. The results, both in the OLS and in the Tobit regressions, are robust if we winsorize the variable *financial penalty* apart from the variable *market size* which becomes insignificant. If we bootstrap the standard errors, we obtain very similar results. If we drop the outlier instead of winsorizing, we obtain the same results except for the variable *market size* which is non significant in all the specifications. The post-crisis effect is closely associated with the three cases of the AIM listed firms.

2.5.4 Reputational Loss or Profits Forgone?

We have interpreted the "residual" share price reaction—over and above mandated financial payments—as reputational loss, defined as the present value of the more expensive terms of trade in the future. However, as discussed in the theoretical session, it may be that some or all of these residual losses may be explicable as profits that will be forgone from loss of future earnings on the proscribed activity in question.

The striking differences in the market response to the two different categories of misconduct are strongly suggestive that these losses are the result of reputational losses not forgone profits. There is no reason for believing that forgone profits should vary so greatly depending on whether on the harm is done against second or third parties. However, we perform an additional robustness check distinguishing between the 13 cases of "clearly profit enhancing" activities from the 13 that were not, as described above. If some or all of the market loss was due to profits foregone from ceasing to engage in the misconduct, we should observe higher market reactions (net of financial payment) in the first group. To test this, we run a similar regression to that in section 2.5.3 on the subsample of cases of misconduct against customers/investors (25 cases), introducing the dummy variable, *clearly profit enhancing*. We retain the control variables which had explanatory power in the prior specifications. The results reported in Table

2.6 show that this newly created dummy variable does not significantly enter the regression in the two different specifications.[37]

[Table 2.6 about here]

The results do not therefore appear to be driven by profits forgone from prohibited activities and further support our interpretation of these market losses as reputational sanctions.

2.5.5 Long-Term Consequences of Sanctions

We turn to evidence on the long-term impact of regulatory sanctions. Since long horizon event studies have well known limitations (Kothari and Warner, 2008) we address this using a different sample and different methodology. Specifically we analyze the sample of unlisted companies sanctioned by the FSA, construct a matching sample of companies with similar characteristics that have not been sanctioned and look at differences in failure rates of the two samples.

We use the entire population of non-listed companies sanctioned by the FSA from 2002 to 2010. The sanction can be in the form of a public censure or a fine or a fine plus an order to compensate customers. There are 119 such cases of which just nine related to wrongs committed against a third party; the others refer to wrongs against customers or investors. We focus our attention on this large group of 110 companies and exclude cases where a) we could not trace the

[37] The coefficient of the variable *Clearly profit enhancing* is also not significant in the specifications where we drop the outlier instead of winsorizing, where we bootstrap the standard errors or where we winsorize the variable financial penalty.

company in Companies House (11); b) the company was already in an insolvency procedure (4); c) the accounts of the company in the year of the sanction describe it as being already dormant (6); and d) the sanction includes removal of authorization to conduct a regulated activity (4). We are left with a sample of 85 cases. 28 of these 85 companies were inactive according to the FAME database in December 2011. This constitutes a failure rate of 33%. In contrast, and interestingly in regard to the previous observed distinction between second and third party wrongs, all 9 companies sanctioned for third party wrongs remained active in December 2011.

We compare the failure rate of the sanctioned companies with companies with similar characteristics which have not been sanctioned by the FSA. We construct two matching samples: the first are firms in the same primary SIC code that are closest in nature to the relevant sanctioned firm in terms of their total asset size, solvency ratios and profit margins in the year of the sanction.. The second sample is the two closest companies.

Table 2.7 records that the failure rates in these two matching samples, 10.6 and 12.9, are much lower than in FSA sanctioned companies. As robustness checks, in Table 2.7 we calculate the failure rates for two sub-samples: in Panel B, we exclude 9 cases where the FSA, in the final notice, mentions concerns about the financial soundness of the company in setting the size of the penalty and in Panel C we only include companies sanctioned before the start of the

subprime crisis. In both cases, we obtain similar results suggesting that a regulatory sanction has an enduring impact associated with an unusually high failure rate of unlisted firms.

2.6 Conclusions and Implications

In this chapter we report the results of a study of the reputational losses sustained by financial firms subject to sanctions by a regulatory body in the UK. Our sample consists of the entire population of regulatory enforcement actions by the UK's FSA and LSE against publicly-traded companies over the period 2001-January 2011.

The approach taken in this chapter has significant methodological advantages over previous studies, stemming from the fact that the FSA does not announce investigations of misconduct until (a) they have been concluded and found against the firm, and (b) settled on the size of the penalty. The announcement by the FSA is therefore unusually informative not only about the existence of misconduct but also about the direct costs incurred by firms.

We observe that the penalized firms' stock prices experience statistically significant abnormal losses of approximately nine times the fines and compensation paid. We interpret the fall in equity market value in excess of mandated payments as the firms' reputational loss. This is consistent with theories which suggest that revelation of information of misconduct by a firm

will cause its trading partners – its customers and investors — to downgrade their assessments of its quality and adversely affect its terms of trade. Consistent with this, the negative share price reactions in our sample are entirely associated with cases where the misconduct involves harm to trading partners, for example, mis-selling financial products and mis-statements in financial reports. Where the wrongdoing affects third parties rather than trading partners (resulting, for example, from failure to comply with rules about money laundering or reporting of trades in other firm's stocks), there are no statistically significant abnormal returns beyond the amount of financial payments required. In cross-sectional regressions, we find that the reputational effect is unrelated to the size of financial penalties levied and has increased in intensity since the financial crisis of mid-2007. We record an enduring impact of regulatory sanctions in terms of the high attrition rate of sanctioned firms. Our results have significant implications for debates about regulatory policy. In terms of the criteria described in section 2.2.3, reputational losses are important forms of regulatory enforcement. They dwarf regulatory penalties such that, intended or not, they are the primary consequence for a firm of a revelation of its misconduct. At approximately 2.3% of market value, they are, however, a very long way from threatening the solvency of firms and preventing full compensation being paid to customers and investors.

What is much more questionable is the calibration of the penalties imposed. In the absence of reputational losses, penalties should be much greater in third party than second party wrongs. There is no evidence that they are and in the case of the UK, penalties appear too modest to restrain third party wrongs. The absence of reputational damage in the event of revelation of third party wrongs suggests that market processes are wholly inadequate for restraining such activity.

Penalties are much larger in the US, raising the possibility that they may be excessive when combined with reputational losses in cases involving second party wrongs. Indeed, it may be that in neither regime is there appropriate variation in regulatory penalties depending on whether the harm is caused to second or third parties. Furthermore, there is no evidence in the UK that the size of penalties levied is viewed by the market as informative about the seriousness of wrongs to customers and investors. The revelation of misconduct itself, not the scale of the penalty is the source of the reputational damage.

Table 2.1 Descriptive Statistics

This table reports the number of cases of misconduct involving customers and investors in Panel A and third parties in Panel B together with the nature of the wrongdoings. Panel C reports some descriptive statistics of the sample of 40 cases.

Panel A Wrongs vs. Customers/ Investors

Mis-selling of products	Misleading advertisements	Timing and content of announcements to the market	Other	Total
10	2	6	8	26

Panel B Wrongs vs. Third Parties

Compliance with money laundering rules	Market misconduct	Transaction reporting failures	Other	Total
4	2	7	1	14

Panel C Descriptive Statistics

	Max	Min	Median	Mean
Marke capitalization (£m)	108004.5	1.42	19109.15	23615.59
Financial payment: fine + compensation (% of market cap)	2.51	0	0.01	0.26

Post-crisis	17
FSA	37
Financial companies	29

Table 2.2 CARs Around the Press Statement of Misconduct

This table reports cumulative abnormal returns (CARs) in the three days around the announcement of misconduct for the total sample in Panel A and the sample split between wrongdoings against second and third parties in Panel B. Cumulative abnormal returns are based on market model parameters calculated over the period -261 days to -2 days relative to the announcement date. Abnormal returns are winsorized at 90%. T-statistics are calculated from the cross- section standard error of abnormal returns. We report also the Wilcoxon signed-rank z-statistics. *,** and *** denote significance at 1, 5 and 10 percent levels, respectively.

Panel A. Total Sample

Announcement window	Announcement return (%)	t-statistic	z-statistic
(0)	-1.26	-2.55***	-1.96**
(0,1)	-1.16	-1.66 **	-2.80***
(-1,1)	-1.68	-1.97 **	-2.94***

Panel B. CARs (-1,1) Separating the Two Groups of Wrongdoings

	Total	Customers/ Investors	Third Party
Market reaction (%)	-1.68	-2.62	0.24
t- statistic	-1.97**	-2.21***	0.22
z- statistic	-2.94***	-3.54***	0.91
No.Obs.	40	26	14

Table 2.3 CARs for Extended Samples

We report the results of three larger samples (51, 63 and 80) obtained by progressively reintroducing cases according to their degree of reliability. In Panel A, we reintroduce 11 cases of leakage of information (but not where there is also a confounding event or a parallel enforcement case in the US) summing the share price reactions during the announcement date and the first day in which the market became aware either of the misconduct or the investigation. In Panel B, we reintroduce further 12 cases where there was no leakage but there was some confounding information during the actual date (i.e. the compensation was not determined). In the last sample, in Panel C, we reintroduce also cases where there was both leakage (so we need to sum up two events) and some confounding information. T-statistics are calculated from the cross- section standard error of abnormal returns. We report also the Wilcoxon signed-rank z-statistics. *,** and *** denote significance at 1, 5 and 10 percent levels, respectively.

Panel A. CARs (-1,1) Separating the Two Groups of Wrongdoings (51 cases)

	Total	Customers/ Investors	Third Party
Market reaction (%)	-1.61	-2.25	-0.001
t- statistic	-2.47***	-2.77***	-0.6
z- statistic	-3.64***	-4.08***	0.67
No.Obs.	51	35	16

Panel B. CARs (-1,1) Separating the Two Groups of Wrongdoings (63 cases)

	Total	Customers/ Investors	Third Party
Market reaction (%)	-1.49	-2.09	0.14
t- statistic	-1.37*	-1.47*	0.12
z- statistic	-3.31***	-3.90***	1.06
No.Obs.	63	45	18

Panel C. CARs (-1,1) Separating the Two Groups of Wrongdoings (80 cases)

	Total	Customers/ Investors	Third Party
Market reaction (%)	-0.92	-1.32	0.12
t- statistic	-1.17	-1.29	0.14
z- statistic	-2.79***	-3.27***	0.91
No.Obs.	80	57	23

Table 2.4 Fine, Compensation and the Reputational Loss

Panel A reports the average size of fines and compensation as a percentage of market capitalization and Panel B the reputational loss. The reputational loss is calculated by subtracting the financial penalty from the market reaction. T-statistics are calculated from the cross- section standard error of abnormal returns. We report also the Wilcoxon signed-rank z-statistics. *,** and *** denote significance at 1, 5 and 10 percent levels, respectively

Panel A. The Financial Payment

	Total	Customers/ Investors	Third party
Fine (%)	-0.15	-0.13	-0.19
Compensation (%)	-0.12	-0.18	0

Panel B. The Reputational Loss

	Total	Customers/ Investors	Third party
Market reaction (%)	-1.68**	-2.62***	0.24
Financial payment (%)	-0.27	-0.31	-0.19
Reputational effect (%)	-1.41	-2.31	0.43
Reputational effect t- statistic	-1.65**	-1.95**	0.41
Reputational effect z-statistic	-2.50**	-3.29***	1.09
No.Obs.	40	26	14

Table 2.5 Cross-Sectional Determinants of Reputational Losses

This table reports cross-section OLS regressions (with robust standard errors) of the reputational losses on a dummy variable of whether the wrongdoing is against second or third parties, the financial payment as a percentage of market capitalization, the log of market capitalization of the firm before the announcement, a dummy for whether the announcement was made post June 2007, and a dummy for whether the firm is in the financial sector. The dependent variable is the reputational loss (calculated under market model assumptions and winsorized). p-values are in parentheses. *,** and *** denote significance at .01, .05 and .10 levels, respectively

	(1) Reputational loss	(2) Reputational loss
Customers/Investors	0.028*** (0.001)	0.015** (0.034)
Financial payment		-0.96 (0.240)
Market size		-0.004* (0.075)
Post-crisis		0.021*** (0.009)
Industry fixed effects (financial vs. non financial)	No	Yes
Intercept	-0.004 (0.363)	0.083* (0.060)
No. obs.	40	40
R-squared	0.20	0.56
F	13.52	12.80
Prob.>F	(0.001)	(0.000)

Table 2.6 Do Reputational Losses Reflect Forgone Profits?

This table reports OLS cross-section regressions (with robust standard errors) of the reputational losses in the 26 cases of wrongdoings against second parties on a dummy variable which reflects whether the wrongdoing was "clearly profit enhancing" (13 cases), the financial penalty as a percentage of market capitalization, the log of market capitalization of the firm before the announcement, a dummy for whether the announcement was made post June 2007, and a dummy for whether the firm is in the financial sector. The dependent variable is the reputational loss (calculated under market model assumptions and winsorized). p-values are in parentheses. *,** and *** denote significance at .01, .05 and .10 levels, respectively

	(1) Reputational loss	(2) Reputational loss
Clearly profit enhancing	0.002	0.002
	(0.979)	(0.858)
Market size	-0.005**	-0.005**
	(0.014)	(0.044)
Post-crisis	0.028***	0.028**
	(0.009)	(0.016)
Financial payment		-0.555
		(0.574)
Industry fixed effects (financial vs. non financial)	Yes	Yes
Intercept	0.109***	0.124**
	(0.006)	(0.023)
No. obs.	26	26
R-squared	0.57	0.57
F	8.38	7.23
Prob.>F	(0.001)	(0.001)

Table 2.7 Failure Rate of Unlisted Companies Sanctioned by the FSA

This table reports, for each year, in column 1 the number of unlisted companies sanctioned by the FSA and in column 2 the number of sanctioned companies that are not active at the end of 2011. The last two columns report the numbers of non-active companies in two matching samples. For each sanctioned company Matching sample A uses the firm the most similar (we look at 30 companies in the same primary SIC code with the closest total asset size in the year of the sanction and within this group we extract the company with the closest solvency ratio and profit margin). Matching sample B uses the two closest companies. The Failure Rate is obtained dividing the number of non-active companies by the total number (in the last column the total number is twice the number of sanctioned companies). Panel A reports the failure rates for the all sample, Panel B excludes those sanctioned companies for which the FSA mentions the existence of financial problems at the time of the sanction and Panel C is restricted to the first 6 years.

Panel A. Failure Rate (All Sample)

Year	Number of sanctioned companies	Companies not active in December 2011	Matching sample A	Matching sample B
2002	3	1	1	3
2003	6	5	2	5
2004	8	1	2	4
2005	6	3	1	3
2006	15	6	0	2
2007	13	6	1	1
2008	17	5	2	3
2009	8	1	0	1
2010	9	0	0	0
Tot.	85	28	9	22
Failure rate		33.0%	10.6%	12.9%

Panel B. Failure Rate Excluding Companies for which the FSA Makes Reference to their Financial Condition in Setting Fines

	Number of sanctioned companies	Non active companies	Matching sample A	Matching sample B
Tot.	76	21	5	14
Failure rate		27.6%	6.6%	9.2%

Panel C. Failure Rate for the Sample of Firms Sanctioned between 2002 and 2007

	Number of sanctioned companies	Non active companies	Matching sample A	Matching sample B
Tot.	47	19	5	13
Failure rate		40.4%	10.6%	13.8%

3

SECURED CREDITOR CONTROL IN BANKRUPTCY

'The whole thing stank of fish. […]Does that raise a potential conflict of interest for owner-directors and administrators? Only one the size of France.' Financial Times, January 21, 2009

'Britain is in danger of becoming the bankruptcy brothel of the world.' Times, October 18, 2010

3.1 Introduction[38]

The traditional solution that economists have envisioned to solve the collective action problem created by junior creditors forcing the company into piecemeal liquidation where a going concern value is higher (Jackson, 1982) has been the introduction of a state provided bankruptcy procedure (Hart, 2000).

[38] This chapter is entirely based on the working paper "Secured Creditor Control in Bankruptcy: Costs and Conflict"

However, in some countries the collective action problem is solved by the prior adoption of a capital structure (the floating charge) which gives a single bank dominant control in the event of financial distress. For instance, Franks and Sussman (2005) describe the UK bankruptcy system as a 'contractualist' regime "where bankruptcy law is little more than the strict enforcement of the default clauses in the debt contract, as negotiated ex ante by the lender and the borrower". Diankov et al. (2008) confirm that when the floating charge is legally allowed is used and works well also in other countries. Franks and Sussman (2005) suggest that in the UK system where the secured creditor is in control the way to reorganize a business is not through the preservation of the company entity as in a Chapter 11 reorganization in the US but through the sale of the business to a new owner who will incorporate the assets under a different name[39].

Nevertheless, in the current practice of bankruptcy these differences, at least in term of outcomes, seem to be less pronounced. Ayotte and Morrison (2009) find "pervasive" creditor control also in Chapter 11 and Baird and Rasmussen (2003) argue that, due to this increasing control, we have seen a dramatic increase in the proportion of Chapter 11 cases that result in piecemeal liquidation or a going concern sale. According to Casey (2011), "the norm for today's corporate reorganization is a quick going concern sale"[40]. If instead of

[39] For a complete review of the empirical and theoretical literature on bankruptcy see Hotchiss et al. (2008).
[40] LoPucki (2003) found that going-concern sales accounted for less than 20 percent of Chapter 11 cases filed by large, publicly traded firms during the 1980s but this percentage went up to 75% in 2002.

considering the large companies which enter into Chapter 11 we consider the small businesses that in large percentage are restructured under state laws instead of federal laws (Chapter 11) the differences between the US and the UK become even smaller. Morrison (2009) documents that when secured creditors are concentrated small businesses tend to restructure under the state procedure called assignments for the benefits of creditors ("ABCs")[41]. In these procedures the debtor assigns its business to a trustee, who sells the business with the consent of the secured creditor and unsecured creditors have little power to interfere.

Given the increased secured creditor control also in the US, recent literature is looking at the effects of this control and at the potential conflict of interests between secured and unsecured creditors. For instance, studying large listed companies entering into Chapter 11 in the US, Ayotte and Morrison (2009) show that the creditor conflict creates distortions: it causes inefficiently quick sales when the secured creditor is in control and inefficiently slow sales or reorganizations when the unsecured creditors gain some control. In the resolution of distressed small businesses the concerns seem different. Here the secured creditor control can have two effects: it can reduce the ex-post cost of financial distress but, on the other hand, secured creditors and business owners may collude to divert value from junior creditors. Morrison (2009) reports that, according to many practitioners, ABCs are faster and cheaper than federal

[41] In Morrison (2009)'s data the percentage of companies restructured under federal laws and the percentage of companies restructured under ABCs are similar.

procedures but they are subject to abuse. An auction to sell the business can be conducted with few, if any, bidders other than the manager-owner, whose bid can be funded by existing secured creditors. Where the business is sold back to the owner, the unsecured creditors are concerned about potential conflicts of interest but they tend to be dispersed and their stake is usually too small to warrant monitoring. This dynamic of potential collusion between owners and secured creditors evokes the "equity receivership" developed for the railroads in distress in the 20th century in the US.

While we have no empirical evidence on the outcomes of ABCs in the US, we have some evidence on the potential collusion between owners and secured creditors in small businesses from Sweden where bankruptcy sales are in fact mandatory. Stromberg (2000) suggests that whenever a sale-back occurs, there will be, in principle, a deviation from absolute priority because the secured creditor and the owner-manager often share some going-concern surplus of the continued firm at the expense of unsecured creditors. However, Eckbo and Thorburn (2008) show that the prices in salebacks and in non-saleback going-concern sales are indistinguishable.

This chapter addresses the above question about the effects of the secured creditor control in small businesses by studying the secured creditor friendly UK environment where banks have introduced the highly contested practice of pre-packs which vividly highlights the trade-off between the reduction of ex-post

costs of financial distress and the risk of collusion. A further advantage of our chapter, in comparison with the previous literature, is that we have information on both secured and unsecured debt recovery rates and so we are better positioned to analyse the distributional concerns.

A pre-pack is a new controversial business practice related to the sale of the business in bankruptcy which has emerged within the pre-existing UK legal framework since the end of 2001. By 2004, pre-packs were used in more than 16% of insolvency cases. In a pre-pack the main bank or one of the directors of a company in financial distress (with the agreement of the main bank) calls in an insolvency practitioner (IP). The IP tries to identify discreetly if there are any parties that may be interested in buying the company. If a potential buyer can be found (he can also be the original owner-manager) the IP is publicly appointed (typically out of court) as administrator/receiver and immediately sells the company to the buyer. The business (usually including the workforce) is transferred to a new company and the proceeds from the sale are used to pay back creditors in the normal order of priority. The UK version of pre-packs stands as a unique case where the whole bankruptcy procedure lasts less than three days and it is usually concluded in just one day. Moreover, the UK is the only country where an insolvency practitioner can privately sell a company without involving the courts or consulting with junior creditors [42].

[42] To minimize the direct and indirect costs associated with bankruptcies, many countries have introduced or are introducing prepackaged bankruptcies through legal reforms of their respective

According to the advocates of this insolvency tool, the speed and the discretion of the process are its greatest virtues because of the adverse effect that the suggestion of formal insolvency has on the perception of the company's staff, suppliers and customers and hence on its value. Only an early sale may maintain the value of the company "preserving the intangible mixture of reputation, name and customer loyalty"[43]. On the other hand, a potential conflict of interest arises when the sale is to a connected party. Directors and shareholders of a distressed company can, with the agreement of the secured creditors, i.e. the banks, buy back their business, removing the unsecured creditors in the process, without organizing a public auction[44].

Using a sample of 820 bankruptcies procedures (including both administrations and receiverships) between 16 September 2003 and 16 September 2004 this chapter will analyze the efficiency of pre-packs, in particular pre-packs to connected parties, in comparison to other bankruptcy outcomes and attempt to answer the following questions. Is there any evidence of exploitation of conflict of interests? If not, is there evidence of enhanced efficiency?

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bankruptcy codes (Phillips and Kaczor, 2010). For instance, there are pre-packaged bankruptcies in Chapter 11 in the US as well but these are very different from their UK counterparts. Pre-packs in the US, which are particularly relevant for firms with public debt (Tashjian, Lease and McConnell, 1996), involve a reorganization plan being negotiated with creditors prior to bankruptcy and being filed concurrently with the bankruptcy petition. They have the same voting rules as traditional Chapter 11 but avoid the long and costly bankruptcy proceedings normally associated with Chapter 11.

[43] New Business, 2 June 2009

[44] The US ABCs differ from the UK pre-packs in so far as in the US a public auction is mandatory.

The only evidence about pre-packs in the UK to date comes from a report commissioned by the Association of Business Recovery Professionals (Frisby, 2007). The report describes pre-packs in the period 2001-2004. Frisby finds that: a) pre-packs perform better than non-pre-pack sales[45] in terms of employment retention (in 92% of pre-packs all of the employees are transferred to the new businesses, whereas this occurs in only 65% of normal business sales), b) firms are sold back to a connected party in 55% of pre-packs and 52% of normal business sales, c) secured creditors seem to perform better in pre-packs while unsecured creditors perform worse, d) a business sold back to a connected party is more likely to fail again thereafter. However, as Armour (2011) notes these findings "should be treated with caution". They are simply based on comparison of means without other statistical tests, without controlling for other variables that may have an impact on the outcomes and without correcting for the possible selection biases that could arise from the fact that bankruptcy procedures are a choice outcome.

Drawing on the same database collected by Sandra Frisby for the Association of British Recovery Professionals and extending it with information on industry characteristics and credit scores data we examine the following. First, we observe that cases of sales to connected parties are associated with very small companies in comparison to cases of sales to outsiders, namely half the size. If we consider

[45] In a non pre-pack sale the company enters into the bankruptcy proceeding, the IP advertises the sale of the business soliciting bids (often through an advertisement in the Financial Times). Usually the company is sold within one month to the higher bidder.

only the cases which are sold back to the owners we observe that pre-packs are very different in terms of their industry characteristics from the other sales: the pre-packs are cases where the role of employees, reputation and intangibles is much more important. This seems to suggest that pre-packs to connected parties are used to preserve the value of businesses. This is confirmed by the analysis of the recovery rates: even controlling for the selection effect the recovery rates of connected pre-packs are not different from other sales and their refiling rate is not higher than other sales.

Then we look at the conflict of interest that may arise in pre-packs from a deviation of absolute priority with owner-managers getting part of the rent which was supposed to go to the unsecured creditors. The IP, who is *de facto* hired by the floating charge holder (the main bank), will seek to maximize the realization of the sale if there is a risk of the secured creditor being paid less than in full. On the other hand, if the bank is going to be paid in full, the potential extra-rent after the payment to the bank could be appropriated by the owner-manager (buying back the business at a lower price) or by the IP (through higher fees).

The empirical analysis reveals no evidence of exploitation of these conflicts of interest. If we consider only the sample where the bank is paid in full, pre-packs to connected parties are characterized by: a) returns to unsecured creditors which are low but not statistically different from other types of sales and b) a lower ex-ante intrinsic value which rules out the concern that alternative

procedures could have produced higher returns to the unsecured creditors. Furthermore, the bank is not paid in full more often in pre-packs to connected parties. The absence of evidence of a fraudulent use of this procedure could be due to the fact that the floating-charge holders do not want to be associated with controversial or contested transactions. Moreover, it can be reasonably argued that the High Court would have intervened in case of a clear violation of creditor rights.

Finally, we observe that the ex-ante characteristics of pre-packs, in terms of size and industry, and cases of piecemeal liquidations are very similar suggesting that pre-packs may be used as a mechanism to pre-empt excessive liquidations. This is beneficial for creditors (the recovery rates of going concern sales are much higher than the recovery rates of piecemeal liquidations) and society (employees keep their jobs and viable businesses are preserved).

These results suggest that in small businesses where secured creditors are concentrated the benefits of their control seem to outweigh the costs. This provides a benchmark for evaluating likely effects of the secured creditor control in resolution of small businesses also in other countries, for instance in the state procedures in the US.

These findings have also an important implication for the debate about the social implications of using floating charge as debt resolution mechanisms. Contrary to the view that since 'contractualist' bankruptcy systems confer control

in distress on the owner of the floating charge, they create a liquidation bias to sell the firm's assets piecemeal (Acharya, Sundaram and John, 2004), Franks and Sussman (2005) find that UK banks try to rescue companies rather than opt for automatic liquidations on violation of debt covenants.[46] Here we show that, once in bankruptcy, floating charge holders have an incentive to sell the business as a going concern rather than piecemeal. To achieve this in a larger set of circumstances, banks introduced the business practice of pre-packs to connected parties. Where firms are small and their values rest on intangibles, reputations, employees and the human capital of the owner, the floating charge holder will have an incentive to organize a pre-packaged sale-back of the business. This reinforces the empirical (Dyankov et al., 2008) and theoretical (Gennaioli and Rossi, 2009) evidence on the efficiency of the floating charge debt as a resolution of financial distress.

Finally, the chapter contributes to the debate on auctions in bankruptcy. A well known result from auction theory says that adding a bidder is always beneficial for the seller, because it increases the competition between the buyers (Bulow and Klemperer, 1996). Since public auctions attract the largest number of potential buyers, selling the business through a public auction should be superior to the recourse of a private auction, even absent conflicts of interests. Section 363

[46] Davydenko and Franks (2008) show also that the proportion of going concern reorganizations, in and out of formal bankruptcies, is higher in the UK than in more rescue-oriented regimes such as France.

in the US and mandatory auctions in Sweden are both based on the assumption that a market test by auction maximizes recovery. This analysis suggests an argument against auctions: in some circumstances, namely in those industries where exposing the business to the market is particularly likely to undermine the value of assets, exposing firms to market tests might destroy value and negotiation might dominate auctions.

The chapter is organized as follows. Section 3.2 provides the legal framework. Section 3.3 presents the theory and hypotheses. Section 3.4 describes the data and Section 3.5 reports the empirical results. Section 3.6 concludes the chapter.

3.2 Legal Structure

Franks and Sussman (2005)'s historical analysis of English insolvency law reveals that it evolved through lenders and borrowers exercising their right to contract freely. The design of insolvency procedures was left to the parties who incorporated it into debt contracts and the role of the State was basically limited to enforcing the contracts. In the late 19th century English Law did not impose any constraints on debt contracts but over time the accumulation of case law led to a standardization of lending instruments.

Loan securities in the UK can be either fixed charges (a security on a specific asset) or floating charge (a security on the whole of the company's asset). In the

event of default, the floating charge holder is under the control of company and the floating charge debt therefore defines the insolvency procedure. Under this procedure, called receivership, on breach by the debtor of the terms of the loan agreement a creditor holding a floating charge is able to appoint an administrative receiver whose function it is to realize the company's assets for the benefit of the appointing creditor. Upon appointment, the receiver becomes the agent of the company but the primary fiduciary duties are to his appointing charge-holder. The receiver has the choice of selling the business as a going concern or piecemeal. The Cork Committee established in 1982 that receivership was a useful institution: it was quick and flexible and the receiver was able to sell the business as a going concern if it was judged to be a viable business.

The Insolvency Act of 1986, based on the proposal of the Cork Committee, granted statutory powers to the receiver and introduced a new procedure called administration, to extend the benefits of the encompassing control by the office-holder to situations where companies did not give a floating charge to any creditor. 'As originally conceived, administration was intended to replicate the benefits of receivership, instead of replacing it' (Armour et al., 2012). The administration constituted a statutory moratorium on the enforcement of all claims, the entry was through a court order and the appointed administrator[47] had the power to choose whether to sell the business or try to reorganize it. However,

[47] The appointment in administration can be made also by the company and/or its directors.

the holder of the floating charge had the power to veto the appointment of the administrator and appoint a receiver instead.[48]

Since the introduction of the Insolvency Act, administration has been very rarely used[49] and the criticism of receivership has intensified. It was thought that in some circumstances giving all the decision power to the secured creditor had a perverse incentive. When the value of the company is higher than the amount of secured debt, the secured creditor is not a residual claimant, so will be biased against the continuation of the business and will try to get the money back through a quicker closure and piecemeal liquidation (Aghion, Hart and Moore, 1992). Moreover, it was thought that in cases where the human capital of the owner-manager was essential for the continuation of the business and the reorganization of the corporate entity was the only way of rescuing it, then there was no mechanism for achieving this in the UK.

In light of these concerns, the Enterprise Act in 2002 abolished receivership[50] and reformed the rarely used administration[51]. In the 'new' administration procedure: a) the administrator can be appointed out of court[52], b) the floating charge-holder has the veto power over the administrator where the directors

[48] This is in line with the view that the new procedure is "gap-filling" for cases where there is no floating charge (Armour, 2011)
[49] Probably because of the veto power on the appointment of administrator exercised by the floating-charge holder.
[50] Holders of floating charges created after 15 September 2003 are prohibited from appointing a receiver.
[51] There are other procedures in the UK which are less relevant for our discussion here. For an overview of them and an interesting comparison with Sweden see Cook and Pond (2006).
[52] This was done to increase the ease of entry and eliminate the cost of court applications and hearings.

and/or the company make the appointment, c) the administrator is expressly obliged to perform his functions in the interests of the company's creditors as a whole, d) a hierarchy of objectives is stipulated for the administrator making clear that the first objective is to rescue the company.

However, the introduction of the law did not alter the balance of power between the floating charge-holders and unsecured creditors. In fact, Armour et al. (2012) show empirically that the new law had no meaningful impact on unsecured creditor recoveries. The reasons for this are the following. First, the out of court entry and the veto power attributed to the charge-holder on the choice of the administrator mean that the 'new' administration is similar to the abolished receivership. Second, despite the fact that the administrators now have duties to all the creditors, the IPs will try not to make a decision which is detrimental to the banks for fear of not being hired again in the future. The banks are, in fact, repeat players in the insolvency procedures and they have control over the appointment decision. Finally, according to Armour (2011) there are 'major limitations to the ability of the administrator's duties to generate real accountability to unsecured creditors'[53]. According to the Parliament's intentions, the courts are supposed to give deference to the business judgment of the IPs, questioning the judgment only on the basis of 'irrationality' and there are

[53] The courts should give deference to the business judgment of the IPs and there are significant procedural obstacles to bringing an action for breach of duty against an administrator.

significant procedural obstacles to bringing an action for breach of duty against an administrator.

Contrary to what is suggested by Walton (2009), the emergence of pre-packs, which have been increasingly used since 2001-2002 (Frisby, 2007) is not related to the abolition of receivership for two reasons: first, as we just described, the law did not make any substantial difference to the control of floating charge-holders and, second, pre-packs have been executed under both receivership and administration before and after the introduction of the new law. We will provide an alternative explanation of the emergence of pre-packs later in the chapter.

In a UK pre-pack, a deal to sell the company is agreed prior to insolvency and is completed immediately after the appointment of a receiver/administrator. As suggested above, this does not involve a plan being approved by different classes of creditor or the involvement of the court in approving activities of the receiver/administrator before or after the plan is executed. In 2008 an unsecured creditor, HMRC, opposed an administration order[54] related to the sale of DKLL Solicitors (DKLL Solicitors v. HMRC) on the basis that unsecured creditors would be disenfranchised and would have no say in the administration. The High Court made the order despite HMRC's opposition on the basis of the commercial judgment of the IP who convinced the Court that the realizations from the sale were higher than those from a piecemeal liquidation. After this ruling, other two

[54] Court applications for administration are rare after the coming into force of the Enterprise Act which allows initiating the administration out of court. However, they do happen when a winding up petition has been brought or the company is active in various jurisdictions.

cases *Kayley Vending Ltd, Re* [2009] and *Halliwells LLP, Re* [2010] confirm the positive stance of the High Court toward pre-packs. In the latter case, the Judge Kitchin observed that the proposed pre-pack was "the only way forward" for the firm in administration[55].

3.3 Theory and Hypotheses

In this section we state the four hypotheses that will be tested in the empirical section. According to the advocates of pre-packs, the speed and the discretion of the process are its greatest virtues and help minimize the ex post costs of bankruptcy. Insolvency procedures can have severe effects on a company's business: stakeholder groups will attempt to protect their positions to the detriment of the company. Suppliers may not want to keep dealing with the company and since UK courts, unlike their US counterparts in Chapter 11, cannot oblige suppliers to keep supplying debtors in administration, this can easily destroy the company's supply chain. The departure of valuable employees during bankruptcy could dissipate a firm's going concern value to the point at which liquidation becomes inevitable (Wang, 2009)[56]. Moreover, once-loyal customers

[55] Recently in January 2009, in order to increase the transparency of pre-pack sales the Insolvency Service introduced a Statement of Insolvency Practice ('SIP') 16 requiring a wide range of information to be disclosed to creditors regarding best efforts to achieve the highest price.

[56] Wang (2009) shows also that employees do not seem to leave prior to bankruptcy filing but during bankruptcy itself. In particular, workers may decide to stay if they think that within the bankruptcy process the firm has some prospects for survival after bankruptcy.

are likely to switch to other companies[57]. The present value of profits forgone because of the damaging effect of financial distress is defined as "indirect bankruptcy costs" (Altman, 1984)[58]. Meeks and Meeks (2009) speak of "self-fulfilling prophecies of failure": the news that a company is likely to fail diminishes the value of its assets and raises the costs of servicing its liabilities. The erosion of the value of the company starts from the earliest phases of distress and continues during the insolvency process. The indirect and direct costs which include fees of lawyers, accountants and other professionals increase with the length of time spent in bankruptcy (Franks and Torous, 1989)[59]. To minimize these costs, many countries have introduced pre-packaged bankruptcies to shorten the duration of the bankruptcy procedures. Skeel (2009) mentions that nowadays often lawyers speak of "melting ice cubes": company's assets are a melting ice cube and will liquify unless action is taken immediately. In some circumstances, only a quick and discrete sale can preserve the value. This leads to the following hypothesis:

H1: If pre-packs and, in particular pre-packs to connected parties, are used to preserve the value that would otherwise "evaporate" with the entry of the

[57] For instance, in the US, Chrysler lost sales representing 2% of the national car market because potential buyers feared the company would go bankrupt (Altman, 1984).
[58] The literature on indirect costs includes the inefficiencies related to the fact that a bankruptcy filing may distract managers from the proper management of the firm's operations and might change their incentives, favouring "gambling for resurrection". These two sources of indirect costs are less relevant in the UK where reorganizations of businesses in bankruptcy are rare. For a survey of indirect and direct costs in the US see Bris, Welch and Zhu (2006)
[59] Thorburn (2000) shows that auction pre-packs in Sweden are associated with lower direct bankruptcy costs.

company into an insolvency procedure we should observe them in industries where the role of employees, reputation and intangibles is more important.

If the IP decides to sell the business in a pre-pack, he will discretely market it on a confidential basis to potentially interested buyers running a type of "private auction". The alternative for the IP is to formally enter into insolvency, making a public statement that the company is on sale and in this way bringing forward all potential buyers. Selling the business through a public auction should be superior to the recourse of a private auction, even absent conflicts of interests. The former attracts the largest number of potential buyers and a well known result from auction theory says that adding a bidder is always beneficial for the seller, because it increases the competition between the buyers (Bulow and Klemperer, 1996). This idea is endorsed by the Supreme Court of the US which clearly stated that "the best way to determine value is exposure to a market"[60] and also in the less formal state procedures ABCs in the US a public auction is mandatory.

However, this positive effect could be more than offset in those industries where exposing the business to the market is particularly likely to undermine the value of assets. We would then expect to find evidence of pre-packs being executed in industries where the 'evaporation' risk is highest and we would not

[60] Bank of America National Trust & Savings Association v. 203 N. LaSalle Street Partnership, 526 U.S. 434 (1999). Povel and Singh (2006) are very critical of these mechanisms. They claim that, due to informational asymmetries between insiders and outsiders, 'market tests' are suboptimal and auctions should be biased against insiders.

then expect a lower performance of pre-packs in comparison to other procedures in terms of either recovery rate or post-bankruptcy refiling probabilities.

Furthermore, in connected sales, the IP presumably does not regard the existing management as the source of the firm's problem.[61] Therefore, the private negotiation before the sale reveals that the owner-manager is either the higher bidder or the only one.[62] Hence our second hypothesis:

H2: The performance of pre-packs and, in particular of pre-packs to connected parties, is not different from the performance of other bankruptcy procedures.

As we said, according to the advocates of pre-packs, the speed and the discretion of the process are its greatest virtues. However, the associated lack of transparency makes this procedure vulnerable to abuses. Since in pre-packs the unsecured creditors are presented with a *fait accompli* on which they have no

[61] Furthermore, according to Stromberg (2000) sale-backs in Sweden are most common when the market for firm's assets is illiquid, such as during a recession. Sale-backs are then used to avoid the inefficiency of mandatory auctions: they tend to produce fire sale prices since the bankrupt firm's financial condition tends to be correlated with the financial condition of the potential buyers in the same industry (Shleifer and Vishny, 1992).

[62] Furthermore, most small business loans require the owner to personally guarantee the corporation's debt. In these cases and in the absence of external potential buyers, the owner will bid at a price that is much higher than the liquidation value to avoid the main bank forcing him into personal bankruptcy or, in the words of an IP "because if they don't they're still going to pay out under a guarantee, so they might as well get something back for their money" (cited by Frisby (2006)).

voice[63] and the legal framework does not include any control of the IPs' actions, serious concerned have been raised about potential conflicts of interest, in particular when the business is sold to a connected party. According to Stromberg (2000), whenever a sale-back decision occurs, there will, in principle, be a deviation from absolute priority despite the fact that the absolute priority rule (APR) is formally upheld: owner-managers and banks share some going-concern surplus at the expense of unsecured creditors. This is potentially a serious problem in a context characterized by absence of court involvement and independent assessment of the IP (this is the case both in the UK pre-packs and in the US ABCs).

These features of the institutional system are not a concern when the secured creditor is out-of-the money. Reputational concerns of the IP, who is interested in pleasing the bank in order to be hired again in the future, should be strong enough to ensure maximization of proceedings. On the other hand, when the secured creditor is going to be paid in full, reputational concerns are no longer a strong disciplining device. The residual claimants here are the unsecured creditors about whom the IPs have no reputational concerns. Unsecured creditors are neither the appointers of the IPs nor repeat players in bankruptcy. If there is anything left,

[63] Creditors are also not consulted in more than three quarters of non-prepack sales in administration (Frisby, 2007). This is not only a UK phenomenon: a US study shows that in small Chapter 11 cases (debt less than $ 2 million) creditor's committees are only formed in 3% of cases (Morrison, 2007).

fter the payment to the bank, this could be appropriated by the owner-manager or by the IP.

However big diversified accounting companies for which a recovery service is one among the many services offered to their clients could be less inclined to engage in "contested" transactions because bad media coverage in recovery services could spill-over to the other services they offer[64]. This would not be true for small companies which are specialized in recovery services and less worried about spillovers.

H3: Pre-packs, and in particular pre-packs to connected parties, are characterized by the expropriation of unsecured creditors due to the conflict of interests between owner-managers and IPs and unsecured creditors.

A further concern about pre-packs to connected parties, apart from the potential conflict of interests, is that they may occur at the expense of informal workouts. Instead of paying the costs of the restructuring themselves banks force the unsecured creditors to pay for them in a pre-pack. To shed light on this issue we need to go back to the question of why pre-packs emerged in the first place.

Armour (2011) dismisses the hypothesis that the increase of pre-packs is due to the change in the law after to the introduction of the Enterprise Act of 2002.

[64] See Greenwood at al. (2005) for a discussion of reputation and diversification in professional service firms.

Instead, he argues that the emergence of this new business practice is linked to corporate financial structure developments. Traditionally, the debt structure of UK firms has been very concentrated. Publicly listed companies relied on syndicated loans and privately-held companies on a single bank. This pattern which was slowly changing during the previous decade altered significantly at the beginning of the 2000s. Bigger companies started to obtain funds from the bond markets and took advantage of the cheaper credit provided by the growth of securitization and the secondary markets for corporate loans. On the other hand, smaller companies saw their capital structure becoming more and more fragmented because of the increasing recourse to asset-based finance, namely lease financing and invoice discounting.

The increase in the complexity of capital structure is directly associated with greater impediments to execute an out-of-court restructuring because of the presence of holdout problems and conflicts of interests between different layers of creditors (Gertner and Sharfstein, 1991).

According to Tashjian, Lease and McConnel (1996), it was after the introduction of legal rulings that discouraged out-of-court restructurings that pre-packs in the US became more widely used in the early 1990s and started to replace informal workouts. Something along the same lines might have happened in the UK at the beginning of the 2000s. The comprehension of the origin of pre-packs leads to the last hypothesis.

H4: Given the increasing complexity of organizing workouts, piecemeal liquidations would have become more widespread without pre-packs in small companies where intangibles, reputations and employee retention are particularly important.

3.4 Data

We draw on a database of UK insolvency procedures compiled by Frisby (2006, 2007) for the Insolvency Service. The database consists of a randomly selected sample of around one third of the population of administrations and receiverships. All companies entering into ether administration or receivership were initially identified from the index of insolvency appointments published in the *London Gazette.* Then, these were randomly sampled and data on the selected cases was collected from the reports filed at Companies House by the IPs[65].

The database records, when available, the following information: company's name, SIC code, location of the company, year of incorporation, procedure (administration or receivership), practitioner identity (name and firm), start and end dates of the procedure, amount of secured, preferential and unsecured debt owed at the beginning of the procedure and payments made respectively to

[65] For each case, the Insolvency Package consists of notices of appointment, statement of affairs, statement of proposals (for administration), receiver's reports to creditors, progress reports (for administrators), abstract of receipts and payments, notices of extension (for administrations) and notices of vacation of office. Where liquidation followed either receivership or administration, these documents are used to obtain information on payments to unsecured creditors.

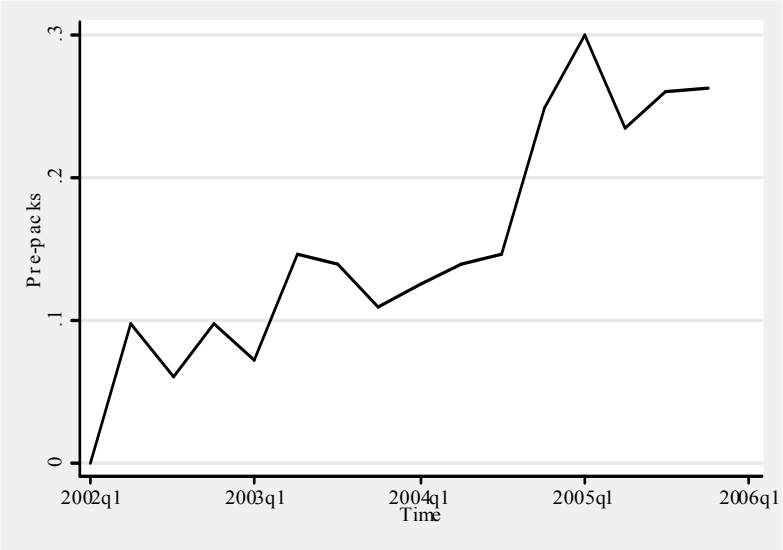
secured, preferential and unsecured creditors during the procedure, the outcome of the procedure (reorganization, going concern sale or piecemeal liquidation). Moreover, for the subsample of going concern sales additional information is recorded. For each going concern sale the database includes information (when available) on the type of sale (pre-pack or normal business sale)[66], the date of the sale, the identity of the purchaser, whether the purchaser is a connected party[67], whether a marketing activity has been conducted before the sale, and whether a valuation of the business occurred[68]. Finally, the author of the database includes also information on the survival of the business: she verifies whether the purchaser has entered into a new insolvency procedure between the date of the purchase and early 2010[69].

[66] A sale is identified as a pre-pack when the practitioner's report states that the sale of the business has been pre-negotiated and executed immediately after the appointment.
[67] A connected party is either the owner or a director or a manager.
[68] If the IP's report does not mention any marketing activity or valuation exercise, it is assumed that no marketing or valuation had occurred. The marketing and valuation information seems too vague to be employed in the study.
[69] To construct this last variable and to include the total amount of payments to unsecured creditors (which can be calculated only at the very end of the procedure) a roll-out of the database was conducted at the beginning of 2010. Although the meaningful economic outcome (going concern sale, piecemeal liquidation) happens very quickly after the appointment, the closure of the procedure (which is required to collect all the claims owned by the filing firm) can take several years.

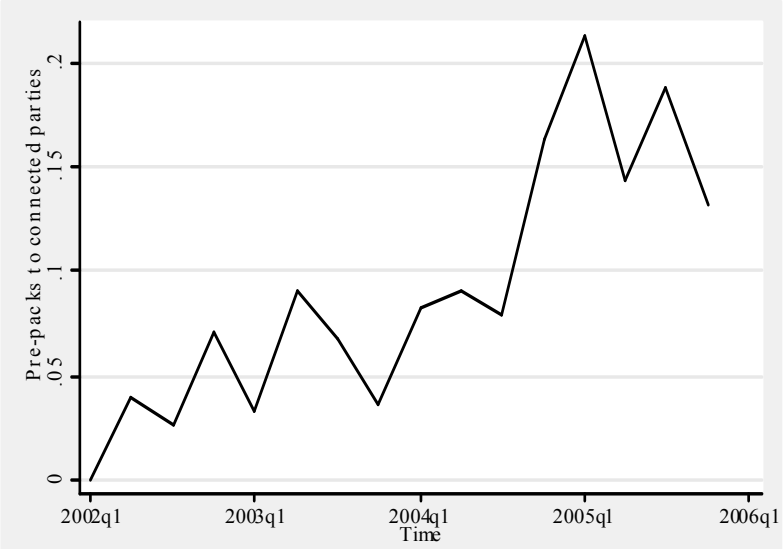
Figure 3.1 The Increase in Pre-Packs and Pre-Packs to Connected parties

This figure shows the increase in the business practices of pre-packs and pre-packs to connected parties as percentages of total insolvencies from 2001 to 2006.

3.1.A Pre-Packs



3.1.B Pre-Packs to Connected Parties



From Figure 3.1 we can see how the business practices of pre-packs and pre-packs to connected parties as percentages of total insolvencies have increased

since early 2002. We analyze all the administrations and receiverships filed from 16 September 2003 to 16 September 2004[70]. We obtain a sample of 1087 cases. We drop cases where we have missing information on the incorporation date (8 cases), on the payments to different class of creditors (221 cases) and on the SIC code (38 cases)[71]. After applying this second filter we are left with 820 cases.

We extend the original database including information on industry characteristics[72] obtained from Fame (for each variable of interest, i.e. intangibles over total assets, we associate with each company in the sample the median value of the companies in the same 2-digit code industry[73]) and credit scores data from Experian on individual companies before entering into insolvency. We winsorize the following variables, to ensure that outliers do not distort our results: recovery rate, recovery rate to the secured creditors, recovery rate to the unsecured creditors, secured debt and unsecured debt as a percentage of total debt, size, age. All data below the 1st percentile are set to the 1st percentile, and data above the 99th percentile are set to the 99th percentile.

[70] For comparability concerns we start the sample after the coming into force of the Enterprise Act (16 September 2003), after this date the HMRC (the government department responsible for tax collection) loses his preferential status and becomes an unsecured creditor.
[71] In some cases the absence of information regarding payments to different class of creditors is due to the fact that the procedure is still ongoing; in other cases this is due to gaps in the information provided in the practitioner's reports.
[72] Ideally we would have collected information at firm level. The firm level information can come either from the document compiled by the IP after the appointment or from the last accounts available from Fame. However, we prefer using industry level information because the data produced by the IP could be biased because of the potential conflict of interest of the IP and, on the other hand, the accounting information for most of these small companies in Fame is incomplete (Fame often reports only the amount of the assets, the amount of debt and in some cases the profit figure).
[73] Companies in the sample span around 60 different 2-digit code industries.

The companies have an average book value of debt owed at the beginning of the procedure of £2.6 million and a median value of £0.8m[74]. The average life of the companies is 13 years with a median value of 8. The sample includes 241 receiverships and 579 administrations[75]. In table 3.1 we look at the outcomes of the insolvency. Reorganization, which was supposed to be the first outcome in the hierarchy of the new administration is used in only 1% of cases[76]. We observe that in more than 40% of cases an insolvency procedure in the UK implies the preservation of the business through a going concern sale. One out of two sales is to a connected party and around 40% of the sales are pre-packed[77]. The sample of going concern sales on which we calculate the percentages of sales to connected parties and pre-packs is smaller (271 cases) than the original number of cases defined as going concern sales (341 cases). This is due to the fact that in some of these cases the IP reports were incomplete - they just state that there was a sale without giving further information. It must be emphasized here that such reports are provided with the purpose of informing the creditors on matters that the IPs consider will be of interest to them. Clearly the floating charge-holder does not rely on this source of information (no decision is taken by the IP without

[74] This is quite similar to the Thorburn (2000)'s database of Swedish firms where the median book value of assets is 1.3 million dollars.

[75] Our sample starts after the coming into force of the Enterprise Act 2002 which abolishes receiverships for floating charges created after 15 September 2003. Despite the fact the holders of pre-Act security had the option of appointing a receiver there was a substantial decline of receiverships and a large increase in administrations (Armour et al., 2012)

[76] One of the main obstacle to company reorganizations is the inability to grant super-priority to new financing during the procedure (DIP funding), which means that the company is highly unlikely to survive because of lack of funding.

[77] From Thorburn (2000) and Eckbo and Thorburn (2000) we know that in Sweden the figures in terms of outcomes are the following: 25% piecemeal liquidations and 75% going concern sales, whose 54% pre-packs and 27% sale-backs. Their sample goes back to the period 1988-1991.

his consent) but it can be the only source of accountability for unsecured creditors[78]. For this reason we will take account of this when we look at the evidence on the conflict of interests.

[Table 3.1 about here]

3.5 Results

3.5.1 The Choice of a Pre-Pack to a Connected party

In this section we test the first hypothesis, trying to establish in which cases the IPs decide to execute pre-packs to connected parties.

We first compare firm characteristics at entry to the procedure (size, percentage of secured debt, absence of secured debt, age and a group of industry level characteristics) and then confirm these results in a multivariate regression. We start by comparing sales to connected and non connected parties. The two groups, although similar in most respects, have a striking difference in terms of size. Sales to connected parties are almost half the size, as proxied by the size of total debt, of companies sold to outsiders. This difference is not observed in Sweden (Stromberg, 2000). The average size of liabilities for non-connected sales is £3.1 million against £1.7 million for the connected sales (Part A of Table 3.2).

[78] Frisby (2007) mentions the possibility that important information, which is not present in the IPs' reports, could have been provided elsewhere to creditors, perhaps in creditor's meetings or in other correspondence

[Table 3.2 about here]

If we consider only the subsample of connected sales (133 cases) and we compare the pre-packaged sales with the non pre-packaged ones we can single out the effect of pre-packaging. As predicted by the theory and stressed by the practitioners, we do observe pre-packs where the 'evaporation risk' is higher: pre-packs are associated with industries where the intangibles on total assets are higher (considered as a proxy for the importance of reputation), the proportion of fixed assets is lower, the turnover on total assets (as a measure of capital intensity) is higher and the total assets per employee are lower. These results are consistent with H1. Furthermore, we find that pre-packs are associated with industries where the solvency ratio is lower: if the IP knows that an industry is in distress an open market offer will probably be ruled out and the owner is likely to be the only buyer. On the other hand, if the industry is healthy, attracting the largest number of competitors through a public auction may be beneficial (Part B of Table 3.2)[79].

Finally we run a Probit regression with robust standard errors to confirm these results in a multivariate regression framework (Table 3.3). The dependent variable is a dummy equal to one if the insolvency is a pre-pack to a connected party. The sample is the total number of going concern sales for which we have

[79] If, on the other hand, we consider only the subsample of non connected sales (138 cases) and we compare the pre-packaged sales with the non pre-packaged ones we find that the differences in the main variables Industry fixed assets on total assets, Industry intangible on total assets and Industry total assets per employee have the same sign but are not statistically significant.

information on the type of sale. We can confirm the univariate results: pre-packs to connected parties are smaller and are associated with industries with a lower solvency ratio, less fixed assets and higher labour/capital ratio. In unreported regressions, we run the same Probit model but we use as a dependent variable a dummy equal to one if the insolvency is a pre-pack (both to connected and non connected parties). As expected we find that sales are, in general, pre-packaged in industries with less fixed assets and higher labour/capital ratio.

[Table 3.3 about here]

3.5.2 Performance: Recovery and Survival Rate

In this section we will look at pre-packs and pre-packs to connected parties in terms of their performance in comparison with alternative insolvency procedures. In the all sample the average general recovery rate is 19%, while the secured recovery rate is 54%. As we can see in Panel A of Table 3.4, going concern sales, reflecting the premium of continuing operating the firm with all its assets intact, are associated with a recovery rate of 25% while piecemeal liquidations with a lower 16% (the figures for secured recovery rate are respectively 61% and 48%)[80]. Unsecured creditors obtain an average of only 4%. From these figures, we understand how strong is the incentive for the secured creditors to organize a sale of the business and avoid the piecemeal liquidation.

[80] Although international comparisons must be made with caution, it is interesting to note that figures for general recovery rates in Sweden are higher: the average is 35%, 39% in going concern sales and 27% in piecemeal liquidations (Eckbo and Thorburn, 2009).

If Panel B of Table 3.4 we look only at the sample of going concern sales for which we have info on the type of sale. We compare recovery rates for pre-packs to connected parties and the rest of the sales and we cannot find any statistical difference.

[Table 3.4 about here]

In Table 3.5 we confirm this last result in a multivariate regression. We run regressions using as a dependent variable general recovery rate (models 1 and 2), secured recovery rate (models 3 and 4) and unsecured recovery rate (models 5 and 6). In the first four models we run OLS regressions while in the last two we run Tobit regressions, in all cases we calculate robust standard errors. We regress the dependent variables on a dummy variable which is equal to one if the procedure is a pre-pack to a connected party plus additional firm and procedure specific characteristics. The dummy variable Pre-pack to a connected party never enters the regressions significantly. On the other hand, connected sales and pre-packs seem to be associated with lower unsecured creditor returns. However, a clinical analysis shows that these two dummy variables are significant due to the presence of one outlier. If we exclude this one case the two variables lose any explanatory power[81]. We find also that companies with a longer history and in

[81] The outlier is PST International Ltd which enters into insolvency on the 27th of May 2004. At the end of the procedure the secured creditor is not paid in full and the unsecured creditors get around 70% of what he was due at the beginning of the procedure. This is absolutely unusual in the UK. This is case of a non pre- packaged sale to an outsider. This is absolutely unusual in the UK.

industries with a higher presence of fixed assets in the balance sheet are associated with higher recovery.

[Table 3.5 about here]

The dummy variable Pre-pack to connected party (D) is not an exogenous regressor since this is the outcome of a choice taken by the IP. In order to control for the fact that selectivity may bias the OLS estimate of the coefficient of D, we apply two different methodologies. In Table 3.6 we use the Heckman methodology (1979). In the first step we model the choice of connected pre-pack using the first Probit model of Table 3.3 and in the second step we regress the recovery rate on the predicted values of the connected pre-pack. In Table 3.6 we observe that this last variable and the Inverse Mills Ratio are not significant showing that the selection effect is not biasing our results.

[Table 3.6 about here]

To confirm this result we apply also the Propensity Score Matching method. The idea is to estimate the counterfactual outcomes of individuals by using the outcomes from a subsample of "similar" subjects from the control group (Imbens, 2004). In our case we want to compare the pre-packs to connected parties with those sales which are more similar according to the variables that we are able to observe. We estimate the propensity score as the probability of being a pre-pack to a connected party conditional on the covariates through a Logit regression. With the list of covariates that we use in the estimation we are able to satisfy the

balancing property, by which observations with the same propensity score have the same distribution of observable covariates independently of treatment status. We then estimate the Average Treatment Effects for the Treated (pre-packs to connected parties) given the propensity score using the Neighbor matching technique.[82] The results in table 3.7 confirm our results: the recovery rates of pre-packs to connected parties are not significantly different from those obtained in other sales.

[Table 3.7 about here]

Finally we look at survival rate. We use a variable that is equal to one if the purchaser of the business does not file for bankruptcy in the time period between the date of the sale and early 2010. Comparing the means between cases of pre-packs to connected parties and the rest of the sales we find that the survival rate of the latter group is higher (0.46 vs. 0.41) but this difference is not statistically significant (Panel B of Table 3.4). This result is confirmed if we control for other variables in a Probit regression with robust standard errors with the survival rate as a dependent variable (Table 3.8). The dummy variable Pre-pack to connected parties is not significant. This seems at odds with the view of those who criticize this insolvency tool in the media who suggest that that corrupt directors repeatedly use this bankruptcy mechanism. It is interesting to note that Age has a positive impact on the survival rate.

[82] Results do not change if we use different matching techniques as Radious or Kernel.

[Table 3.8 about here]

In conclusion, we find that the floating charge-holder has a very high incentive to sell the business as a going concern. Secured recovery rate is much higher in cases of going concern sales in comparison to piecemeal liquidation. The IP, under the control of the floating charge holder, in some circumstances finds that selling the business back to the owner in a pre-pack is the best solution to maximize recovery. We do not find any difference in terms of recovery rate in these cases even controlling for selection effects. Also the refiling rates of these cases are similar to those of alternative procedures implying that the floating charge-holder is good at distinguishing viable from non viable businesses.[83] These results are consistent with H2.

3.5.3 Conflict of Interests

In this section we test the third hypothesis regarding the potential exploitation of conflict of interests in cases of pre-packs and, in particular, pre-packs to connected parties. As noted above, conflicts of interest should be restricted to cases where the secured creditor is repaid in full. The empirical strategy employed is therefore to explore the subsample when the bank is paid in full. If there is a problem of expropriation of unsecured creditors due to lack of transparency we should observe a lower level of unsecured recovery rate in cases

[83] On the contrary, Eckbo and Thorburn (2008) finds that in Sweden refiling rate decreases with pre-packs and increases with the sale to outsiders

of pre-packs and especially pre-packs to connected parties than in other procedures.

Considering the sample where the bank is paid in full[84] (84) within the sample of going concerns sales for which we have information about the type of sale (271), we observe that the average recovery rate for unsecured creditors is 6% in the all sample, 4.3% in pre-packs and 4% in pre-packs to connected parties[85]. In Figure 3.2 we show that the distribution of unsecured returns when the bank is paid in full in pre-packs to connected parties and in other sales is not distinguishable.

[84] We consider that the bank is paid in full if the secured recovery rate is higher than 95%.
[85] This result is by no means specific to the UK system. In the US in Chapter 7 the average payoff to unsecured creditors is about 1%. In small businesses Chapter 11, which are not dismissed or converted in Chapter 7, the payoff to unsecured creditors is zero in about 40% of cases and less than ten percent overall (Bris, Welch & Zhu, 2006).

Figure 3.2 The Distribution of Unsecured Recovery Rates when the Bank is Paid in Full

These figures compare the distributions of unsecured recovery rates when the bank is paid in full in pre-packs to connected parties and other sales. The sample of Figure 3.2.A consists of the total of going concern sales. The sample of Figure 3.2.B consists of only connected sales.

Figure 3.2.A All Going Concern Sales

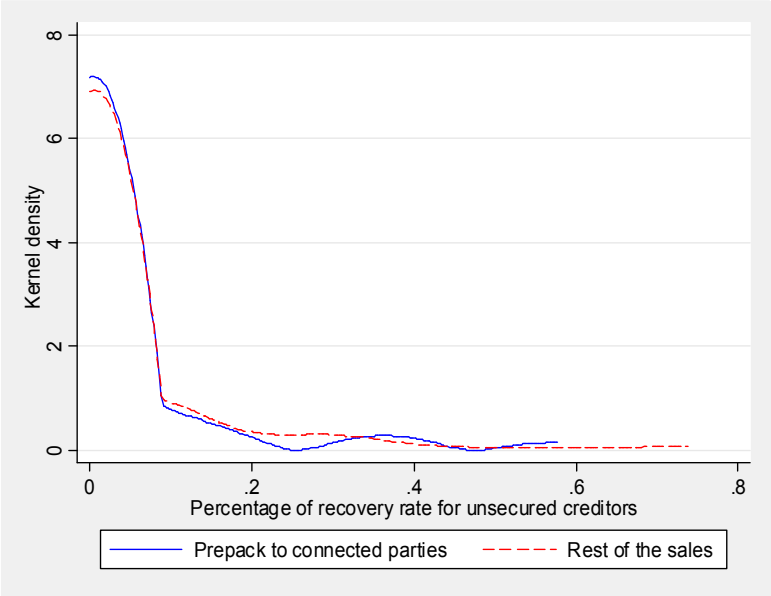
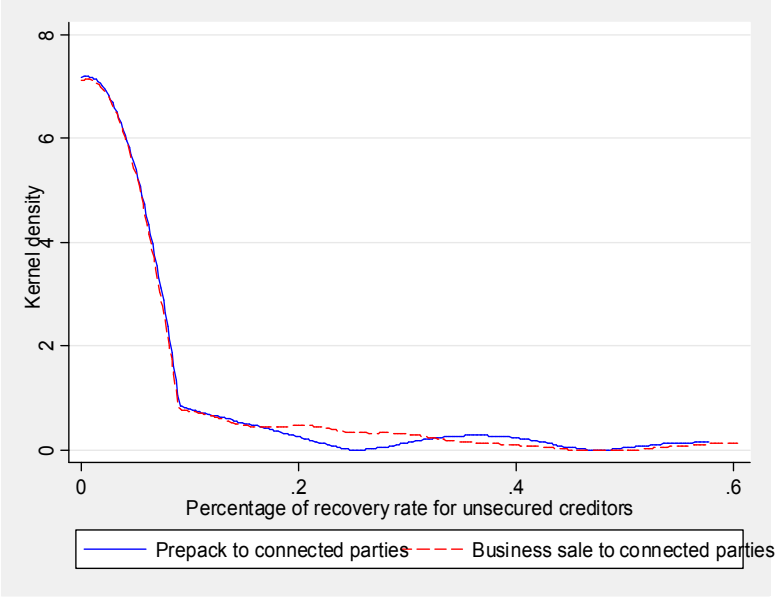


Figure 3.2.B. Only Connected Sales



We run Tobit regression with bootstrapped standard errors with the recovery to the unsecured creditors as a dependent variable to confirm these results. As we can see from Table 3.8, the variable Pre-pack to connected parties and the variable Pre-pack are not significantly associated with lower returns to unsecured creditors.[86] As we predicted the variable Big4 has the expected positive sign but, again this is not significant. We find that the higher is the probability of default at the end of 2003, which is a proxy for the intrinsic quality of the business before entering into insolvency, the lower are the returns to unsecured creditors when the bank is paid in full. We control for industry effects, size, age, percentage of secured debt and other characteristics of the insolvency procedure.

[Table 3.9 about here]

As we mentioned in the previous session, to be sure that the cases where we do not have information on the type of sale are not related to conflict of interest we use as a regressor Going concern sales where we have no info on the type of sale instead of Pre-packs. In unreported regressions, the coefficient is not significant thereby rejecting the hypothesis that the absence of information is due to the desire of the IP to be unaccountable to the unsecured creditors in cases where they are in the money.

We then compare the percentage of cases where the bank is paid in full in different type of sales. We observe that the percentage of cases where the bank is

[86] The same results are obtained if we do not bootstrap the standard errors.

paid in full is higher in pre-packs to connected parties (54%) compared to the rest of the sales (38%) but when in Table 3.10 we control for other variables this difference is not significant anymore. In pre-packs, sales to connected parties and pre-packs to connected parties the bank is not paid in full more often than it is in other sales.

Also in this setting we check that the cases where we have no info on the type of sale are not associated with a relatively higher number of cases where the bank is paid in full. They would look suspicious if this was indeed the case. Again, in unreported regressions we find the opposite: cases where the IP documents do not report information on the sale are cases where the bank is rarely paid in full.

[Table 3.10 about here]

We have shown that the unsecured creditors receive very little in all type of sales but what if in connected pre-packs they should have received much more? In order to verify this concern we split the sample of going concern sales where the bank is paid in full and where the bank is not paid in full in Table 3.11. We observe that in the former sample pre-packs to connected parties are associated with companies with a lower instead of a higher intrinsic quality, as proxied by the last credit score (which is calculated as the probability of default) before entering into insolvency. Moreover, also in these subsample we find that pre-packs to connected parties are associated with industries where the role of

reputation, intangibles and employees is more important suggesting that also in this subsample they are used to maximize recovery[87].

[Table 3.11 about here]

We therefore reject the third hypothesis. The returns to unsecured creditors in the UK are low, even when the bank is paid in full, but returns in pre-packs and pre-packs to connected parties are in line with those obtained under alternative insolvency procedures. The bank is not paid in full more often in pre-packs to connected parties and given the relatively poorer financial condition of these businesses we exclude that other type of sales would have produced a higher payoff to unsecured creditors[88]. The floating-charge holder who selects and supervises the IP has no interest in tolerating the exploitation of conflicts of interest and could see its reputation damaged by being associated with a "contested" transaction. Moreover, it can be reasonably argued that the High Court would have intervened in case of a clear violation of creditor rights.

3.5.4 Alternative to Piecemeal Liquidation?

In the last part of the empirical analysis we want to shed light on a further concern about pre-packs to connected parties. Banks may use them in circumstances in which, absent this insolvency tool, they would have restructured

[87] The significance levels are lower because of the significantly smaller sample.
[88] A possible objection to this is that unsecured creditors, knowing ex-ante that some companies are more likely to execute a connected pre-pack in case of insolvency, reduce their exposure to them. This seems inconsistent with the fact that this creditor business practice is a very recent phenomenon and that the level of unsecured debt on total debt owned at the beginning of the procedure in cases of connected pre-packs is not statistically different from that in other going concern sales.

the debt in an informal workout. As we discussed in the theory section, according to Armour (2011) restructuring a small company informally has become increasingly difficult because of the fragmentation of capital structure arising from greater recourse to asset-based finance, namely finance leasing and invoice discounting.

In cases of pre-packs to connected parties, banks face a situation in which small companies are in financial distress, where the trust relationship with the owner has not been damaged, other potential buyers either do not exist or if they exist they would offer a lower price for the business, the value of the company would quickly collapse in the event of revelation of distress to the market. In these cases banks find it convenient to organize a pre-packaged sale-back of the business. Given the difficulty of reorganizing the business informally, probably the only alternative would be a piecemeal liquidation (which would reduce the recovery for the bank and for society as a whole). The evidence that we report in Table 3.12 seems to give support to this line of reasoning. It confims that the recovery rate (in general and for secured creditors) in pre-packs to connected parties is much larger than in piecemeal liquidation but, above all, it shows that the ex-ante features, in terms of size and industry characteristics, of the two sub-samples are similar. However, there are two differences between the two groups. The first difference is the role of the secured creditors in the capital structure. In cases of liquidation there is much less secured debt than in pre-packs. Clearly, the

chance of organizing a pre-packaged sale of the business is connected with the presence of a floating charge-holder and its associated incentives and powers. The second difference is that pre-packs to connected parties are associated to even more human-capital-intensive industries. Since Wang (2009) reports that high human-capital-intensive firms are associated with higher liquidation rates in bankruptcy, this evidence reinforces the hypothesis that, absent this tool, these companies would probably be liquidated.

[Table 3.12 about here]

Summing up, the empirical evidence gives support to H4: it seems to suggest that pre-pack sales to connected parties may be used as a mechanism of avoiding unwarranted liquidations.[89]

3.6 Conclusions

The control exercised by secured creditors can have two significant effects on the resolution of distress in small businesses. It can reduce the ex post costs of financial distress but it may also create an opportunity for secured creditors and business owners to collude in order to divert value from junior creditors. Serious concerns have been raised about potential conflicts of interest, in particular when the business is sold to a connected party, in the context of US state procedures

[89] Eckbo and Thorburn (2008) suggest that in Sweden, auction pre-packs may be used to pre-empt liquidations when the auction is expected to be illiquid. They conclude this on the basis that prices in pre-pack auctions are lower than in auction going concern sales.

under which a large percentage of small businesses are restructured (Morrison, 2009).

The UK pre-packs offer an extreme version of this trade-off: a pre-pack minimizes the costs, removing all the restrictions to achieve a quick sale, but also maximizes the risk of collusion. Here the insolvency practitioner, appointed by the secured creditor, can sell a company without involving the court or consulting with junior creditors. In the UK there is not even a legal requirement of conducting a public auction as in the US. Having access to a database of insolvency in the UK and, in particular, to data on the secured and unsecured debt recovery rates we are in a unique position to empirically assess this trade-off and analyse the distributional concerns.

Contrary to the widespread criticism related to the lack of transparency that pre-packs, and in particular pre-packs to connected parties, involve, we find no evidence of exploitation of conflict of interests by the insolvency practitioner under the direction of the floating charge holder. These procedures seem to be used to preserve the value of the business: the sales to a connected party are pre-packaged in cases where the significance of intangibles, reputation and employees is particularly great. In these circumstances, exposing the firm to the market would lead to the value of the business evaporating. We observe that these "contested" transactions do not have a poorer recovery rate or refiling rate than alternative procedures. Finally we find that, given the size and the industry

characteristics of these companies, absent this insolvency tool, they would probably be liquidated piecemeal with a destruction of value for creditors and society.

The alleged costs of collusion between secured creditors and owners to divert value from junior creditors seem not to be large. In small businesses where secured creditors are concentrated the benefits of their control seem to outweigh the costs. This provides a benchmark for evaluating likely effects of the secured creditor control in resolution of small businesses also in other countries.

Moreover, the findings of this chapter shed further light on the "alleged" pro-liquidation bias in creditor controlled systems. Franks and Sussman (2005) already established that in the U.K. the floating charge works well: there are no inefficient runs and UK banks do not appear to opt for automatic liquidation upon violation of debt covenants but try to rescue the company. Here we show that, once in bankruptcy, floating charge holders have a strong incentive to sell the business as a going concern as soon as possible instead of selling it piecemeal in order to maximize their own recovery. The incentives to do so are so strong that they introduced pre-packs and in particular pre-packs to connected parties to facilitate this. The fewer the restrictions imposed on the floating charge holder (in terms of judicial review, requirements to obtain the consent of the dispersed unsecured creditors) the quicker the business can be sold, the higher the value that can be obtained, and the more businesses can be preserved as going

concerns. This empirical evidence confirms the theoretical results of Gennaioli and Rossi (2009) about the efficiency of the floating charge as a resolution mechanism in countries with strong investor protection. Further research should provide empirical evidence on what kind of inefficiencies are associated with floating charges in countries with low investor protection.

The chapter makes also a contribution to the literature on auction design in bankruptcy (Bhattacharyya and Singh, 1999). Section 363 in the US and mandatory auctions in Sweden are both based on the assumption that exposure to market tests through standard auctions is the best way of maximizing recovery. Here we suggest a reason for why the bankruptcy trustee should be able to design the auction mechanism freely: in some circumstances the same act of exposing the company to the market test would destroy value and a private negotiation can achieve a superior outcome to a public auction. However, allowing for private negotiations makes the bankruptcy procedure more vulnerable to abuse. In the UK the potential conflict of interest is addressed by placing the bankruptcy trustee under the direction of the floating-charge holder.

Table 3.1 Outcomes in the UK Insolvency

This Table reports the outcomes of UK insolvency procedures from 16 September 2003 to 16 September 2004. The sample of going concern sales on which we calculate the percentages of sales to connected parties and pre-packs is smaller (271 cases) than the original number of cases defined as going concern sales (341 cases). This is due to the fact that in some of these cases the IP reports were incomplete. The first table reports the procedures by type of insolvency (receivership vs. administration). In the second table we tabulate the 271 going concern sales by prepack/non-prepack and by identity of the buyer. In parenthesis we report the percentage out of the total going concern sales.

	Overall UK	Receivership	Administration
Reorganization	0.73%	0%	1.04%
Piecemeal liquidation	57.68%	52.70%	59.76%
Going concern sale	41.59%	47.30%	39.21%
Sample	820	241	579
	Among the sample of going concern sales		
Sale to a connected party	49.08%	45.45%	50.82%
Pre-packs	39.85%	44.32%	37.70%

	Non pre-pack	Pre-pack
Sale to an outsider	91 (34%)	47 (17%)
Sale to a connected party	72 (27%)	61 (23%)

Table 3.2 Comparison of Firm and Industry Characteristics by Insolvency Outcome

This table reports univariate statistics of a comparison of connected and non-connected sales within the sample of going concern sales (Panel A) and between pre-pack and non pre-pack sales within the sample of connected sales (Panel B). *Total debt* is the amount of total debt owned at the beginning of the procedure. . *Probability of default* is the likelihood of default calculated by Experian for the last available accounts (2003). *Secured* is the percentage of secured to total debt at the beginning of the procedure. *Age* is the age of the firm from incorporation to the entry into insolvency. *Absence of secured debt* is a dummy variable equal to 1 if the firm has no secured debt at entry into the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. T-statistics are reported in parentheses.

Panel A. Connected vs. Non Connected Sales

	Non connected sale		Connected sale			
	Mean	Median	Mean	Median	Diff.	
Total debt	3100127	1229766	1675903	772571	1424223.4***	(2.96)
Probability of default	0.037	0.027	0.033	0.025	0.003	(0.89)
Secured	0.423	0.418	0.358	0.347	0.065*	(1.93)
Age	12.620	7.010	12.729	8.841	-0.11	(-0.07)
Absence of secured debt	0.094	0	0.113	0	-0.019	(-0.50)
Industry solvency ratio	34.260	32.785	34.122	32.785	0.138	(0.22)
Industry turnover on total assets	1.823	1.869	1.834	1.869	-0.011	(-0.23)
Industry fixed assets on total assets	0.286	0.25	0.287	0.25	-0.001	(-0.07)
Industry plants and mach. on total assets	0.057	0.023	0.062	0.036	-0.006	(-0.64)
Industry intangibles on total assets	0.157	0.147	0.153	0.147	0.004	(0.35)
Industry total assets per employee	62391.59	55462	61572.25	54773	819.3	(0.36)
Observations	138		133		271	

Panel B. Pre-pack vs. Non-Pre-Pack Connected Sales

	Non-pre-pack connected sale		Pre-pack connected sale			
	Mean	Median	Mean	Median	Diff.	
Total debt	1873306	779343.5	1442903	747186	430402.5	(0.78)
Probability of default	0.030	0.023	0.038	0.028	-0.010*	(-1.70)
Secured	0.344	0.310	0.376	0.350	-0.032	(-0.73)
Age	13.310	9.667	12.044	8.591	1.265	(0.56)
Absence of secured debt	0.139	0	0.082	0	0.057	(1.03)
Industry solvency ratio	35.001	36.03	33.085	32.785	1.916**	(2.25)
Industry turnover on total assets	1.748	1.721	1.936	1.869	-0.188***	(-2.64)
Industry fixed assets on total assets	0.312	0.281	0.257	0.218	0.055**	(2.35)
Industry plants and mach. on total assets	0.070	0.051	0.054	0.023	0.015	(1.21)
Industry intangibles on total assets	0.143	0.102	0.166	0.162	-0.024*	(-1.68)
Industry total assets per employee	64293.38	56344.5	58360.42	54773	5933.0*	(1.76)
Observations	72		61		133	

Table 3.3 The Choice of Executing a Pre-Pack to a Connected Party

This table reports the results of Probit regressions with robust standard errors with a dummy variable equal to one if the insolvency is a pre-pack to a connected party as dependent variable. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owed at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Receivership* is a dummy variable equal to 1 if the insolvency procedure is receivership, is equal to 0 if it is administration. *Court* is a dummy variable equal to 1 if the entry into administration is through a court order. *Unsecured* is the percentage of unsecured debt of the total debt owed at the beginning of the procedure. *Absence of secured debt* is a dummy variable equal to 1 if the firm has no secured debt at the entry of the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. The sample consists of the cases of going concern sales. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean. T-statistics are reported in parentheses.

	(1) Pre-pack to a connected party	(2) Pre-pack to a connected party
Probability of default	1.115	1.154
	(1.20)	(1.26)
Age	0.001	0.002
	(0.64)	(0.74)
Size	-0.050**	-0.057**
	(-2.18)	(-2.20)
Industry fixed on total assets	-0.651***	-0.632***
	(-2.82)	(-2.69)
Industry total assets per employee	-0.000**	-0.000**
	(-2.27)	(-2.35)
Industry solvency ratio	-0.010*	-0.011*
	(-1.89)	(-1.93)
Absence of secured debt		-0.103
		(-1.44)
Court		-0.097*
		(-1.68)
Big 4		0.060
		(0.69)
Receivership		-0.024
		(-0.37)
Unsecured debt		0.0423
		(0.34)
N	232	232
chi2	21.70	27.52
P	0.001	0.004

Table 3.4 Comparison of Recovery Rate and Survival Rate by Insolvency Outcome

This table reports univariate statistics of the comparison between piecemeal liquidation and going concern sales (Panel A) and between pre-packs to connected parties and the rest of the sales (Panel B). The variables are: *Unsecured recovery rate, Secured recovery rate, Recovery rate* and *Survival* (a dummy variable equal to one if the purchaser of the business does not file for bankruptcy in the time period between the date of the sale and early 2010). The total numbers of observations is higher than the sum of the observations in the first two columns because in some cases there is no secured or unsecured debt. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. T-statistics are reported in parentheses.

Panel A. Piecemeal Liquidations and Going Concern Sales

	Piecemeal Liquidation		Going concern sale			
	Mean	Median	Mean	Median	Diff.	
Unsecured recovery rate	0.042	0	0.037	0	0.005	(0.55)
Secured recovery rate	0.476	0.375	0.610	0.704	-0.134***	(-4.23)
Recovery rate	0.156	0.083	0.246	0.199	-0.090***	(-6.02)
Observations	473		341		814	

Panel B. Pre-Packs to Connected Parties and the Rest of the Sales for Which we Have Info on the Type of Sale

	Rest of the sales		Pre-packs to connected parties			
	Mean	Median	Mean	Median	Diff.	
Unsecured recovery rate	0.042	0	0.034	0	0.008	(0.49)
Secured recovery rate	0.627	0.7	0.672	1	-0.045	(-0.76)
Recovery rate	0.261	0.224	0.246	0.206	0.015	(-0.46)
Survival	0.457	0	0.41	0	0.047	(0.65)
Observations	210		61		271	

Table 3.5 Determinants of Recovery Rate

This table reports results of regressions with robust standard errors using as a dependent variable general recovery rate, secured recovery rate, unsecured recovery rate. The first four models are OLS regressions while the last two are Tobit regressions. *Pre-pack to connected party* is a dummy variable which is equal to 1 if the pre-packed sale is to a connected party. *Sale to a connected party* is a dummy variable equal to 1 if the sale is to a connected party. *Pre-pack* is a dummy variable equal to 1 if the sale is pre-packaged. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owed at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Administration* is a dummy variable equal to 1 if the insolvency procedure is administration, is equal to 0 if it is receivership. *Court order* is a dummy variable equal to 1 if the entry into administration is through a court order. *Secured* is the percentage of secured debt out of the total debt owed at the beginning of the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. The sample consists of going concerns sales. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean for the last two models. T-statistics are reported in parentheses.

	(1) Recovery rate	(2) Recovery rate	(3) Secured recovery rate	(4) Secured recovery rate	(5) Unsecured recovery rate	(6) Unsecured recovery rate
Pre-pack to a connected party	0.049	0.067	0.079	0.087	0.177	0.149
	(0.88)	(1.25)	(0.75)	(0.85)	(1.59)	(1.39)
Sale to a connected party	-0.062*	-0.068*	-0.038	-0.061	-0.148**	-0.148**
	(-1.68)	(-1.91)	(-0.57)	(-0.92)	(-2.15)	(-2.36)
Pre-pack	-0.025	-0.041	-0.033	-0.021	-0.201**	-0.154**
	(-0.64)	(-1.09)	(-0.47)	(-0.31)	(-2.42)	(-2.07)
Probability of default	0.551	0.497	1.121	0.753	-0.955	-1.039
	(1.14)	(1.10)	(1.25)	(0.89)	(-1.07)	(-1.35)
Size	0.008	0.001	-0.035	-0.001	-0.014	0.038*
	(0.63)	(0.11)	(-1.44)	(-0.06)	(-0.70)	(1.68)
Age	0.003***	0.003***	0.006***	0.006***	0.003**	0.004**
	(2.80)	(3.30)	(3.83)	(3.67)	(2.28)	(2.57)
Industry fixed on total assets	0.304***	0.268***	0.643***	0.523***	0.167	0.192
	(3.04)	(2.80)	(3.78)	(3.12)	(0.98)	(1.17)
Industry total assets per employee	-0.000	0.000	-0.000	-0.000	0.000	0.000
	(-0.02)	(0.01)	(-0.71)	(-0.68)	(0.40)	(0.64)
Industry solvency ratio	0.002	0.001	-0.002	0.000	-0.011**	-0.003
	(0.90)	(0.40)	(-0.37)	(0.07)	(-1.99)	(-0.79)
Secured		0.350***		-0.332***		-0.309**
		(4.20)		(-2.62)		(-2.47)
Absence of secured debt		0.030				0.233***
		(0.54)				(3.21)
Court order		-0.003		-0.041		-0.036
		(-0.09)		(-0.61)		(-0.59)
Big 4		-0.093**		-0.080		-0.047
		(-2.00)		(-1.13)		(-0.59)
Administration		0.061*		0.119*		0.068
		(1.79)		(1.90)		(1.04)
N	232	232	213	213	231	231
adj. R^2	0.068	0.165	0.048	0.145		
Log-likelihood					-72.37	-57.47
Prob>F					0.031	0.000

Table 3.6 Recovery Rate Controlling for Self-Selection (Heckman)

This table reports results of regressions using as a dependent variable general recovery rate. In model 1 we run an OLS regression with robust standard errors. Model 2 is estimated with the Heckman two-step estimation procedure to correct for self-selection, using all variables of the Probit regression in Table 3.3 as predictors of Pre-pack to connected party. *Pre-pack to connected party* is a dummy variable which is equal to 1 if the pre-packed sale is to a connected party. *Pre-pack* is a dummy variable equal to 1 if the sale is pre-packaged. *Sale to a connected party* is a dummy variable equal to 1 if the sale is to a connected party. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owed at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Administration* is a dummy variable equal to 1 if the insolvency procedure is administration, is equal to 0 if it is receivership. *Court order* is a dummy variable equal to 1 if the entry into administration is through a court order. *Secured* is the percentage of secured debt out of the total debt owed at the beginning of the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. The sample consists of going concerns sales. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. T-statistics are reported in parentheses.

	(1) OLS	(2) Treatment effects
Pre-pack to a connected party	0.067	0.074
	(1.25)	(0.31)
Pre-pack	-0.041	-0.041
	(-1.09)	(-1.61)
Sale to a connected party	-0.068*	-0.069**
	(-1.91)	(-2.16)
Probability of default	0.497	0.490
	(1.10)	(1.03)
Size	0.001	0.002
	(0.11)	(0.12)
Age	0.003***	0.003***
	(3.30)	(2.98)
Industry fixed on total assets	0.268***	0.271*
	(2.80)	(1.79)
Industry total assets per employee	0.000	0.000
	(0.01)	(0.02)
Industry solvency ratio	0.001	0.001
	(0.40)	(0.28)
Secured	0.350***	0.350***
	(4.20)	(4.72)
Absence of secured debt	0.030	0.030
	(0.54)	(0.62)
Court order	-0.003	-0.003
	(-0.09)	(-0.09)
Big 4	-0.093**	-0.093***
	(-2.00)	(-2.62)
Administration	0.061*	0.062*
	(1.79)	(1.89)
Constant	-0.063	-0.073
	(-0.31)	(-0.19)
Lambda		-0.004
		(-0.03)
N	232	232
P	0.000	0.000

Table 3.7 Recovery Rate Controlling for Self-Selection (Propensity Score Matching)

This table reports the Average Treatment Effects for the Treated where the treatment is being a Pre-pack to a connected party. We estimate the propensity score as the probability of being a Pre-pack to a connected party conditional on the covariates through a Logit regression. The list of covariates that we use in the estimation is the following: *Probability of default* (likelihood of default calculated by Experian from the last available accounts- 2003), *Age* (age of the firm from incorporation to the entry into insolvency), *Size* (the log of the amount of total debt owed at the beginning of the procedure), *Industry fixed on total assets, Industry total assets per employee, Industry solvency ratio*. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. The matching technique used is the Nearest Neighbor matching method. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively.

	N. of treated (Pre-pack to a connected party)	N. of control (Other sales)	ATT	Standard error	t-statistic
Recovery rate	61	67	-0.006	0.048	-0.131
Secured recovery rate	61	54	0.047	0.087	0.538
Unsecured recovery rate	61	66	-0.015	0.020	-0.729

Table 3.8 Determinants of Survival Rate

This table reports results of Probit regressions with robust standard errors with the survival rate as a dependent variable. *Pre-pack to connected party* is a dummy variable which is equal to 1 if the pre-packed sale is to a connected party. *Pre-pack* is a dummy variable equal to 1 if the sale is pre-packaged. *Sale to a connected party* is a dummy variable equal to 1 if the sale is to a connected party. *Age* is the age of the firm from incorporation to the entry into insolvency. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Size* is the log of the amount of total debt owned at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Administration* is a dummy variable equal to 1 if the insolvency procedure is administration, is equal to 0 if it is receivership. *Court order* is a dummy variable equal to 1 if the entry into administration is through a court order. *Secured* is the percentage of secured debt to total debt owed at the beginning of the procedure. Other variables are industry dummies (ten 1-digit SIC code). The sample consists of going concerns sales. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean. T-statistics are reported in parentheses.

	(1) Survival	(2) Survival
Pre-pack to a connected party	-0.085	-0.088
	(-0.63)	(-0.64)
Pre- pack	0.058	0.044
	(0.59)	(0.44)
Sale to a connected party	-0.028	-0.040
	(-0.30)	(-0.43)
Probability of default	1.047	0.915
	(0.80)	(0.71)
Age	0.006**	0.005**
	(2.00)	(1.98)
Size	0.027	0.041
	(0.88)	(1.19)
Secured		-0.168
		(-0.93)
Absence of secured debt		-0.090
		(-0.61)
Court order		-0.115
		(-1.22)
Big 4		-0.063
		(-0.63)
Administration		-0.078
		(-0.87)
Industry effects	Yes	Yes
N	230	230
chi2	14.907	18.094
P	0.385	0.516

Table 3.9 Conflict of Interests in Pre-Packs: Evidence from Unsecured Recovery Rates

This table reports the results of Tobit regressions with bootstrapped standard errors of the recovery to the unsecured creditors as a dependent variable (defined as the payments to the unsecured creditors at the end of the procedure divided by the amount of the unsecured debt owed at the beginning of the procedure). *Pre-pack to connected party* is a dummy variable which is equal to 1 if the pre-packed sale is to a connected party. *Pre-pack* is a dummy variable equal to 1 if the sale is pre-packed. *Sale to a connected party* is a dummy variable equal to 1 if the sale is to a connected party. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owned at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Administration* is a dummy variable equal to 1 if the insolvency procedure is administration, is equal to 0 if it is receivership. *Court order* is a dummy variable equal to 1 if the entry into administration is through a court order. *Secured* is the percentage of secured debt out of the total debt owned at the beginning of the procedure. Other variables are industry dummies (ten 1-digit SIC code). The sample includes cases where the bank is paid in full (84) within the sample of going concerns sales (271). Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean. T-statistics are reported in parentheses.

	(1) Unsecured recovery rate	(2) Unsecured recovery rate
Pre-pack to a connected party	0.055	0.075
	(0.30)	(0.44)
Pre- pack	-0.015	-0.101
	(-0.12)	(-0.83)
Sale to a connected party	-0.081	-0.057
	(-1.06)	(-0.72)
Probability of default	-3.032**	-3.032**
	(-2.15)	(-2.24)
Age	0.002	0.003
	(0.94)	(1.22)
Size	0.021	0.040
	(0.87)	(1.15)
Big4		0.034
		(0.28)
Administration		-0.159*
		(-1.89)
Court order		-0.176*
		(-1.65)
Secured		-0.357**
		(-2.07)
Industry effects	Yes	Yes
N	84	84
chi2	110.068	117.766
P	0.000	0.000

Table 3.10 Conflict of Interests in Pre-Packs: Evidence from Cases where the Bank is Paid in Full

This table reports the results of Probit regressions with robust standard errors with a dummy variable equal to one if the insolvency is a pre-pack to a connected party as dependent variable in the first two models, a dummy variable equal to one if the insolvency is a pre-pack as dependent variable in the second two models and a dummy variable equal to one if the insolvency is a sale to a connected party as dependent variable in the last two models. *Secured creditor paid in full* is a dummy variable which is equal to 1 if the secured creditor receives at least 95% of the amount of total debt owned at the beginning of the procedure. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owed at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Receivership* is a dummy variable equal to 1 if the insolvency procedure is receivership, is equal to 0 if it is administration. *Court* is a dummy variable equal to 1 if the entry into administration is through a court order. *Unsecured* is the percentage of unsecured debt of the total debt owed at the beginning of the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. The sample consists of the cases of going concern sales. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean. T-statistics are reported in parentheses.

	(1) Pre-pack to a connected party	(2) Pre-pack to a connected party	(3) Pre- pack	(4) Pre- pack	(5) Sale to a connected party	(6) Sale to a connected party
Secured creditor paid	0.071	0.077	-0.003	0.017	0.030	0.010
in full	(1.22)	(1.29)	(-0.04)	(0.23)	(0.41)	(0.13)
Probability of default	0.945	1.060	2.081	2.090	-0.845	-1.032
	(0.99)	(1.14)	(1.62)	(1.62)	(-0.62)	(-0.76)
Age	0.002	0.002	-0.000	-0.001	0.003	0.003
	(0.78)	(0.85)	(-0.12)	(-0.19)	(1.10)	(1.06)
Size	-0.058**	-0.063**	0.001	0.007	-0.125***	-0.109***
	(-2.33)	(-2.31)	(0.04)	(0.19)	(-3.70)	(-2.97)
Industry fixed on total	-0.632***	-0.591**	-0.409	-0.378	-0.193	-0.216
Assets	(-2.64)	(-2.44)	(-1.42)	(-1.30)	(-0.74)	(-0.81)
Industry total assets	-0.000**	-0.000**	-0.000**	-0.000**	0.000	0.000
per employee	(-2.42)	(-2.51)	(-2.11)	(-2.16)	(0.05)	(0.03)
Industry solvency ratio	-0.011*	-0.011*	-0.010	-0.011	-0.002	-0.003
	(-1.89)	(-1.91)	(-1.22)	(-1.35)	(-0.33)	(-0.40)
Court order		-0.084		-0.043		-0.050
		(-1.34)		(-0.45)		(-0.50)
Big 4		0.069		-0.061		-0.074
		(0.78)		(-0.63)		(-0.74)
Receivership		-0.005		0.067		-0.032
		(-0.08)		(0.76)		(-0.36)
Unsecured		0.010		-0.069		0.048
		(0.08)		(-0.42)		(0.28)
N	213	213	213	213	213	213
chi2	24.180	27.417	10.103	12.387	17.121	18.629
P	0.001	0.004	0.183	0.335	0.017	0.068

Table 3.11 Conflict of Interests in Pre-Packs: Evidence from Credit Scores

This table reports the results of Probit regressions with robust standard errors with a dummy variable equal to one if the insolvency is a pre-pack to a connected party as dependent variable. In the first two models the sample consists of going concern sales where the bank is paid in full. In the last two models the sample consists of going concern sales where the bank is not paid in full. *Probability of default* is the likelihood of default calculated by Experian from the last available accounts (2003). *Age* is the age of the firm from incorporation to the entry into insolvency. *Size* is the log of the amount of total debt owed at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Receivership* is a dummy variable equal to 1 if the insolvency procedure is receivership, is equal to 0 if it is administration. *Court* is a dummy variable equal to 1 if the entry into administration is through a court order. *Unsecured* is the percentage of unsecured debt of the total debt owed at the beginning of the procedure. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. We report the estimated marginal effects at the mean. T-statistics are reported in parentheses.

	Bank paid in full		Bank not paid in full	
	(1)	(2)	(3)	(4)
Probability of default	4.320**	4.304**	-0.604	-0.394
	(2.45)	(2.33)	(-0.54)	(-0.36)
Age	-0.006*	-0.007**	0.004*	0.004*
	(-1.96)	(-2.16)	(1.81)	(1.89)
Size	-0.094*	-0.093*	-0.051*	-0.065**
	(-1.92)	(-1.74)	(-1.82)	(-2.03)
Industry fixed on total assets	-0.799**	-0.795**	-0.578*	-0.585*
	(-2.06)	(-2.01)	(-1.86)	(-1.73)
Industry total assets per employee	-0.000	-0.000	-0.000**	-0.000**
	(-1.18)	(-1.34)	(-2.13)	(-2.18)
Industry solvency ratio	-0.019	-0.022*	-0.009	-0.007
	(-1.60)	(-1.73)	(-1.25)	(-0.90)
Court		-0.116		-0.065
		(-1.17)		(-0.95)
Big4		0.031		0.161
		(0.20)		(1.44)
Receivership		-0.011		-0.013
		(-0.09)		(-0.17)
Unsecured		-0.204		0.116
		(-0.90)		(0.80)
N	84	84	129	129
chi2	15.985	16.508	15.772	18.252
P	0.014	0.086	0.015	0.051

Table 3.12 Pre-Packs to Connected Parties and Piecemeal Liquidation

This table reports univariate statistics of the comparison between pre-packs to connected parties and cases of piecemeal liquidation. *Age* is the age of the firm from incorporation to the entry into insolvency. *Total debt* is the amount of total debt owned at the beginning of the procedure. *Secured* is the percentage of secured debt out of the total debt at owned at the beginning of the procedure. *Big4* is a dummy variable equal to one if the IP works for one of the Big 4 accounting firms. *Court* is a dummy variable equal to 1 if the entry into administration is through a court order. The industry variables are constructed in the following way: for each variable of interest (i.e. intangibles over total assets) we associate to each company in the sample the median value of the companies in the same 2-digit code industry. Variables are winsorized at 1%. Coefficients significant at 10%, 5% and 1% are indicated by *,** and ***, respectively. T-statistics are reported in parentheses.

	Piecemeal liquidation		Pre-packs to a connected party			
	Mean	Median	Mean	Median	Diff.	
Total debt	1931002	751877	1442903	747186	488098.3	(0.96)
Secured	0.29	0.239	0.376	0.35	-0.086**	(-2.36)
Age	12.261	8.496	12.044	8.591	0.217	(0.14)
Industry solvency ratio	33.887	32.785	33.085	32.785	0.802	(1.21)
Industry turnover on total assets	1.89	1.869	1.936	1.869	-0.046	(-0.70)
Industry fixed assets on total assets	0.268	0.221	0.257	0.218	0.011	(0.57)
Industry plants and mach. on total assets	0.054	0.023	0.054	0.023	-0.000	(-0.05)
Industry intangibles on total assets	0.154	0.154	0.166	0.162	-0.012	(-1.10)
Industry total assets per employee	65036.44	54773	58360.42	54773	6676.0**	(2.18)
Big4	0.123	0	0.164	0	-0.041	(-0.91)
Court	0.23	0	0.148	0	0.083	(1.47)
Unsecured recovery rate	0.042	0	0.034	0	0.008	(0.48)
Secured recovery rate	0.476	0.375	0.672	1	-0.196***	(-3.26)
Recovery rate	0.156	0.083	0.246	0.206	-0.089***	(-3.28)
Observations	473		61		534	

4

SHAREHOLDER VOTING AND ACQUISITIONS

'If I had a chance to vote on this, I'd vote no. [Irene Rosenfeld] thinks it's a good deal; I think it's a bad deal.' Warren Buffet, in an interview to CNBC, January 10, 2010. [90]

4.1 Introduction[91]

One of the most puzzling features of corporate restructuring is the systematic destruction of shareholder value caused by unsuccessful acquisitions. Extensive empirical evidence documents that a large percentage of M&A destroys value for

[90] This is with reference to the proposed acquisition of Cadbury by Kraft. Warren Buffet, as Chairman of Berkshire Hathaway, was Kraft's single largest shareholder with a 9.4% stake. Irene Rosenfeld was the CEO of Kraft.

[91] This chapter is entirely based on the working paper "Can Mandatory Shareholder Voting Prevent Wealth Destruction in Corporate Acquisitions?" co-authored with Marco Becht and Stefano Rossi.

shareholders (Andrade, Mitchell and Stafford, 2001; Bouwman, Fuller and Nain, 2009) and this value reduction has been substantial in recent years (Moeller, Schligemann, and Stulz, 2005). Why do boards and the management take decisions that can lead to the total loss of their investment?

An obvious explanation is that there is an agency problem – management has its own agenda, interests, biases that it pursues at the expense of its shareholders (Berle and Means, 1933; Jensen and Meckling, 1976). There is a conflict between shareholders and management that shareholders are unable to resolve. Managers know what they are doing and deliberately take excessive risks, at the expense of shareholders. Behavioural finance provides an alternative motivation for managerial behavior. Overconfident managers tend to overbid in comparison to rational managers (Roll, 1986) and, in general, they overestimate their ability to generate returns from transactions (Malmandier and Tate, 2008).

Shareholder voting provides a potential solution to the acquisitions problem; boards and managers are prevented from acting autonomously. They have to seek shareholder approval before taking decisions that can have large and adverse material consequences for the owners of the firm. Shareholder voting is not always effective. We know that institutional shareholders tend to be passive and on routine decisions vote in favour of management proposals. These findings have called into question the effectiveness of shareholder voting in general as an

effective corporate governance tool (Yermack, 2010)[92]. Corporate voting should be an effective tool in the context of corporate acquisitions. The stakes are very high and even for the most passive of shareholders the potential loss should outweigh the large expected gain from preventing poor acquisitions against the relatively small cost of voting. Is it true empirically that shareholder voting averts poor corporate acquisitions?

A number of papers have tried to investigate this issue in the US context (e.g., Kamar, 2006; Hsieh and Wang, 2008), but they are inconclusive. Shareholder voting on proposed acquisitions in the US is not mandatory. US stock exchange rules require a listed acquirer to obtain shareholder approval whenever the acquirer issues new shares exceeding 20% of shares to finance the acquisition. Managers can avoid the voting by issuing less than 20% of their shares as consideration and paying the rest in other securities or in cash.[93] In fact, Hsieh and Wang (2008) find that acquisitions that are structured to bypass shareholder approval are more-likely to be value-reducing deals. In terms of ex-post recourse, litigation tends to be ineffective so the only action available to disaffected

[92] There is a sizable literature on the effects of governance provisions on stock prices. This literature faces the challenge of identifying a setting in which governance changes are exogenous to corporate performance. Accordingly, empirical results vary substantially, some arguing for a negative effect of governance on firm performance (e.g. Comment and Schwert, 1995), some others arguing for a very large and positive effect on firm performance (e.g. Gompers, Ishii, and Metrick, 2003; Bebchuck, Cohen, and Ferrell, 2004; Masulis, Wang, and Xie, 2007). Recently, Cunat, Guadalupe and Gine (2012) offer a causal estimate that solves the endogeneity concerns of internal governance rules. By employing a regression discontinuity design they find that voting outcomes by a narrow margin in favor of shareholder governance proposals are followed by large positive effects on firm values.

[93] In many other countries companies do not put an acquisition to a shareholder vote at all.

shareholders is to start a proxy-fight *ex-post* trying to replace members of the board.

We overcome this endogeneity problem by focusing on the UK setting where shareholder voting on significant acquisitions is mandatory.[94] The UK Listing Rules require a vote if the company acquires an asset that is relatively large.[95] These acquisitions are called Class 1 transactions and represent a facility for the exercise of governance over acquisitions. The smaller Class 2 transactions do not require a shareholder vote. This chapter examines the use of Class 1 transactions and its impact on the performance of acquisitions by comparing Class 1 and Class 2 transactions in the UK.

We find that shareholders in the UK never vote against Class 1 transactions ex post and we also document that 69% of all Class 1 transactions go to a successful vote very quickly, in less than a month. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. We find that Class 1 acquirers experience significantly higher abnormal stock returns in the announcement window. Controlling for other

[94] In the UK not only is shareholder voting mandatory in large transactions but shareholders can easily intervene ex post; a single shareholder or group of shareholders holding 10% of the shares can requisition and extraordinary meeting and put forward the motion to remove the directors. The EGM can also appoint new directors. The whole process is much faster and much cheaper than a comparable proxy fight under SEC rules in the United States. On the comparison of shareholder rights in the UK and the US, see Becht. et al. (2009).

[95] The impossibility of waiving this rule was one of the reasons preventing the takeover of Lehman Brothers by Barclays during the weekend of 13-14 September 2008 to avoid the bankruptcy of the US investment bank. The time frame of the acquisition did not allow for the necessary approval by Barclays's shareholders.

relevant acquisition characteristics, the returns of transactions which are subject to shareholder approval are around 2.16% larger than for Class 2 transactions.

It can be argued that using the variable Class 1 we are simply comparing large vs. small relative size transactions: it is a relative size effect that we are capturing instead of the effect of the mandatory shareholder voting. As a first objection to this, we observe that in the empirical and theoretical literature on the returns to acquisitions the relative size of a transaction is not clearly associated with higher returns. However, we address this concern by restricting the sample to a subset of transactions which are similar in terms of relative size. In this "small band" analysis, the variable *Class 1* remains highly statistically significant and the economic effect, instead of diminishing, increases to almost 3%.

The presence of the Class 1 rule alters the distribution of observed transactions relative to the population of transactions that are undertaken in its absence. In the context of a Class 1 transaction the board and the management know from the very beginning that the transaction is conditional upon a favorable shareholder vote. In general the management will not put proposals to the shareholders that cannot pass or withdraw the transaction when faced with significant shareholder opposition. It is therefore not surprising that Class 1 votes almost always pass.

In support of this interpretation we report small sample evidence that Class 1 transactions which are publicly announced but withdrawn are cases that suffered

a very negative market reaction on the day of the announcement. This is not true for Class 2 transactions. In general, we find that among the group of Class 1 transactions which are badly received (reaction smaller than -3%) 12% of the cases are withdrawn by the management after the announcement, on the contrary only 1 out of 125 badly perceived Class 2 transactions (0.008%) is withdrawn.

Consistently, we also show that among completed acquisitions, companies making Class 1 transaction have a significantly higher level of Tobin Q. This evidence suggests that the Class 1 rule has a screening effect. Relatively better performing managers make more Class 1 transactions, confident in the support of their shareholders.

However when we look at the left tail of the distribution of Class 1 transactions returns we still observe 18 % percent of the cases which are characterized by a very negative market reaction (smaller than -3%) and still are approved by the shareholders[96]. We explore if the share price exhibits "positive reversal" between the announcement and the EGM suggesting that the market has reacted positively to supplementary information about the deal released by the company. We find that this explanation only partially explain the poorly received yet successful Class 1 transaction puzzle. There could be other potential explanations for this finding: a) the negative share price reaction could be due to other negative news not related to the acquisition disclosed at the time of the

[96] Among the Class 2 transactions, 14% of the cases are badly perceived by the market.

acquisitions announcement; b) the presence of a controlling owner with conflicts of interest and sufficient voting power to approve the transaction without the consent of minorities; c) disagreements between different groups of shareholders about the likely long term outcome of the transaction. We leave the clinical analysis of these poorly received Class 1 transactions for future research.

Finally, in order to consider the economic impact of these transactions we look at the dollar amounts created or destroyed by the acquiring firms. We find that the difference in terms of abnormal returns between Class 1 and Class 2 transactions is confirmed if we look at the dollar wealth created by the acquisitions: while transactions which are not subject to shareholder approval on average destroy wealth, Class 1 transactions are associated with a large dollar gain to the acquirer shareholders.

The chapter is organized as follows. Section 4.2 provides the legal and institutional framework. Section 4.3 describes the data. Section 4.4 reports the empirical results. Section 4.5 concludes the chapter.

4.2 Law and Institutions

In 2010 the food giant Kraft Inc. launched a hostile takeover bid for the UK target Cadbury Plc. Kraft was listed on the New York stock exchange and incorporated under the law of Virginia. The deal was opposed by Warren Buffet, Kraft's single largest shareholder with a 9.4% stake, on the grounds that the price

Kraft was prepared to pay for Cadbury was excessive and damaging for Kraft shareholders.

Warren Buffet had little influence on the outcome of the deal. The corporate law of Virginia does not give shareholders the automatic right to vote on a corporate acquisition. The listing rules of the New York Stock Exchange only require a vote if a company wishes to issue common stock "equal to or in excess of 20 percent of the number of shares of common stock outstanding before the issuance of the common stock or of securities convertible into or exercisable for common stock." Even when this threshold is met it is relatively easy for an acquirer to work around this requirement (Davidoff, 2010).

UK Listing Rules

Companies listed in the United Kingdom are subject to more stringent rules. Chapter 10.1 of the listing rules requires that shareholders of listed companies entering into certain transactions be duly notified and "have the opportunity to vote on larger proposed transactions" (LR10.1.2(2)). These larger transactions requiring mandatory shareholder approval are known as "Class 1 transactions".

What constitutes a Class 1 transaction is defined in our "Class tests" (for details see Appendix) where each defines a ratio that measures the relative importance of the target relative to the acquirer:

The gross assets test: the ratio of the gross assets of the target and acquirer;

The profits test: the ratio of the profits of the target after deducting all charges except taxation and the profits of the acquirer;

The consideration test: the ratio of the consideration for the transaction offered to the target and the market value of all the ordinary shares of the acquirer.

The gross capital test: the ratio of the gross capital of the target and the acquirer[97];

On the basis of the tests, transactions are classified into four classes (LR 10.2):

Class 1 transaction: a transaction where one or more of the class test percentage ratios is larger than 25%;

Class 2 transaction: a transaction where any percentage ratio is between 5% and 25%;

Class 3 transaction: a transaction where all the percentage ratios are less than 5%;

Reverse takeover: a transaction where any of the class test percentage ratios is larger than 100% or the transaction would result in a change of business, board or voting control of the acquirer.

[97] The gross capital of the target is the consideration plus any shares or debt securities which are not acquired. The gross capital of the acquirer is the market value of the shares plus the amount of debt issued.

Once a transaction has been classified, the listing rules define the obligations for the acquirer for each case.

Class 3 transactions are the least onerous. They merely require a basic notification to the regulatory information service (RIS) once the transaction has been agreed (LR 10.3);

Class 2 transactions require a more detailed notification to the regulatory information service (RIS) (LR 10.4.1). Acquirers must also publish an update if there are significant changes to the original notification (LR 10.4.2).

Class 1 transactions have all the notification requirements of a Class 2 transaction but, in addition, the acquirer must furnish shareholders with an explanatory circular, must get prior approval for the transaction from the shareholders in a shareholder meeting and must ensure that any agreement with the target is conditional upon shareholder approval (LR 10.5).

These well established listing rules ensure that all acquisitions by a U.K. company with a primary listing that is larger than 25% of the acquirer, in various dimensions, must have shareholder approval.[98]

Business practice

To understand the time line of notifications and the role of different players in a Class 1 transaction, we interviewed managers, brokers and FSA officials (see

[98] The listing rules also contain some more detailed requirements that have been incorporated on the basis of past experience. For example, the regulator might decide that in special circumstances the class tests are not sufficiently reliable and impose an alternative test.

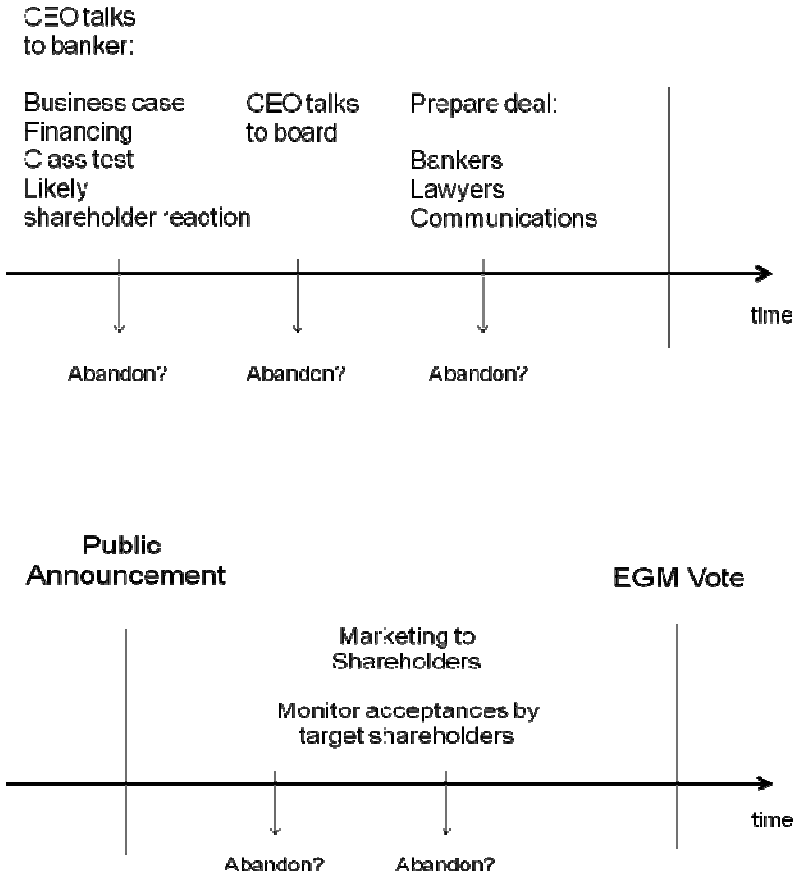
Figure 4.1). The manager contacts the banker, who usually acts also as a sponsor[99] for the company, and proposes a business plan for the acquisition and seeks financing. The banker decides whether he is interested in funding the project and, in case the transaction appears to be a Class 1 according to the relative size figures, advises on the potential shareholder reaction. In case of a positive feedback by the banker, the management takes the proposal to the board. If the board gives its consensus, the company starts to prepare the documentation. Around 6-8 weeks before the public announcement, the sponsor sends the FSA a draft of the circular which must be approved by the FSA before it is put into the public domain. In a cover letter, the sponsor provides a calculation of the four ratio tests together with an explanation of the data used - which accounting year, the date of the market capitalization valuation and how exactly the ratios have been calculated. In some cases the sponsor will engage in a so-called "pre-marketing process" the day before the public announcement, contacting the two or three largest fund managers in the shareholder register to inform them about the transaction and seeking their informal approval[100].

[99] The role of the sponsor is regulated and supervised by the FSA. "The sponsors provide assurance to the *FSA* when required that the responsibilities of the *listed company* or *applicant* under the *listing rules* have been met." UKLA Listing rules

[100] The names of the people informed about the transaction by the sponsor are put on an "insider list" which is sent to the FSA.

Figure 4.1 Timeline

Figure 4.1 describes the time line of a Class 1 acquisition in the UK from the management proposal to the financiers to the EGM vote.



Although the disclosure requirements for Class 1 and Class 2 acquisitions are the same, the information included in the public announcement for Class 2 is much less detailed than that in Class 1 announcements[101]. The former simply informs the market and the regulator about an executed acquisition; the latter needs to convince shareholders about the merits of executing the transaction. The

[101] While usually the statement of the announcement of a Class 2 transaction in RNS is about 20 lines, the equivalent document for Class 1 acquisitions is several pages long.

Class 1 announcement statement includes all the information which will be sent in the following days to the shareholders in the form of a Class 1 circular. In the case of a Class 1 transaction, after the announcement, the PR department of the company is actively engaged in promoting the transaction to the general public to ensure a favourable outcome in the EGM.

4.3 Data

We obtained deal characteristics of all mergers and acquisitions made by acquirers listed on the Main Market of the London Stock Exchange between 1992 and 2010 from the Securities Data Corporation's (SDC) Mergers and Acquisitions database. We exclude acquirers who belong to the financial industry.[102] We merge this database with accounting information and stock returns of the acquirers from Datastream. From this population we extract a 50% random sample obtaining 5400 transactions. We then apply the following filters: we exclude cases where the deal value of the transaction is not reported by SDC or is less than $1 million and cases where the deal value of the transaction as a percentage of the acquirer's capitalization is smaller than 5%.[103] We obtain a sample of 1867 mergers and acquisitions.

[102] We exclude acquirers who belong to the 11th industry group according to the 12-industry Fama-French classification code based on the four-digit SIC code.
[103] We effectively exclude Class 3 transactions that are substantially different in the amount of information investors receive and are hardly comparable with the Class 1 transactions that are the focus of the study.

For each of these transactions, we manually collect additional information from Factiva reading the information that the acquirers are obliged to publicly disclose through the Regulatory News Service: a) we record whether the transaction is subject to shareholder approval or not; b)whether the shareholder approval is due to the size of the transaction (Class 1) or to the fact that the transaction is with a related party or the company is issuing a significant amount of shares for which it needs the approval of the shareholders; c) for the transactions subject to the shareholder vote, we record the date of the Extraordinary General Meeting and the outcome of the vote, d) we record whether in the day of the announcement of the transaction the company also reports interim results potentially constituting confounding information.

We filter transactions: a) where the acquirer has no stock returns data on Datastream or there is no information in the Regulatory News Service about the acquisition (158 cases), b) where the shareholder approval is due to the share issuance[104] or the identity of the buyer (related party) instead of a Class 1 test (119), c) where the transaction is not completed (190 cases), d) where on the same day of the announcement of the transaction there is the release of the interim results on the Regulatory News Service (195 cases). In the final sample we have 1209 transactions.

[104] We exclude these cases (30 acquisitions) because here the shareholder voting is not mandatory (thus exogenous) as in a Class 1 but endogenous, it comes from the choice of the acquirer to issue a substantial amount of new shares to obtain additional finding to fund the acquisition.

Summary statistics of our sample acquisitions by announcement year are reported in Table 4.1. Starting in 1992, the number of acquisitions increases each year until it reaches its peak in 1998 and then drops. Masulis et al. (2007) report a very similar trend for the US. In this table we also split the number of acquisitions for each year into Class 1 and Class 2 transactions. The total number of Class 1 acquisitions is 377, amounting to 31.3% of our sample.

[Table 4.1 about here]

In Table 4.2 we focus on the Class 1 transactions. We report the percentages of completed, withdrawn and other non completed deals (not because of voluntary withdrawal). Around 5 % of the deals are pulled after their public announcement. We also split the completed deals according to the timing of the shareholder vote: in 69% of the cases the EGM date is within one month of the public announcement.

[Table 4.2 about here]

4.4 Empirical Results

This first question that we need to address is whether shareholders employ the Class 1 governance facility rejecting transactions that they do not considerer being made in their own interest. We find that in 100% of the Class 1 acquisitions in our sample the shareholders approve the proposal of the management in the EGM. One possible interpretation of this evidence is that shareholder voting,

even when mandatory, is irrelevant because of the inertia of the shareholders due to free riding or conflict of interest: even if they have the opportunity to stop bad acquisitions they do not intervene. The alternative hypothesis is that shareholder voting matters but we do not observe rejections at the EGM because poor acquisitions never reach the stage of being rejected at the EGM. The managers do not want to risk the shame of a rejection of a proposed acquisition at the EGM so they only propose value maximizing acquisitions if they know that, given the size of the transaction, they would be subject to shareholder screening. Moreover, they could also withdraw from the proposal after the announcement and before the EGM if it is badly received by the market. To test this hypothesis in the next section we will compare transactions which are subject to shareholder approval and those that are not. If the alternative hypothesis is correct we should observe a difference in value.

4.4.1 Comparison between Class 1 and Class 2 Acquisitions

We measure the value creation/destruction of an acquisition calculating the cumulative abnormal returns (CARs) in the share price of the acquirer around the announcement of the transaction. Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We compute 3-day cumulative CARs during the window encompassed by event days (-1, +1), where event day 0 is the acquisition announcement date.

In Table 4.3 we compare the announcement returns of Class 1 and Class 2 transactions. We observe that Class 1 transactions generate significantly higher CARs: the returns generated by Class 1 acquisitions are double those in acquisitions not subject to shareholder approval. The tests for differences in means and medians confirm that this result is statistically significant. This result holds also if we winsorize the CARs at 1%, if we enlarge the event window to (-2, +2) or if we include the cases that we filtered out because of the confounding information about the interim results disclosed the same day of the announcement of the acquisition.[105]

[Table 4.3 about here]

However, the univariate analysis does not allow us to draw reliable inferences. Class 1 transactions can be correlated with other determinants of acquirer returns such as the target listing status or the method of payment which previous research has shown to have explanatory power in the analysis of acquirer returns. We consider acquirer and deal characteristics. The deal characteristics that we look at are the methods of payment, the target listing condition (either public, private or subsidiary), the status (merger vs. acquisition, hostile vs. friendly, diversifying vs. non diversifying and cross border vs. UK target), the relative size of the deal value with respect to the capitalization of the acquirer, the level of M&A activity in the industry of the acquirer in the year of

[105] The 30 acquisitions subject to shareholder approval not because of the Class 1 tests but because of the issue of a substantial amount of new shares are associated with a mean CAR of 1.5 and a median CAR of 1.3.

the acquisition. As for the acquirer characteristics we consider the size of the bidder, the leverage ratio, the free cash flow and the Tobin's Q. Descriptive statistics are summarized in Table 4.4.

[Table 4.4 about here]

In Table 4.5 we report the comparison between Class 1 and Class 2 transactions in the above variables. We find that companies making Class 1 and Class 2 transactions are very similar in terms of size, free cash flow and leverage ratio but they differ in their level of Tobin Q. Companies making Class 1 transaction have a significantly higher level of Tobin Q[106]. This evidence points to a screening effect of the Class 1 rule. Relatively better performing managers make more Class 1 transactions, confident in the support of their shareholders. The deal characteristics of the two groups of transactions are quite different: Class 1 transactions are associated with more hostile deals, more stock-financed deals, more UK targets, more public and less private targets, more mergers, in industries with less takeover activity.

[Table 4.5 about here]

We extend the univariate analysis of announcement returns of Table 4.3 to a multivariate setting where we can control for the above acquirer and deal characteristics. In Table 4.6 we report the results of OLS regressions with

[106] This result holds if we run a Probit regression with Class 1 as a dependent variable and we use the list of deal and firm characteristics as regressors. The variable Tobin Q is statistically significant at 1% but the marginal effect calculated at the mean value of all other variables is small.

standard errors clustered by acquirer. The dependent variable is the CAR in the event window (-1, +1). In model 1 we use as independent variable only the dummy variable *Class 1*. In model 2 we control for deal characteristics and in model 3 we control also for acquirer characteristics. Not only including control variables does not cancel the significant effect associated with the Class 1 that we find in the univariate analysis but the coefficient increases twofold. Ceteris paribus, if a transaction is subject to shareholder approval the returns to the acquirer are around 2.16% larger than Class 2 transactions[107].

As regards the control variables, we find that acquiring a public target produces significantly lower returns. The other controls have signs which are consistent with previous studies (Moeller et al., 2005) but most of them are not significantly different from zero. For instance, being large, paying with stock and going hostile are associated with lower returns.

Also in the multivariate framework, results are robust if we winsorize the CARs at 1%, if we enlarge the event window to (-2, +2) or if we include the cases that we filtered out because of the confounding information about the interim results disclosed the same day of the announcement of the acquisition.

[Table 4.6 about here]

[107] If we restrict the sample to deals involving only public targets (143 cases) the coefficient is 3.22. On the contrary, if we restrict the sample to deals involving only private targets (544 cases) the coefficient is 1.92. Both are statistically significant.

4.4.2 Class Differences and Relative Size

As we said in the introduction the advantage of the UK institutional setting in studying the effectiveness of shareholder voting on the value creation of acquisitions is the mandatory nature of the shareholder approval. In the US, if managers do not want the screening of their shareholders they can structure the transaction in such a way to avoid it. In the UK the variable *Class 1* is exogenous (due to the class tests) instead of being a choice variable as in the US. Although this variable does not present the econometric problems of dealing with a choice variable, it has a different limitation. It can be argued that using the variable Class 1 we are simply comparing large vs. small relative size transactions: it is a relative size effect that we are capturing instead of the effect of the mandatory shareholder voting.

A first objection to this criticism is that in the literature the relative size of a transaction is not clearly associated with higher returns. Relative size is positive in Asquith, Bruner, and Mullins (1983) but negative in Travlos (1987). In Moeller et al. (2005) it is positive for the subsample of small acquirers and it is negative for the subsample of large acquirers. It is insignificant in Masulis et al. (2008). Moreover, in our regressions the variable Class 1 is highly significant when we control for the variable relative size which in our sample has a negative sign but it is statistically non significant.

To address the concern that we are capturing a relative size effect, in Table 4.7 we restrict the sample to a subset of transactions which are similar in terms of relative size. We keep only large Class 2 transactions (with a relative size bigger than 15%) and small Class 1 transactions (with a relative size smaller than 35%). Both in the univariate and multivariate analysis we find that the Class 1 transactions produce significantly higher returns. In fact, the economic significance of the variable *Class 1* increases in this small band analysis.

[Table 4.7 about here]

The variable relative size is calculated as the deal value divided by the market capitalization of the acquirer at the year end before the acquisition. Results are similar if we calculate the relative size using the market capitalization the day before the announcement, or if we take a linear combination of the two. Moreover, results are robust also if we change the definition of the small bands and we include only transactions smaller than 35% of relative size. Finally, here as well, results are robust if we winsorize the CARs at 1%, if we enlarge the event window to (-2,+2) or if we include the cases that we filtered out because of the confounding information about the interim results disclosed the same day of the announcement of the acquisition.

What we have done in this section is to restrict the sample to observations around the threshold of the class test of relative size excluding small Class 2 and large Class 1 finding a much stronger effect. Ideally, we would like to do this in a

very narrow band, say (25%–ε, 25%+ε), and at the limit for ε→0. This is the identification strategy behind the Regression Discontinuity Design (RDD) approach (Roberts and Whited, 2012). However, in our cases, we have four assignment variables instead of one.

In fact, a proposed transaction is assigned to be "Class 1", i.e. needs by regulation to be subject to shareholder voting, if the following is true:

$$\text{Class 1}=\text{Class 1}(x)=\begin{cases}1 \text{ if } x_1 \geq x_1' | x_2 \geq x_2' | x_3 \geq x_3' | x_4 \geq x_4' \\ 0 \text{ otherwise}\end{cases}$$

Where *Class 1*=1 indicates a "Class 1" transaction; x_1, x_2, x_3, x_4 are the relevant variables for assignment to the "Class 1" bin corresponding to the 4 class tests, namely relative size, relative profits, relative asset and relative gross capital; and $x_1' = x_2' = x_3' = x_4' = 25\%$ are the thresholds. Ideally in this framework we would like to apply a multidimensional RDD as in Papay, Willet and Murnane (2011) but we have data on only one of the forcing variables, relative size. Observing only one of the forcing variables we can not produce any analysis "around the threshold" of 25%: we do not have a sharp discontinuity at the 25% relative size threshold. Many Class 1 transactions appear on the left of the threshold, in these cases it is probably another class test ratio that is binding for the assignment to the Class 1. In the absence of a clear discontinuity in the probability of treatment at the cut-off, the RDD analysis is not a valid identification strategy.

An alternative is to turn this limitation into an advantage. As we said above, around 30% of Class 1 transactions have a relative size smaller than 25%. If we exclude all the transactions larger than 25%, we can compare Class 1 and Class 2 transactions which are similar in terms of size, because of the overlap in the smaller than 25% region, at least according to the most commonly used measure of relative size, the one based on deal value divided by market capitalization. In unreported analysis we confirm the statistical and economic significance of the higher returns of Class 1 transactions both in a univariate and multivariate framework in this sample[108].

We conclude this section applying a different econometric approach to increase the identification and reliability of our inference: the Propensity Score Matching. The idea is to estimate the counterfactual outcomes of individuals by using the outcomes from a subsample of "similar" subjects from the control group (Imbens, 2004). In our case we want to compare the Class 1 transactions with the closest Class 2 transactions according to the variables that we are able to observe. We estimate the propensity score as the probability of being a Class 1 transaction conditional on the covariates through a Logit regression. The list of covariates that we use in the estimation is smaller than the full list of deal and acquirer characteristics in Table 4.4.[109] We need to have a more parsimonious

[108] The difference is statistically significant (t-statistic 2.91, z-statistic 2.83) and coefficient in the regression is 2.05 (significant at 1%).
[109] The list of covariates that we use include are: *Relative size, Stock, Public, Hostile, Firm size, Free cash flow, Leverage ratio*.

specification to satisfy the balancing property, by which observations with the same propensity score have the same distribution of observable covariates independently of treatment status. We then estimate the Average Treatment Effects for the treated (Class 1) transactions given the propensity score using different matching techniques (Kernel, Radious and Neighbor matching). The results in table 4.8 confirm our results: transactions which are subject to shareholder approval are associated with significantly higher returns.

[Table 4.8 about here]

4.4.3 Does the Class 1 Rule Stop Poorly Received Acquisitions?

We have shown that the average abnormal announcement returns for Class 1 transactions subject to shareholder voting is higher than for Class 2 transactions that are only subject to notification requirements also when controlling for other characteristics. However, this does not mean that all Class 1 transactions are well received by the market on the day of announcement. In 69 of our 377 Class 1 cases (18.3%) the abnormal announcement return is -3% or smaller. This is an apparent contradiction of the deterrence effect of the Class 1 voting requirement. Why would shareholders raise their hand in favour of a transaction at an extraordinary meeting that they voted down "with their feet" a few days or months before (by selling their shares)?

There are a number of potential explanations for this finding: One, shareholders actually never get to vote on the transaction because it is withdrawn

before the vote (see Figure 4.1); two, in the period between the announcement and the EGM the market obtains positive information about the transaction, there are stock purchases and by the time of the EGM the poor initial reaction is reversed; three, the company has a controlling owner who initiated the acquisitions and has the power to approve the transaction in a majority vote without taking into account the view of minority shareholders. In this section we formally investigate the first two hypotheses.[110]

Withdrawn acquisitions

The listing rules force the acquirer to make a Class 1 conditional on shareholder approval until such approval has been obtained. As a result the acquirer's management and board can withdraw from the transaction at any time, if they believe that shareholder approval will not be forthcoming. An abnormal return of -3% or larger upon announcement of a transaction sends a strong signal and management should be worried that shareholder might reject the transaction at the EGM vote. In fact we find that among the group of Class 1 transactions which are badly received (reaction smaller than -3%) 12% of the cases are withdrawn by the management, on the contrary only 1 out of 125 badly perceived Class 2 transactions (0.008%) is withdrawn. Another way of looking at this is to look at the population of withdrawn cases in Class 1 and Class 2 transactions. We would expect the announcement returns of Class 1 cases which are subsequently

[110] In the context of the ownership structure of U.K. companies with primary listings the third explanation is unlikely but it will anyways be investigated in future research.

withdrawn to be highly negative. In our database we have 22 withdrawn Class 1 transactions which are indeed characterized by very negative returns: the average is -2.5% and the 25th percentile is -6.7%. As we show in Table 4.9 these returns are much lower than the ones obtained in the nine Class 2 withdrawn cases. Given the fact that the sample of the acquisitions which are publicly announced and subsequently withdrawn is small in our database the above analysis is not statistically robust but constitutes relevant anecdotal evidence.

[Table 4.9 about here]

Announcement to EGM reversal

Once a Class 1 transaction has been announced a detailed circular is sent to the shareholders. The acquirer's management is also free to use its own investor relations department and/or a financial communications firm to put the case for the proposed transaction to its shareholders and the market in the days after the announcement. If successful the poor initial market reaction should reverse.

For Class 1 transactions Table 4.10 reports abnormal returns for the announcement window, from the announcement plus two days to the day before the EGM and around the EGM itself.[111] Table 4.10 also reports the sum of these

[111] For Class 2 transactions there is no EGM so formally only the announcement window is well defined. To make some comparison with Class 1 transactions possible abnormal returns from the announcement plus two days to 42 days after the announcement were computed.

abnormal returns, approximately measuring the total abnormal return from the day before the Class 1 transaction was announced up to the EGM.[112]

Panel 1 reports the percentile distribution of returns for each window. For all 1195 cases with available share prices from announcement to the EGM 5% had a very poor initial market reaction of -7.8% or less; 33 cases for Class 1 and 28 cases for Class 2. We use this number as the benchmark of potential reversal in Panel 2.

The poor market reaction of -7.8% or less on announcement is reversed in less than 10% of Class 1 cases. Hence, we continue to observe about 25 cases with a negative market reaction from the announcement to the EGM. We will investigate these cases clinically in future research.

For symmetry we also investigate if shareholder confidence for Class 1 transactions that were well received collapses in the run-up to the EGM. If this was true we would be faced with another puzzle that is inconsistent with shareholder approval of the transaction. Panel 3 confirms that "negative reversal" is infrequent, but in 1% of Class 1 cases an initial market reaction of 12.9% or more turned into a buy and hold return of -14.5% from after the announcement to the EGM. A possible explanation could be confounding information about the acquirer that was unrelated to the acquisition.

[Table 4.10 about here]

[112] Ten transactions were lost due to missing share prices for the larger window, reducing the number of Class 1 cases to 367.

There could be other potential explanations for this finding: One, the negative share price reaction could be due to other negative news not related to the acquisition disclosed at the time of the acquisitions announcement; two, the presence of a controlling owner with conflicts of interest and sufficient voting power to approve the transaction without the consent of minorities; three, disagreements between different groups of shareholders about the likely long term outcome of the transaction. We leave the clinical analysis of these poorly received Class 1 transactions to future research.

4.4.4 Does the Class 1 Rule Prevent Shareholder Wealth Destruction?

Finally, following the approach of Malatesta (1983) and Moeller et al. (2002), we assess the economic significance of gains or losses related to the acquisitions. Moeller et al. (2002) report that in the US, from 1980 to 2001, the average dollar abnormal return over the event window (-1, 1) is - 25.2 million dollars (in 2001 dollars). So far our analysis has been based on equally weighted abnormal returns. Thus we have given equal weights to companies with very different capitalizations. If we want to consider the economic impact of these transactions we need to look at the dollar amounts created or destroyed by the acquiring firms. We multiply the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns obtained in two different time windows: a) the three days around announcement and b) the time window from one day before the announcement to one day before the EGM (as we did in the

previous analysis, in the cases of Class 2 transactions we set an "artificial" EGM date after 42 days). We adjust our figures to account for inflation (the results are in 2011 dollars).

As reported in Table 4.11, in the three days announcement window both Class 1 and Class 2 transactions seem to destroy value: while Class 1 transactions destroy on average 42.22 million dollars, Class 2 transactions are associated with a 6.85 million dollars loss. However looking at the distributions of the dollar returns we observe that the result of the Class 1 transaction is really due to one large outlier: the notoriously badly perceived acquisition of Mannesmann by Vodafone in 2000. The abnormal return in the announcement window is -15% and, given the extremely large size of the acquirer relative to the rest of the sample, the product of market capitalization and abnormal returns causes a very large destruction of value. If we calculate again the average dollar amount for the Class 1 transactions excluding this outlier we obtain a very different conclusion consistent with the main result of the chapter: Class 1 transactions are associated with a gain of 32.08 million dollars. The difference in the economic impact between Class 1 and Class 2 transactions is even larger if we expand the announcement window to include the time period from the announcement to the EGM. Class 1 acquisitions produce on average 176.11 million dollars of wealth while the Class 2 acquisitions destroy 3.50 million dollars. This difference is also highly statistically significant. The reason for the larger difference in the larger

time window is probably to be found in the stronger effort by the management to market and better explain the project to the investors in case of transactions which are subject to shareholder approval as we hypothesize in the previous section. The Vodafone-Mannesmann case is a good example of this. The initial market reaction was negative because of fear of overpayment and complications. In the following days the initial concerns appeared to be exaggerated. The change of attitude of the investors produced a reversal in the share price of Vodafone in the days before the shareholder vote (+8.69% is the total abnormal market reaction from the announcement to the EGM). For this reason the large average gain of Class 1 transactions is reduced to 128.93 if we exclude the Mannesmann acquisition.

These results are not due to the presence of a few outliers; results are similar if we winsorize the variable at 1 per cent[113].

[Table 4.11 about here]

4.5 Conclusions

Empire-builders or over confident managers can make acquisitions which destroy value for the acquiring shareholders. We study the effectiveness of shareholder voting as a corporate governance mechanism to prevent poor

[113] After the winsorization, in the three days announcement window, Class 1 transactions earn on average 1.97 million dollars, Class 2 loose 2.05. In the larger time window these figures are respectively +33.12 and +10.77. The difference between the two is statistically significant in the second window.

acquisitions. Empirical studies of this issue face the challenge of appropriately dealing with the endogenous nature of requiring shareholder approval. We meet this challenge by focusing on the U.K. setting, whereby M&A transactions whose assets exceed certain size thresholds are mandated to be subject to shareholder voting.

We find that shareholders in the UK never vote against Class 1 transactions ex post. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. We find that the abnormal announcement returns for Class 1 are more positive than for Class 2 transactions. The finding is most pronounced for transactions in a narrow neighbourhood of the size threshold, and is robust to a large set of controls for confounding effects. Moreover, if we consider the economic impact of these transactions we find that while transactions which are not subject to shareholder approval on average destroy wealth, Class 1 transactions are associated with a large dollar gain to the acquirer shareholders.

The literature on the effects of corporate governance on firm value and, more specifically, on shareholder voting on corporate governance faces the challenge of finding settings in which governance provisions are not endogenous. Our contribution to this literature is in trying to isolate the impact of the ex ante availability of shareholder voting on firm valuation using an institutional environment where the shareholder voting on corporate acquisitions is not a

choice variable but is exogenous. Our analysis suggests that shareholder voting is associated with substantial value improvements for acquiring shareholders.

Our findings also raise interesting new questions that future research should address. Mandatory voting stops many but not all transactions that are poorly received at announcement and/or up to the shareholder vote. Why did the shareholders vote in favour of these acquisitions? Were they passive in these instances? Do some shareholders exhibit the same overconfidence that has been documented for corporate managers?

Table 4.1 Sample Distribution by Announcement Year

The sample consists of 1205 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010.

Year of announcement	Number of transactions	Percentage of the sample	Number of Class 2 transactions	Number of Class 1 transactions	Percentage of Class 1
1992	58	4.8%	38	20	34.5%
1993	67	5.6%	50	17	25.4%
1994	76	6.3%	50	26	34.2%
1995	86	7.1%	55	31	36.0%
1996	89	7.4%	53	36	40.4%
1997	102	8.5%	71	31	30.4%
1998	120	10.0%	75	45	37.5%
1999	113	9.4%	70	43	38.1%
2000	104	8.6%	64	40	38.5%
2001	82	6.8%	61	21	25.6%
2002	42	3.5%	35	7	16.7%
2003	43	3.6%	35	8	18.6%
2004	49	4.1%	34	15	30.6%
2005	40	3.3%	28	12	30.0%
2006	29	2.4%	24	5	17.2%
2007	45	3.7%	36	9	20.0%
2008	33	2.7%	29	4	12.1%
2009	9	0.7%	6	3	33.3%
2010	18	1.5%	14	4	22.2%
Total	1,205		828	377	31.3%

Table 4.2 Sample Distribution of Class 1 Transactions

The sample consists of 399 mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010.

	Number	Percentage
Class 1 Transactions		
Completed deals	377	87.1%
Withdrawn deals	22	5.1%
Other	34	7.8%
Tot.	433	
Class 1 Completed Transactions		
EGM date within 1 month of announcement	260	69.0%
EGM date within 1 month and 6 months	107	28.4%
EGM dated after 6 months	10	2.6%
Tot.	377	

Table 4.3 Differences in Announcement Abnormal Returns between Class 1 and Class 2 Transactions

This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We split the sample between Class 1 and Class 2 transactions. We report T-statistics for the difference of the means and the Wilcoxon signed-rank z-statistics for the difference of the medians. *, ** and *** denote significance at .10, .05 and .01 levels, respectively.

Differences in Announcement Abnormal Returns					
		Class 1 transactions (1)	Class 2 transactions (2)	Difference (1)-(2)	t/z statistic for the tests of difference
CAR (-1,+1)	Mean	2.01	0.93	1.07	2.58***
	Median	0.94	0.46	0.48	2.29**
	N. of observations	377	828		

Table 4.4 Summary Statistics of Control Variables

The sample consists of 1205 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. The dependent variable is the cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Relative size is calculates as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is calculated as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets.

Variable	N. of observations	Mean	Standard Deviation	Q25	Median	Q75
Deal characteristics						
Relative size	1058	23.984	37.789	7.932	12.717	25.710
Stock	1205	0.246	0.431	0	0	0
All cash	1205	0.449	0.498	0	0	1
Private	1205	0.552	0.498	0	1	1
Public	1205	0.126	0.332	0	0	0
Hostile	1205	0.005	0.070	0	0	0
Industry activity	1205	26.931	51.425	4	10	23
Cross border	1205	0.351	0.477	0	0	1
Merger	1205	0.404	0.491	0	0	1
Diversifying	1205	0.349	0.477	0	0	1
Acquirer characteristics						
Firm size (thousands $)	1079	671133	2587995	38385	100532	336383
Tobin's q	1056	1.804	1.226	1.136	1.460	2.008
Free cash flow	1037	-0.012	0.098	-0.038	0.001	0.031
Leverage ratio	1050	0.142	0.114	0.051	0.125	0.207

Table 4.5 Differences in Acquirer and Deal Characteristics between Class 1 and Class 2 Transactions

The sample consists of 1205 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. We split the sample in Class 1 and Class 2 transactions. The dependent variable is the cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Relative size is calculates as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is calculated as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets. *, ** and *** denote significance at .10, .05 and .01 levels, respectively.

	Class 2		Class 1			
	Mean	Median	Mean	Median	Diff.	
			Deal characteristics			
Relative size	11.854	9.305	47.903	33.419	-36.05***	(-16.42)
Stock	0.175	0	0.347	0	-0.172***	(-6.72)
All cash	0.502	1	0.332	0	0.171***	(5.60)
Private	0.61	1	0.424	0	0.186***	(6.09)
Public	0.058	0	0.276	0	-0.218***	(-11.08)
Hostile	0	0	0.016	0	-0.016***	(-3.66)
Industry activity	28.888	11	22.634	9	6.254*	(1.96)
Cross border	0.37	0	0.31	0	0.059**	(2.00)
Merger	0.322	0	0.584	1	-0.261***	(-8.83)
Diversifying	0.355	0	0.337	0	0.018	(0.61)
			Acquirer characteristics			
Firm size (thousands $)	617232.5	103922.5	778335.9	94309	-161103	(-0.96)
Tobin Q	1.721	1.44	1.967	1.556	-0.245***	(-3.08)
Free CF	-0.011	0	-0.014	0.003	0.003	(0.50)
Leverage ratio	0.141	0.127	0.143	0.123	-0.003	(-0.33)
Observations	828		377		1205	

Table 4.6 Multivariate Analysis of Acquirer Returns

The sample consists of 1205 completed mergers and acquisitions (listed in SDC) made by acquirers listed on the Main Market of the LSE between 1992 and 2010.This table reports the results of OLS regressions with standard errors clustered by acquirer. The dependent variable is the CAR in the event window (-1, +1). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. Class 1 is a dummy variable equal to 1 if the acquisition is a Class 1 transaction. Relative size is calculates as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Stock is a dummy variable equal to 1 if the deal is at least partially stock financed. All cash is a dummy variable equal to 1 if the deal is purely-cash financed. Private is a dummy variable equal to 1 if the target is a private company. Public is a dummy variable equal to 1 if the target is a public company. Hostile is a dummy variable equal to 1 if the deal is hostile. Industry activity is calculated as the number of target firms with the same first three-digit SIC code acquired each year. Cross border is a dummy variable equal to 1 if the target is not from the UK. Merger is a dummy variable equal to 1 if the deal is a merger. Diversifying is a dummy variable equal to 1 if the bidder and target do not share the Fama-French 12 industry. Firm size is calculated as the deal value divided by the market capitalization of the acquirer as reported by Datastream in the year end prior to deal announcement. Tobin Q is calculated as the ratio of the acquirer's market value of assets over its book value of assets, where the market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is calculated as the operating income before depreciation minus interest expense minus income taxes minus capital expenditures, scaled by book value of total assets. Leverage ratio is calculated as the book value of long-term debt and short-term debt divided by the market value of total assets. All three models include year and industry fixed effects. In model 1 we use as an independent variable only the dummy variable *Class 1*. In model 2 we control for deal characteristics. In model 3 we control also for acquirer characteristics. T-statistics are in parenthesis. *, ** and *** denote significance at .10, .05 and .01 levels, respectively

	Dependent variables CAR		
	(1)	(2)	(3)
Class 1	1.092**	2.170***	2.148***
	(2.24)	(4.03)	(3.90)
Relative size		-0.007	-0.006
		(-1.13)	(-1.05)
Stock		-0.669	-0.772
		(-1.14)	(-1.25)
All cash		-0.034	0.018
		(-0.08)	(0.04)
Private		0.071	0.142
		(0.18)	(0.35)
Public		-2.731***	-2.658***
		(-3.47)	(-3.19)
Hostile		-2.934	-2.630
		(-1.48)	(-1.33)
Industry activity		-0.007	-0.005
		(-1.02)	(-0.77)
Cross border		-0.381	-0.193
		(-0.93)	(-0.46)
Merger		-0.595	-0.349
		(-1.37)	(-0.79)
Diversifying		0.454	0.361
		(1.04)	(0.81)

Firm size			-0.193
			(-1.27)
Tobin's q			0.074
			(0.37)
Free cash flow			0.873
			(0.39)
Leverage ratio			-0.380
			(-0.21)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Constant	-0.307	-0.289	1.895
	(-0.34)	(-0.34)	(0.90)
N	1205	1058	1017
R-sq	0.038	0.084	0.091

Table 4.7 Differences in Announcement Abnormal Returns between Class 1 and Class 2 Transactions in Small Bands

In this table the sample includes only large Class 2 transactions (with a relative size bigger than 15 %) and small Class 1 transactions (with a relative size smaller than 35%). Panel A reports the univariate analysis. This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition (in percent). Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We report T-statistics for the difference of the means and the Wilcoxon signed-rank z-statistics for the difference of the medians. Panel B reports the multivariate analysis (OLS regressions with standard errors clustered by acquirer). The dependent variable is the CAR. All the three models include year and industry fixed effects. In model 1 we use as an independent variable only the dummy variable *Class 1*. In model 2 we control for deal characteristics. In model 3 we control also for acquirer characteristics. The control variables are the same as the ones used in Table 5. T-statistics are in parenthesis. *,** and *** denote significance at .10, .05 and .01 levels, respectively

Panel A. Univariate Analysis

Differences in Announcement Abnormal Returns in Small Bands					
		Small Class 1 transactions (1)	Large Class 2 transactions (2)	Difference (1)-(2)	t/z statistic for the tests of difference
CAR (-1,+1)	Mean	2.58	0.88	1.70	2.14**
	Median	2.00	0.61	1.39	1.83**
	N. of observations	194	140		

Panel B. Multivariate Analysis

	Dependent variables CAR		
	(1)	(2)	(3)
Class 1	1.646*	2.835***	2.788***
	(1.85)	(3.16)	(2.79)
Deal controls	No	Yes	Yes
Acquirer controls	No	No	Yes
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	334	334	319
R-sq	0.069	0.173	0.187

Table 4.8 Class 1 and Class 2 Transactions: a Propensity Score Matching

The sample consists of 1205 completed mergers and acquisitions (listed in SDC) made by acquirers listed in the Main Market of the LSE between 1992 and 2010. This table reports the Average Treatment Effects for the Treated where the treatment is being a Class 1 transaction. We use three different matching techniques: Radious matching method, Kernel matching method with Epanechnikov kernel and bandwidth=0.03 and Nearest Neighbor matching method.

Method	N. of treated (Class 1)	N. of control (Class 2)	ATT	Standard error	t-statistic
Radious	334	679	1.084	0.478	2.271**
Kernel	334	541	2.359	1.670	1.412*
Nearest Neighbor	377	255	2.933	1.246	2.354***

Table 4.9 Announcement Abnormal Returns of Withdrawn Transactions

This table reports cumulative abnormal returns (CARs) in the three days around the announcement of the acquisition of transactions which are publicly announced and subsequently withdrawn. Abnormal returns are calculated by subtracting the FTSE index from the raw return of the firm's equity. We split the sample between Class 1 and Class 2 transactions.

Differences in Announcement Abnormal Returns of Withdrawn Cases					
	N. of observations	Mean	Median	25th Percentile	5th Percentile
Class 1	22	-2.5	-1.1	-6.7	-13
Class 2	9	0.35	-0.81	-1	-4

Table 4.10 Market Adjusted Buy and Hold Returns, Pre-Announcement to Pre-EGM

The table reports market adjusted buy and hold returns. Class 1* only includes Class 1 transactions that had an extraordinary general meeting within 71 days or less from the transaction announcement. Class 2 transactions by definition do not have an EGM and an "artificial" EGM date was set at 42 days.

Percentiles	Announcement BHR[-1,1]				Post-Ann. to Pre-EGM BHR[+2,EGM-1]				Sum BHR[-1,1] + BHR[+2,EGM-1]				EGMBHR[-1,1]	
	All	Class 1	Class 1*	Class 2	All	Class 1	Class 1*	Class 2	All	Class 1	Class 1*	Class 2	Class 1	Class 1*
Panel 1 : All transactions														
N	1195	367	330	828	1195	367	330	828	1195	367	330	828	367	330
1%	-16.8	-21.5	-21.5	-13.5	-29.3	-29.3	-26.6	-27.4	-37.3	-41.0	-38.0	-30.4	-0.1	-0.1
5%	-7.8	-10.1	-10.0	-6.3	-16.6	-14.9	-13.4	-16.9	-17.8	-16.3	-15.2	-17.9	-0.1	-0.1
10%	-4.6	-7.3	-6.7	-3.9	-11.9	-10.6	-10.2	-12.3	-12.8	-12.4	-11.8	-12.9	0	0
25%	-1.5	-2.0	-1.7	-1.4	-5.5	-4.8	-4.5	-5.7	-5.5	-4.7	-4.8	-5.9	0	0
50%	0.6	0.9	1.0	0.5	0.3	0.0	-0.1	0.4	1.8	1.5	1.3	1.8	0	0
75%	3.8	6.4	6.4	3.1	6.8	5.8	5.4	7.2	9.0	10.1	9.6	8.8	0	0
90%	8.7	13.2	13.2	7.3	14.5	11.9	11.4	15.3	18.2	18.3	18.0	18.1	0	0
95%	12.9	16.5	16.7	9.7	20.9	16.8	16.4	22.4	24.6	23.9	23.9	24.8	0.1	0.1
99%	19.4	22.2	22.2	15.8	39.4	32.9	27.2	39.4	44.1	49.1	37.6	43.2	0.2	0.2
Panel 2 : Transaction announcements that were very poorly received (CAR < -7.8%) : Is there positive reversal?														
N	61	33	27	28	61	33	27	28	61	33	27	28	33	27
1%	-57.2	-57.2	-57.2	-47.7	-35.4	-35.4	-35.4	-29.4	-92.5	-92.5	-92.5	-56.6	-0.1	-0.1
5%	-27.9	-26.7	-26.7	-28.2	-27.3	-29.3	-27.3	-27.3	-41	-41	-39	-49.5	-0.1	-0.1
10%	-24.0	-21.5	-25.7	-27.9	-17.8	-25.7	-16.5	-14.8	-38	-38.1	-38	-36.7	-0.1	-0.1
25%	-15.1	-15.1	-15.5	-15.5	-7.7	-6.7	-5.2	-7.9	-19.9	-20.7	-19.9	-18.7	0	0
50%	-10.2	-10.2	-10.2	-9.8	-2	-2	-2	-1.1	-12.1	-13.2	-13.2	-11.4	0	0
75%	-8.9	-8.9	-8.9	-8.8	9.7	5.7	4.8	16.2	-2.5	-5.1	-7.6	-1.4	0	0
90%	-8.3	-8.3	-8.3	-8.1	25.7	12.8	10.2	33.4	8.7	1.2	0.6	24.2	0	0
95%	-8.1	-8.2	-8.2	-7.8	30.5	25.7	11.8	36.7	21.5	8.7	1.2	25.2	0.1	0.1
99%	-7.8	-8	-8	-7.8	48.2	27.2	27.2	48.2	28.6	14.7	3.4	28.6	0.1	0.1
Panel 3 : Transaction announcements that were very well received (CAR > 12.9%) : Is there negative reversal?														
N	60	37	34	23	60	37	34	23	60	37	34	23	37	34
1%	12.9	13.2	13.2	12.9	-51.0	-14.5	-14.5	-51.0	-38.0	-1.3	-1.3	-38.0	-0.1	-0.1
5%	13.1	13.3	13.3	13.0	-17.3	-11.0	-11.0	-21.9	-2.0	3.1	3.1	-8.0	-0.1	-0.1
10%	13.3	13.4	13.4	13.0	-10.9	-10.2	-10.2	-20.2	3.6	5.0	5.0	-2.7	-0.1	-0.1
25%	14.0	14.6	14.6	13.4	-7.8	-6.0	-6.0	-10.1	9.5	11.1	11.1	5.1	0	0
50%	15.7	16.5	16.6	14.7	-0.1	0.0	0.2	-1.2	16.4	16.8	16.8	13.8	0	0
75%	18.6	18.6	18.6	19.2	4.6	3.2	5.8	6.6	22.3	21.2	22.3	23.9	0	0
90%	23.3	22.2	22.2	23.6	11.0	11.9	11.9	10.2	33.5	28.7	28.7	33.8	0.1	0.1
95%	31.2	38.2	38.2	30.5	17.7	19.2	19.2	16.3	42.5	57.4	57.4	38.2	0.1	0.1
99%	46.9	46.9	46.9	31.8	49.0	49.0	49.0	22.4	95.9	95.9	95.9	46.8	0.1	0.1

Table 4.11 Differences in Abnormal Dollar Returns between Class 1 and Class 2 Transactions

This table reports inflation-adjusted (base 2011) dollar returns obtained multiplying the market capitalization of the acquiring firm the day before the announcement by the cumulative abnormal returns in two different windows. The first window is the three days around the announcement and the second window start from -1 to one day before the EGM (for the Class 2 cases the EGM date is set artificially at 42 days after the announcement). We split the sample between Class 1 and Class 2 transactions. We report T-statistics for the difference of the means and the Wilcoxon signed-rank z-statistics for the difference of the medians. *, ** and *** denote significance at .10, .05 and .01 levels, respectively.

Window		Class 1 transactions (1)	Class 2 transactions (2)	Difference (1)-(2)	t/z statistic for the tests of difference
All sample					
(-1,+1)	Mean	-48.22	-6.85	-41.36	-0.69
	Median	0.96	0.47	0.49	1.81*
	Tot.	*-$18,179*	*-$5,673*		
	N. of observations	377	828		
Excluding the Vodafone-Mannesmann transaction					
(-1,+1)	Mean	32.08	-6.85	38.93	1.56
	Median	0.96	0.47	0.49	1.88*
	Tot.	*$12,062*	*-$5,673*		
	N. of observations	376	828		
All sample					
(-1,+1) + (+2,EGM-1)	Mean	176.11	-3.50	179.61	2.59***
	Median	1.46	1.90	-0.44	-0.08
	Tot.	*$64,630*	*-$2,903*		
	N. of observations	367	828		
Excluding the Vodafone-Mannesmann transaction					
(-1,+1) + (+2,EGM-1)	Mean	128.93	-3.50	132.44	2.14**
	Median	1.36	1.90	-0.54	-0.87
	Tot.	*$47,188*	*-$2,903*		
	N. of observations	366	828		

5

CONCLUSION

This dissertation consists of three essays which examine topics at the intersection of law and finance.

In the first essay we investigate the role of regulatory sanctions and reputational damage in financial markets. We study the impact of the announcement of enforcement of financial and securities regulation by the UK's financial regulators on the market price of penalized firms. We find that reputational sanctions are large: their stock price impact is on average almost 9 times larger than the financial penalties imposed. Furthermore, reputational losses are confined to misconduct that directly affects parties who trade with the firm (such as customers and investors). Hence, in cases of misconducts harming trading partners, reputation massively reinforces the penalties imposed by regulators; in the other (misconducts against third parties) it negates or reverses

them. In calibrating financial penalties the regulator needs to be aware of this evidence. Legal sanctions that do not recognize these differences will be excessive in the first case and seriously deficient in the second. However, to be in a position to guide public policy toward optimal penalties, future research needs to address the question on what is the probability of getting caught for the two different types of misconduct. This will also shed light on the trade-off companies and their managers face when considering opportunistic options.

In the second essay, we analyze the costs and benefits associated with secured creditor control in bankruptcy. We do it by studying the highly contested practice of UK pre-packs, where a deal to sell the business is agreed before publicly entering into bankruptcy. Contrary to widespread criticism that this procedure leads to collusion, we find no evidence of exploitation of conflict of interests and we find that it preserves the value of the business and maximizes recovery in circumstances in which a public announcement of bankruptcy would destroy value. In small businesses where secured creditors are concentrated the benefits of their control seem to outweigh the costs. This provides a benchmark for evaluating likely effects also in other countries. This evidence contradicts the view that court supervision, instead of freedom of contracting, is always needed to avoid expropriation. Moreover, it also reinforces the empirical evidence on the efficiency of the floating charge debt as a resolution of financial distress (Franks and Sussman, 2005; Dyankov et al., 2008).

Finally, in the last essay we examine whether mandatory shareholder voting prevents wealth destruction in corporate acquisitions. We study the UK setting where all large transactions must have shareholder approval. We observe that such Class 1 transactions always get consent. Nevertheless, there is a striking difference between the performance of acquirers between Class 1 and other transactions. An interesting question that we leave unanswered is: why is regulation required to do this? Why could a company not just voluntarily include a requirement of shareholder approval for large transactions in their corporate charter? Moreover, we find that mandatory voting stops many but not all transactions that are poorly received at announcement and/or up to the shareholder vote. Were shareholders passive in these cases? Alternatively, is it due to disagreements between different groups of shareholders about the likely long term outcome of the transaction? Future research should explore these questions.

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APPENDIX

A. Summary of the 40 Press Statements Issued by the FSA and the LSE

#	Date	Listed - Holding Company Name	Subsidiary Name	Fine[1]	Total Compensation[2]	Nature of Misconduct	Second party (S)/ Third party (T)	FSA/ LSE
1	25/09/2001	Credit Suisse	Winterthur Life	500000	10000000	Mis-selling of mortgage endowment policies.	S	FSA
2	10/9/2001	AMP	Pearl Companies	100000	345854	Not carrying out customer orders on a timely basis.	S	FSA
3	17/12/2002	Royal Bank of Scotland		750000	0	Failure in compliance with money laundering rules.	T	FSA
4	4/12/2002	Lloyds	Abbey Life Assurance Company ltd	1000000	140000000	Mis-selling of mortgage endowment policies.	S	FSA
5	10/12/2003	Abbey National companies		2320000	300000	Failure in compliance with money laundering rules.	T	FSA
6	7/8/2003	National Australian Bank	Northern Bank	1250000	0	Failure in compliance with money laundering rules.	T	FSA
7	27/3/2003	Royal and Sun Alliance Group		950000	16600000	Mis-selling of mortgage endowment policies	S	FSA

8	6/3/2003	Prudential	Scottish Amicable	750000	11000000	Mis-selling of mortgage endowment policies	S	FSA
9	13/2/2003	HBOS	Bank of Scotland	750000	10350	Badly administering savings schemes. Bank's inappropriate handling of funds had put 30,000 customers at risk of losing money.	S	FSA
10	22/12/2004	Bradford & Bingley plc		650000	6000000	Mis-selling of precipice and with-profit bonds.	S	FSA
11	21/12/2004	AXA	AXA Sun Life	500000	0	Misleading advertisements.	S	FSA
12	20/10/2004	Capita Group	Capita Trust Company Limited	300000	3500000	Mis-selling of precipice bonds.	S	FSA
13	19/5/2004	Universal Salvage Plc		90000	0	Delay in revealing relevant information to the market.	S	FSA
14	5/4/2004	Deutsche Bank	Morgan Grenfell & Co Limited	190000	0	Failure to act in its customer's best interests and failure to manage its conflicts of interests. Morgan Grenfell commenced proprietary trading in seven of the constituent securities of a client's programme trade, prior to its award, based on limited information provided to enable the firm to quote for that business. The proprietary trading resulted in the client paying more for the programme trade than they would otherwise have done.	S	FSA
15	11/2/2004	IFG Group	Berkeley Jacobs Financial Services Limited	175000	1000000	Failure to monitor adequately a sales strategy which advocated the sale of non-pension products and a failure to ensure the suitability of sales.	S	FSA

16	15/1/2004	HBOS	Bank of Scotlland	1250000	0	Failure in compliance with money laundering rules.	T	FSA
17	14/12/2005	HSBC Bank Plc		100000	0	Transaction reporting failures.	T	FSA
18	17/11/2005	UBS AG		100000	0	Transaction reporting failures.	T	FSA
19	13/1/2005	Hemscott	Hemscott Investment Analysis Limited	50000	0	Misleading financial promotions	S	FSA
20	22/11/2006	Berkshire Hathaway	General Reinsurance UK Limited	1225000	0	Arranging two improper reinsurance transactions. In doing so, GenRe UK breached FSA Principle 2 by not conducting its business with due skill, care and diligence.	T	FSA
21	7/8/2006	Merrill Lynch International		150000	0	Transaction reporting failures.	T	FSA
22	11/4/2006	Deutsche Bank AG		6363643	0	Market misconduct in running book building transactions.	T	FSA
23	16/3/2006	Capita Group	Capita Financial Administrators Limited	300000	0	Poor anti-fraud controls over client identities and accounts.	S	FSA
24	16/11/2007	Toronto Dominion Bank		490000	0	Systems and controls failures in relation to one of its trading books.	S	FSA
25	12/6/2008	Woolworths Group plc		350000	0	Failure to disclose information to the market in a timely manner.	S	FSA
26	15/5/2008	AXA	Thinc Group Limited	900000	0	Not having adequate risk management and compliance systems for its subprime mortgage business and failure to take reasonable care to ensure that it had records to prove that advice it gave to	S	FSA

						customers in relation to the sale of subprime mortgages was suitable.		
27	12/5/2008	Land of Leather		210000	0	Ineffective monitoring or training in place to ensure that the insurance was being sold fairly.	S	FSA
28	16/1/2008	HSBC Group	HFC Bank	1085000	0	Failure to take reasonable care to ensure that the advice it gave customers to buy Payment Protection Insurance (PPI) was suitable, and for failure to have adequate systems and controls for the sale of PPI.	S	FSA
29	5/11/2009	UBS AG		8000000	42000000	Systems and controls failures that enabled four employees to carry out unauthorized transactions involving customer money.	S	FSA
30	8/9/2009	Barclays	Barclays Capital Securities Ltd and Barclays Bank PLC	2450000	0	Transaction reporting failures.	T	FSA
31	20/1/2009	Wolfson Microelectronics plc		140000	0	Delay in revealing relevant information to the market.	S	FSA
32	24/11/2009	Nomura International Plc		1750000	0	Widespread systems and controls failures around book marking.	T	FSA
33	8/4/2010	Credit Suisse		1750000	0	Transaction reporting failures.	T	FSA
34	8/4/2010	Nomura Holdings	Instinet Europe Limited	1050000	0	Transaction reporting failures.	T	FSA
35	7/6/2010	Close Brothers Group	Close Investments Limited	98000	0	Failure to properly protect and segregate client money.	S	FSA
36	25/8/2010	Societe Generale		1575000	0	Transaction reporting failures.	T	FSA

37	3/6/2010	J.P. Morgan Securities	33320000	0	Failure to protect client money by segregating it appropriately.	S	FSA
38	23/11/2009	Environmental Recycling Technologies	0	0	Failure to keep the market properly informed of price sensitive information.	S	LSE
39	19/6/2008	Meridian Petroleum plc	75000	0	Failure to disclose price sensitive information to the market.	S	LSE
40	1/2/2008	Subsea Resources PLC	0	0	Failure to disclose price sensitive information to the market.	S	LSE

Notes to Appendix A

1. The amount of fines and compensations is reported in UK pounds.
2. In some cases the press statements report two figures: the compensation to be paid and the compensation that has already been paid. We sum up both figures.

B. Financial Services Authority Listing Rules Class Tests

Class tests

1G This Annex sets out the following *class tests*:

(1) the gross assets test;
(2) the profits test;
(3) the consideration test; and
(4) the gross capital test.

The Gross Assets test

2R (1) The assets test is calculated by dividing the gross assets the subject of the transaction by the gross assets of the *listed company*.

(2) The gross assets of the *listed company* means the total non-current assets, plus the total current assets, of the *listed company*.

(3) For:

(a) an acquisition of an interest in an undertaking which will result in consolidation of the assets of that undertaking in the accounts of the listed company; or

(b) a disposal of an interest in an undertaking which will result in the assets of that undertaking no longer being consolidated in the accounts of the *listed company*;

the gross assets the subject of the transaction means the value of 100% of that undertakings assets irrespective of what interest is acquired or disposed of.

(4) For an acquisition or disposal of an interest in an undertaking which does not fall within paragraph (3), the gross assets the subject of the transaction means:

(a) for an acquisition, the consideration together with liabilities assumed (if any); and

(b) for a disposal, the assets attributed to that interest in the listed company's accounts.

(5) If there is an acquisition of assets other than an interest in an undertaking, the assets the subject of the transaction means the consideration or, if greater, the book value of those assets as they will be included in the *listed company's* balance sheet.

(6) If there is a disposal of assets other than an interest in an undertaking, the assets the subject of the transaction means the book value of the assets in the *listed company's* balance sheet.

3G The *FSA* may modify paragraph 2R to require, when calculating the assets the subject of the transaction, the inclusion of further amounts if contingent assets or arrangements referred to in LR 10.2.4 R (indemnities and similar arrangements) are involved.

The Profits test

4R (1) The profits test is calculated by dividing the profits attributable to the assets the subject of the transaction by the profits of the *listed company*.

(2) For the purposes of paragraph (1), profits means:

(a) profits after deducting all charges except taxation; and

(b) for an acquisition or disposal of an interest in an undertaking referred to in paragraph 2R (3)(a) or (b) of this Annex, 100% of the profits of the undertaking (irrespective of what interest is acquired or disposed of).

The Consideration test

5R (1) The consideration test is calculated by taking the consideration for the transaction as a percentage of the aggregate market value of all the ordinary shares (excluding *treasury shares*) of the *listed company*.

(2) For the purposes of paragraph (1):

(a) the consideration is the amount paid to the contracting party;

(b) if all or part of the consideration is in the form of *securities* to be traded on a market, the consideration attributable to those *securities* is the aggregate market value of those *securities*; and

(c) if deferred consideration is or may be payable or receivable by the *listed* company in the future, the consideration is the maximum total consideration payable or receivable under the agreement.

(3) If the total consideration is not subject to any maximum (and the other class tests

indicate the transaction to be a *class 2 transaction*) the transaction is to be treated as a *class 1 transaction*.

(3A) If the total consideration is not subject to any maximum (and the other class tests indicate the transaction to be a *class 3 transaction*) the transaction is to be treated as a *class 2 transaction*.

(4) For the purposes of sub-paragraph (2)(b), the figures used to determine consideration consisting of:

(a) *securities* of a *class* already *listed*, must be the aggregate market value of all those *securities* on the last *business day* before the announcement; and

(b) a new *class* of *securities* for which an application for *listing* will be made, must be the expected aggregate market value of all those *securities*.

(5) For the purposes of paragraph (1), the figure used to determine market capitalisation is the aggregate market value of all the ordinary *shares* (excluding *treasury shares*) of the *listed company* at the close of business on the last *business day* before the announcement.

6G The *FSA* may modify paragraph 5R to require the inclusion of further amounts in the calculation of the consideration. For example, if the purchaser agrees to discharge any liabilities, including the repayment of inter-company or third party debt, whether actual or contingent, as part of the terms of the transaction.

The Gross Capital test

7R (1) The gross capital test is calculated by dividing the gross capital of the company or business being acquired by the gross capital of the *listed company*.

(2) The test in paragraph (1) is only to be applied for an acquisition of a *company* or business.

(3) For the purposes of paragraph (1), the gross capital of the *company* or business being acquired means the aggregate of:

(a) the consideration (as calculated under paragraph 5R of this Annex);

(b) if a *company*, any of its *shares* and *debt securities* which are not being acquired;

(c) all other liabilities (other than current liabilities) including for this purpose minority interests and deferred taxation; and

(d) any excess of current liabilities over current assets.

(4) For the purposes of paragraph (1), the gross capital of the *listed company* means the aggregate of:

(a) the market value of its *shares* (excluding *treasury shares*) and the issue amount of the *debt security*;

(b) all other liabilities (other than current liabilities) including for this purpose minority interests and deferred taxation; and

(c) any excess of current liabilities over current assets.

(5) For the purposes of paragraph (1):

(a) figures used must be, for *shares* and *debt security* aggregated for the purposes of the gross capital percentage ratio, the aggregate market value of all those *shares* (or if not available before the announcement, their nominal value) and the issue amount of the *debt security*; and

(b) For *shares* and *debt security* aggregated for the purposes of paragraph (3)(b), any *treasury shares* held by the *company* are not to be taken into account.

Figures used to classify assets and profits

8R (1) For the purposes of calculating the tests in this Annex, except as otherwise stated in paragraphs (2) to (6), figures used to classify assets and profits, must be the figures shown in the latest published audited consolidated accounts or, if a *listed company* has, or will have, published a preliminary statement of later annual results at the time the terms of a transaction are agreed, the figures shown in that preliminary statement.

(2) If a balance sheet has been published in a subsequently published interim statement then gross assets and gross capital 2should be taken from the balance sheet published in the interim statement.

(3) (a) The figures of the *listed company* must be adjusted to take account of subsequent transactions which have been notified to a *RIS* under LR 10.4 or LR 10.5.

(b) The figures of the target company or business must be adjusted to take account of subsequent transactions which would have been a *class 2 transaction* or greater when classified against the target as a whole.

(4) Figures on which the auditors are unable to report without modification must be disregarded.

(5) When applying the *percentage ratios* to an acquisition by a *company* whose assets consist wholly or predominantly of cash or short-dated *securities*, the cash and short-dated *securities* must be excluded in calculating its assets and market capitalisation.

(6) The principles in this paragraph also apply (to the extent relevant) to calculating the assets and profits of the target company or business.

9G The *FSA* may modify paragraph 8R(4) in appropriate cases to permit figures to be taken into account.

Anomalous results

10G

If a calculation under any of the *class tests* produces an anomalous result or if a calculation is inappropriate to the activities of the *listed company*, the *FSA* may modify the relevant *rule* to substitute other relevant indicators of size, including industry specific tests.