

# DISCUSSION PAPER SERIES

No. 8058

## REGULATORY SANCTIONS AND REPUTATIONAL DAMAGE IN FINANCIAL MARKETS

John Armour, Colin Mayer and Andrea Polo

*FINANCIAL ECONOMICS*



**Centre for Economic Policy Research**

[www.cepr.org](http://www.cepr.org)

Available online at:

[www.cepr.org/pubs/dps/DP8058.asp](http://www.cepr.org/pubs/dps/DP8058.asp)

# REGULATORY SANCTIONS AND REPUTATIONAL DAMAGE IN FINANCIAL MARKETS

John Armour, Faculty of Law, University of Oxford and ECGI  
Colin Mayer, Saïd Business School, University of Oxford, ECGI and CEPR  
Andrea Polo, Saïd Business School, University of Oxford

Discussion Paper No. 8058  
October 2010

Centre for Economic Policy Research  
53–56 Gt Sutton St, London EC1V 0DG, UK  
Tel: (44 20) 7183 8801, Fax: (44 20) 7183 8820  
Email: [cepr@cepr.org](mailto:cepr@cepr.org), Website: [www.cepr.org](http://www.cepr.org)

This Discussion Paper is issued under the auspices of the Centre's research programme in **FINANCIAL ECONOMICS**. Any opinions expressed here are those of the author(s) and not those of the Centre for Economic Policy Research. Research disseminated by CEPR may include views on policy, but the Centre itself takes no institutional policy positions.

The Centre for Economic Policy Research was established in 1983 as an educational charity, to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions.

These Discussion Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

Copyright: John Armour, Colin Mayer and Andrea Polo

CEPR Discussion Paper No. 8058

October 2010

## ABSTRACT

### 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 Services Authority and London Stock Exchange on the market price of penalized firms. Since these agencies do not announce enforcement until a penalty is levied, their actions provide a uniquely clean dataset on which to examine reputational effects. We find that reputational sanctions are very real: their stock price impact is on average ten 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). The announcement of a fine for wrongdoing that harms third parties has, if anything, a weakly positive effect on stock prices. Our results have significant implications for understanding both corporate reputation and regulatory policy.

JEL Classification: G28, G38, K22, K42 and L51

Keywords: corporate law, enforcement, regulation, reputation

John Armour  
Faculty of Law  
University of Oxford  
Oriental College,  
Oxford OX1 4EW  
UNITED KINGDOM

Colin Mayer  
Saïd Business School  
University of Oxford  
Park End Street  
Oxford OX1 1HP  
UNITED KINGDOM

Email: [john.armour@law.ox.ac.uk](mailto:john.armour@law.ox.ac.uk)

Email: [colin.mayer@sbs.ox.ac.uk](mailto:colin.mayer@sbs.ox.ac.uk)

For further Discussion Papers by this author see:  
[www.cepr.org/pubs/new-dps/dplist.asp?authorid=172720](http://www.cepr.org/pubs/new-dps/dplist.asp?authorid=172720)

For further Discussion Papers by this author see:  
[www.cepr.org/pubs/new-dps/dplist.asp?authorid=110156](http://www.cepr.org/pubs/new-dps/dplist.asp?authorid=110156)

Andrea Polo  
Said Business School  
University of Oxford  
Park End Street  
Oxford OX1 1HP  
UNITED KINGDOM

Email: [andrea.polo@sbs.ox.ac.uk](mailto:andrea.polo@sbs.ox.ac.uk)

For further Discussion Papers by this author see:

[www.cepr.org/pubs/new-dps/dplist.asp?authorid=172721](http://www.cepr.org/pubs/new-dps/dplist.asp?authorid=172721)

\* Please do not cite without authors' permission. We gratefully acknowledge financial support from the Oxford Centre for Corporate Reputation. We thank Sara George, Jeff Gordon, Meziane Lasfer and participants in a Law and Finance roundtable and workshop at Oxford University for helpful comments..

Submitted 10 October 2010

*'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.

## **1. Introduction**

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 greater willingness to employ them. However, this paper 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 paper 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 paper, 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 efficacy. 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 the 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 paper, 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 ten 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. Our results have significant implications for understanding both the determinants of corporate reputations and regulatory policy.

The rest of this paper is structured as follows. Section 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 3 outlines the institutional framework of enforcement in the UK, and formulates hypotheses. In Section 4, we describe our data and methodology. Section 5 presents the results and conclusions, and implications are discussed in Section 6.

## **2. Theory and Prior Literature**

### *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). 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 Securities 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 to 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.

### *2.3 Deterrence, compensation, and reputation*

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

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

must be satisfied (Becker, 1968), where  $D$  is size of financial penalty and  $p$  ( $0 < p < 1$ ) is the probability of enforcement. 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, through either the amount spent on detection and enforcement ( $p$ ) or the size of the penalty ( $D$ ). In reality, budget constraints for regulators mean that  $p$  is often quite small. Moreover, there may be constitutional 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:

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

This means 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  $D$ .

In order to calibrate the imposition of sanctions effectively, it is therefore crucial that regulators understand the relationship between  $D$  and  $R$ . A positive correlation is most straightforward: regulators can use the reputational sanction as a boost to the efficacy of financial or other penalties. However, where  $R$  is very large relative to  $D$ , there is a risk that over-deterrence may occur—that is, firms devote too much to the avoidance of wrongs even where the cost of avoidance is greater than the social cost of the wrong. In this case, reputational sanctions are a two-edged sword: they increase both the upper and the lower bound of sanction efficacy, meaning that for wrongs with a low social cost, non-enforcement might be optimal.

A positive correlation between  $D$  and  $R$  implies that the market uses the regulator's calibration of  $D$  as a signal of the seriousness of the wrong. However, if the market's assessment differs from that of the regulator—then  $R$  may be uncorrelated, or even negatively correlated, with  $D$ . A negative correlation might exist where, for example, the wrongdoing harms only third parties and in fact benefits the firm's customers and investors. It implies that regulators should set  $pD$  above the social cost of the harm.

The presence of reputational sanctions may also have implications for the design of capital requirements for financial firms. Whilst capital adequacy regulation is

primarily aimed at the mitigation of systemic risk, subsidiary goals include 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, they do not represent a transfer of resources but a destruction of value. Post-event solvency,  $V_a > 0$ , where  $V_a$  is the post-event equity market value of the firm, requires that compensation ( $C$ ) together with the combined regulatory and reputational penalties ( $D + R$ ) cannot exceed the pre-event equity market value of the firm ( $V_b$ ), i.e.  $V_b > C + D + R$  and  $C < V_b - D - R$ . Conventional measures of capital are therefore neither necessary (if the inequality holds) nor sufficient (if it does not) to ensure that compensation can be paid. Consequently there may be 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 seeking to protect customers and investors: the more adverse the likely market reaction to the revelation of failure, the less will remain in the pot to compensate them. 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:

- 1 How large is  $R$  relative to  $D$ ?

- 2 How predictable is the relation between  $R$  and  $D$  and what are the factors that influence the relation?
- 3 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 loss enhances regulatory enforcement if it is large and predictable relative to  $D$  but not so large as to threaten solvency. On the other hand, regulators will 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 paper attempts to address these empirical questions and consider their implications for regulatory policy.

#### *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 above suggests that there are a number of properties that an 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.

In contrast to previous studies, we believe that the analysis reported in this paper satisfies these three conditions and therefore provides a more robust evaluation of reputational loss than has been available to date.<sup>1</sup> We now turn to a description of our analysis.

### **3. Institutional Structure and Hypotheses**

#### *3.1 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.<sup>2</sup> The

---

<sup>1</sup> 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).

<sup>2</sup> From 2012, the FSA will be split into two separate agencies, the Prudential Regulation Authority and the Consumer Protection and Markets Authority: see <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100617/debtext/100617-0010.htm>

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 in mind: maintaining market confidence; consumer protection; promoting public awareness of the financial system; and the reduction of financial crime.<sup>3</sup>

The FSA has very wide enforcement powers, including the ability to pursue both civil and criminal sanctions against wrongdoers.<sup>4</sup> 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.<sup>5</sup> The FSA also has power simply to issue a public censure, without any formal penalty.<sup>6</sup> However, it prefers where possible<sup>6</sup> 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 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 the question of whether too little effort is applied to punishing (and thereby deterring) wrongdoers. However, the FSA's

---

<sup>3</sup> FSMA 2000 ss 3-6.

<sup>4</sup> 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).

<sup>5</sup> FSMA 2000 ss 56, 63.

<sup>6</sup> FSMA 2000 ss 66, 87M, 89, 89K.

enforcement strategy may make more sense in the presence of high reputational sanctions, if these are uncorrelated with the size of fines levied.<sup>7</sup>

[Figure 1 about here]

Where enforcement action is taken, this begins with an investigation. If the results of this suggest that misconduct has occurred, the FSA must decide what action to take and send a ‘warning notice’ to the firm in question. This must set out details of what the FSA proposes to do and the reasons for this.<sup>8</sup> The firm then has an opportunity to respond to and address the issues raised by the FSA. If the regulator is unsatisfied with the response, it will issue a ‘final notice’ giving details of any penalty or order.

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,<sup>9</sup> and even then only to release information in such a way as is ‘fair’ to the party who has been investigated. This sensitivity is expressly based on a concern not to injure parties’ reputations unnecessarily. 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.

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. This is

---

<sup>7</sup> See the discussion in section 2.3, above.

<sup>8</sup> FSMA 2000 s 387.

<sup>9</sup> FSMA 2000 s 391. See also s 348 (prohibition on release of confidential information).

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.

### *3.2 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’). 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 of the rules.<sup>10</sup> 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).

### *3.3 Formulation of hypotheses*

A popular perception—as illustrated by the quotation from *The Times* at the start of this paper—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: *Market reaction.* Enforcement by the FSA or LSE is non-trivial, such that its announcement has a negative effect on the stock price of the defendant firm.

---

<sup>10</sup>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 reputational losses are triggered by the firm's trading partners revising their expectations downwards as to the firm's future performance following the announcement of its misbehavior. How far, though, should they be revised? On one view, penalties imposed by the regulator can convey information to the market as to the egregiousness of the misconduct. For this to be the case, the regulator should be able to assess the likely impact of the wrongdoing better than the market itself. As the FSA has access to detailed private information in forming its assessment of what happened, this is not an implausible suggestion.

H4: *Penalty signal*. If the size of the fine is an indication to the market of the egregiousness of the wrongdoing<sup>11</sup>, any abnormal returns should be positively correlated with the size of fine imposed.

A further corollary of the theory of reputation outlined above is that to some degree, the market will always already price in expectations about likely misconduct. Consequently, the reputational loss on announcement will reflect only that part that was unexpected. The extent to which this is the case may be expected to vary with the degree of analyst coverage of the firm's activities: the more coverage, the more information is already available to the market and the lower the likely informational value of the enforcement announcement. Firm size may be a good proxy for analyst coverage.

H5: *Informational value*. Any reputational losses may be expected to be proportionately higher for smaller firms, as the market has less information already available to it about these firms.

The theory of reputation asserts that firms build brand names for themselves. This raises the interesting question of the *scope* of any reputational sanction: to what extent may a firm deflect adverse reaction to misconduct through the use of subsidiaries trading under different names? That is, do reputational losses simply track the identity of the brand name, or do they follow the identity of the controlling firm? If reputation simply tracks brand identity, the following hypothesis would hold:

H6: *Brand identity*. If reputation tracks brand identity alone, parent companies should suffer smaller reputational losses if the wrongs in question are committed by a subsidiary trading under a different name.

---

<sup>11</sup> 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.

However, sophisticated market participants may see through this thereby affecting the reputation of parents as well as wholly-owned subsidiaries, even where they trade under different names.

The financial crisis from mid-2008 onwards may have had an effect on the size of reputational losses. There are two possibly opposing directions in which this could have operated. On the one hand, the crisis may be expected to increase the significance of enforcement, and consequently the stock market response to it. On the other hand, an increase in the frequency of enforcement may indicate that more marginal cases are now being brought into the public arena, thereby diminishing the value of their signal.

Another possible explanation of a market sanction exceeding the value of any mandated payments may be due to the loss of profits on the prohibited activity (Karpoff and Lott, 1993). Consequently, we formulate a final hypothesis:

H7: *Profits forgone*. Abnormal losses associated with the publication of financial notices should be positively correlated with the profitability to the firm of the prohibited conduct.

## **4. Data and Methodology**

### *4.1 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 - April 2010. 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 73 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 wrongdoing or about the investigation leaked into the market before the regulator's press statement. To identify these, for each of the 73 cases, we check FACTIVE to see whether in the two years before the event, there were any

press reports about the cases. In most we find nothing, indicating that the regulator's press statement is unexpected. 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; and (iii) where the FSA decides to make an investigation public, because, for instance, they think that this will bring forward witnesses. In total we find 14 such cases where the information was already out before the regulator's press statement. We drop these from the sample.<sup>12</sup>

Secondly, we filter out 9 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 2 cases for which there has been a change of ownership in the investigation period and 2 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 clean dataset of 46 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, 43 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 1.

---

<sup>12</sup> For these cases, the day of the regulator's announcement is characterized by a positive abnormal share price reaction of 2%, although this is not statistically significant. This implies that the share price has already impounded the information, and the press statement about the regulator's decision resolves uncertainty about the outcome.

[Table 1 about here]

#### 4.2 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 (30) or against a third party (16). 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.<sup>13</sup>

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.

#### 4.3 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<sup>14</sup>. The abnormal return for firm  $i$  at time  $t$  is defined as

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

---

<sup>13</sup> 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).

<sup>14</sup> 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, 2007).

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  $\alpha_i$  and  $\beta_i$  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

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

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

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

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.

## 5. Results

### 5.1. Effect on market valuation

Panel A of Table 2 shows the average cumulative abnormal returns in the event windows (0), (0,1), (-1,1) and the associated t-statistics. We find that press statements by the FSA and the LSE about corporate misconduct result in statistically significant losses in shareholder wealth. In particular, the 3-day average cumulative abnormal return is -1.48% and statistically significant (t-statistic of -1.90). 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.<sup>15</sup> This is consistent with H1 (market reaction). Consequently we reject the null hypothesis that FSA enforcement is trivial.

[Table 2 about here]

The reported abnormal share price reaction of -1.48% is an average of the effect of all press statements in our sample. By decomposing the sample into cases of 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 and Figure 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 -2.55% share price reaction that is strongly statistically significant (the t-statistic is -2.34), third party wrongs are in fact characterized by a *positive* stock price reaction of 0.69%, although this is not statistically significant.

[Figure 2 about here]

In Figure 3 we enlarge the event window to -10 days, + 10 days and plot the CARs for the two subgroups of press statements. From this picture we can confirm that the above results show that there is no evidence of leakage of information before day -1 and that the negative share price reaction for the customers/investors subgroup is not reversed in the subsequent ten days.

---

<sup>15</sup> These results are robust to dropping outliers instead of winsorizing and to using a different benchmark model of normal returns (market model with  $\alpha=0$  and  $\beta=1$ ). Non parametric test statistics yield the same inferences as Panel A of Table 2. For example, the Wilcoxon signed-rank statistic for the window (-1,1) is -2.84.

[Figure 3 about here]

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.

### 5.2. *Measuring reputational loss*

To measure reputational losses, we follow the “residual approach” used by Jarrell 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) required by the regulator.<sup>16</sup>

$$\text{Reputational loss} = \Delta V_t - \text{Fine} - \text{Compensation} \quad (4)$$

As noted in section 3.1, there are two significant methodological advantages to studying data on FSA and LSE enforcement, as compared to the prior literature. First,  $\Delta V_t$  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.

---

<sup>16</sup> 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.



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 3 reports that the average fine for the entire sample is 0.13% 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 (0.17%) than for wrongs against the customers and/or investors subgroup (0.11%). The amount of compensation is zero for the former subgroup and 0.15% for the latter. The overall average compensation amounts to 0.09% of firm value. It seems clear that differences in financial payments do not explain the differences in market reaction as between our two subgroups of wrongs.

[Table 3 about here]

In Panel B of Table 3, 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 (-1.26%).<sup>17</sup> 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 is -2.29% of market value, and is strongly statistically significant.<sup>18</sup> For wrongs to third parties, the reputational effect is in fact positive (0.87%), although it is not statistically significant. Figure 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.

[Figure 4 about here]

---

<sup>17</sup> Non parametric test statistics confirm this result: the Wilcoxon signed-rank statistic is -1.83, statistically significant at 10%.

<sup>18</sup> Non parametric tests yield the same inference: the Wilcoxon signed-rank test statistic is -3.14, significant at 1%.

### 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 (4).<sup>19</sup> Table 4 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.

[Table 4 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 fine may act as a signal to the market of the seriousness of the wrong. To test this, we include *fine*, which is the amount of the fine as a percentage of firm value.<sup>20</sup> To test for size effects of reputational sanctions (H5), we introduce *market size*, defined as the log of market value of common equity before the press statement. To test H6, which posits that reputational sanctions will affect only the brand name of the entity that commits the wrong, we create a dummy variable *subsidiary with a different name*, which is equal to 1 if the company that is the subject of the press statement has a different name from the listed holding company.

---

<sup>19</sup> The dependent variable is set to zero where reputational sanctions are positive to avoid treating these cases as reputation enhancing events. Consequently, we run Tobit regressions setting the lower limit equal to zero. 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. Very similar results are obtained where OLS regressions are run instead with positive as well as negative reputational sanctions.

<sup>20</sup> The introduction of the variable *fine* as a regressor could raise an issue of endogeneity if the FSA and the LSE take into consideration the potential market impact of penalties they levy. However, we have found no reference to concerns of reputational damage in the regulatory handbooks of the FSA (Enforcement Guide and the Decision Procedure and Penalties Manual) when discussing the determination of the level of financial penalty. According to the FSA's literature, the level of penalty is determined according to the following principles: a) removal of financial benefit, b) reflecting the seriousness of the breach, c) upward adjustments to assure the penalty has an appropriate deterrent effect, d) other potential mitigating factors (for instance, cooperation).

As we anticipate that the financial crisis could affect the size of reputational sanctions, we introduce 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.<sup>21</sup>

Having added these additional regressors, the coefficient of *customers/investors* is smaller but still highly statistically significant. Neither of the variables *fine* nor *subsidiary with a different name* have statistically significant coefficients. This implies that the size of the fine does not serve as a signal of the seriousness of the reputational consequences of a wrong (H4), and that sophisticated investors are able to associate the actions of the subsidiary with the controlling parent company even if they have different names (H6). We consequently reject both of these hypotheses.

On the other hand, reputational sanctions are negatively and statistically significantly associated with *market size* (H5): the bigger is the company the smaller is the reputational sanction as a proportion of size. This is consistent with the prediction that firms that are larger have greater analyst coverage, and consequently the informational value to the market of an announcement by the regulator is proportionately smaller.<sup>22</sup>

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.<sup>23</sup>

#### 5.4. Reputational loss or profits forgone?

---

<sup>21</sup> The small sample size means it is not possible to introduce industry fixed effects at a higher level of granularity.

<sup>22</sup> 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.

<sup>23</sup> The results are robust to dropping outliers instead of winsorizing the cumulative abnormal returns. The post-crisis effect is closely associated with the three cases of the AIM listed firms.

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, 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 activity in question (H7).

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 the harm is done against second or third parties. .

However, in order to test H7, we perform an additional robustness check. We take the subsample of 30 cases of misconduct against customers/investors, which is responsible for the negative market reaction in the entire sample, and further subdivide it into two sub-groups. In the first of these, we include cases where the unlawful activity was “clearly profit enhancing” (that is, impacting the cash flow of the company)—for instance, mis-selling of products or misleading advertisements (17 cases). In the second group, we include cases in which the misconduct was not “clearly profit enhancing”; 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 (13 cases).

If some or all of the market loss was due to forgone profits from perpetuating 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 5.3 on the subsample of cases of misconduct against customers/investors (30 cases), introducing a dummy variable, *clearly profit enhancing*. We retain the control variables which had explanatory power in the prior specifications. The results reported in Table 5 show that this newly created dummy variable does not significantly enter the regression in the two different specifications.

[Table 5 about here]

We therefore reject H7 in our data: the results do not appear to be driven by profits forgone from prohibited activities and further support our interpretation of these market losses as reputational sanctions.

## **6. Conclusions and Implications**

In this paper 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 2001-2010.

The approach taken in this paper 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 ten times the financial penalties 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 proportionately greater for small firms; that it has increased in intensity since the

financial crisis of mid-2007; that it is unrelated to the size of financial penalties levied; and that it spills over to the firm's parent.

Our results have significant implications for debates about regulatory policy. In terms of the criteria described in section 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. Whether they are good forms of enforcement is another matter. At approximately 2.5% of market value, they are 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 precision with which regulators can employ them. Around 50% of the cross-sectional variation in share price reactions can be explained in our study by a small number of observable variables. That leaves a considerable amount of unpredictable variation. The fact that share price reactions are unrelated to the size of penalties means that regulators have little influence on the scale of losses incurred by companies. The only decision variable available to them is effectively whether or not to make an investigation public, i.e. to switch on or off the reputational sanction. Reasonably, the FSA responds by restricting enforcement to the most serious cases. However, what we cannot determine is (a) the counterfactual of the reputational losses that would have been incurred in cases where enforcement was not pursued and (b) whether therefore the FSA chooses the optimal level of enforcement.

In view of their scale, this paper points to the need for regulators to have a greater awareness of the reputational consequences of their actions than they have demonstrated to date. This will require them to undertake more extensive analysis of the determinants of the magnitude of the losses than we could do in this paper given the limited sample size available to us, and to give consideration to ways of improving the precision of reputational damages possibly through disclosure of more rather than less information.

The striking divergence in reputational outcomes between trading and third parties illustrates both these points. In one case (trading partners), reputation massively reinforces the penalties imposed by regulators; in the other (third parties) it negates or reverses them. Regulatory penalties that do not recognize these differences will be

seriously excessive in the first case and deficient in the second. The greater the market's and the regulator's understanding of the relation between revelation about past misconduct of firms and their likely future performance, the better will both be at doing their respective jobs.

## References

- Alexander, Cindy R., 1999. On the Nature of the Reputational Penalty for Corporate Crime: Evidence. *Journal of Law & Economics*. 42: 489-526.
- Armour, John, Simon Deakin, Mathias Siems and Ajit Singh, 2009. Shareholder Protection and Stock Market Development: An Empirical Test of the Legal Origins Hypothesis. *Journal of Empirical Legal Studies*. 6: 343-380.
- Armour, John, Bernard S. Black, Brian R. Cheffins and Richard Nolan, 2009. Private Enforcement of Corporate Law: An Empirical Comparison of the United Kingdom and the United States. *Journal of Empirical Legal Studies*. 6: 701-745.
- Bhagat, Sanjai, and Roberta Romano, 2002. Event Studies and the Law Part I: Technique and Corporate Litigation. *American Law and Economics Review*. 4: 141-168.
- Bhattacharya, Sudipto, 1979. Imperfect Information, Dividend Policy, and the “Bird in the Hand” Fallacy. *Bell Journal of Economics*. 10: 259-270.
- Clark, Robert C., 1976. The Soundness of Financial Intermediaries. *Yale Law Journal*. 86: 1-102.
- Coffee, John C., Jr, 2007. Law and the Market: The Impact of Enforcement. *University of Pennsylvania Law Review* 156: 229-311.
- Correia, Luis, Julian Franks and Colin Mayer, 2002. *Asset Management and Investor Protection*. Oxford: Oxford University Press.
- Davies, Paul, 2007. *Davies Review of Issuer Liability: Final Report*. London: HM Treasury.
- Easterbrook, Frank H., 1984. Two Agency-Cost Explanations of Dividends. *American Economic Review*. 74: 650-659.
- Ellickson, Robert C., 1991. *Order Without Law: How Neighbors Settle Disputes*. Cambridge, MA: Harvard University Press.
- Fama, Eugene F., Lawrence Fisher, Michael C. Jensen, and Richard Roll, 1969. The Adjustment of Stock Prices to New Information. *International Economic Review*. 10: 1-21.



- Financial Service Authority, 2010, *Decision Procedures and Penalties Manual (DEPP)*. London:FSA.
- Financial Services Authority, 2009. *The Enforcement Guide*. London: FSA.
- Jackson, Howell E., 2008. Response. The Impact of Enforcement: A Reflection. *University of Pennsylvania Law Review* 156: 400-411.
- Jackson, Howell E., and Mark J. Roe, 2009. Public Enforcement of Securities Laws: Preliminary Evidence. *Journal of Financial Economics* 93: 207-238.
- Jarrell, Gregg, and Sam Peltzman, 1985. The Impact of Product Recalls on the Wealth of Sellers. *Journal of Political Economy*. 93: 512-536.
- Karpoff, Jonathan M., and John R. Lott, Jr., 1993. The Reputational Penalty Firms Bear from Committing Criminal Fraud. *Journal of Law & Economics*. 36: 757-802.
- Karpoff, Jonathan M., and John R. Lott, Jr., 1999. On the Determinants and Importance of Punitive Damage Awards. *Journal of Law & Economics*. 42: 527-573.
- Karpoff, Jonathan M., John R. Lott, Jr., and Eric W. Wehrly, 2005. The Reputational Penalties for Environmental Violations: Empirical Evidence. *Journal of Law & Economics*. 48: 653-675.
- Karpoff, Jonathan M., D. Scott Lee, and Gerald S. Martin, 2008. The Cost to Firms of Cooking the Books. *Journal of Financial and Quantitative Analysis*. 43: 581-611.
- Klein, Benjamin, and Keith B. Laffler, 1981. The Role of Market Forces in Assuring Contractual Performance. *Journal of Political Economy*. 81: 615-641.
- Kothari, S.P., and Jerrold B. Warner, 2007. Econometrics of Event Studies. B. Espen Eckbo, ed., *Handbook of Empirical Corporate Finance* (Amsterdam: Elsevier), Ch 1.
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny, 1997. Legal Determinants of External Finance. *Journal of Finance*. 52: 1131-1150
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert Vishny, 1998. Law and Finance. *Journal of Political Economy*. 106: 1113-55
- La Porta, Rafael, Florencio Lopez-de-Silanes and Andrei Shleifer, 2006. What Works in Securities Laws? *Journal of Finance*. 61: 1-32.
- London Stock Exchange, 2009. *Inside Aim*, Issue 1.

- Mitchell, Mark L., and Michael T. Maloney, 1989. Crisis in the Cockpit? The Role of Market Forces in Promoting Air Travel Safety. *Journal of Law & Economics*. 32: 329-355.
- Murphy, Deborah L., Ronald E. Shrieves, and Samuel L. Tibbs, 2009. Understanding the Penalties Associated with Corporate Misconduct: An Empirical Examination of Earnings and Risk. *Journal of Financial and Quantitative Analysis*. 44: 55-83.
- Peltzman, Sam, 1981. The Effects of FTC Advertising Regulation. *Journal of Law & Economics*. 24: 405-448.
- Shapiro, Carl, 1983. Premiums for High Quality Products as Returns to Reputations. *Quarterly Journal of Economics*. 98: 659-680.
- Shleifer, Andrei, and Robert W. Vishny, 1997. A Survey of Corporate Governance. *Journal of Finance*. 52: 737-783.
- Spamann, Holger, 2009. The “Antidirector Rights Index” Revisited. *Review of Financial Studies*. 23: 467-486.

### Table 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 46 cases.

#### Panel A Wrongs vs. Customers/ Investors

Mis-selling of products	Misleading advertisements	Timing and content of announcements to the market	Other	Total
10	3	7	10	30

#### Panel B Wrongs vs. Third Parties

Compliance with money laundering rules	Market misconduct	Transaction reporting failures	Other	Total
5	2	6	3	16

#### Panel C Descriptive Statistics

	Max	Min	Median	Mean
Market capitalization (£m)	190530.9	1.42	16222.63	23678.3
Financial payment: fine + compensation (% of market cap)	0.0251	0	0.0001	0.0023
Post-crisis			19	
Subsidiary with a different name			14	
FSA			43	
Financial companies			33	

**Table 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.

**Panel A. Total Sample**

Announcement window	Announcement return (%)	t-statistic
(0)	-1.35***	-3.01
(0,1)	-1.12**	-1.77
(-1,1)	-1.48**	-1.90

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

	Total	Customers/ Investors	Third Party
Market reaction (%)	-1.48**	-2.55***	0.69
t statistic	-1.90	-2.34	0.78

\*,\*\* and \*\*\* denote significance at 1, 5 and 10 percent levels, respectively

**Table 3. 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.

**Panel A. The Financial Payment**

	Total	Customers/ Investors	Third party
Fine (%)	-0.13	-0.11	-0.17
Compensation (%)	-0.09	-0.15	0

**Panel B. The Reputational Loss**

	Total	Customers/ Investors	Third party
Market reaction	-1.48**	-2.55***	0.69
Financial payment	-0.22	-0.26	-0.17
Reputational effect	-1.26	-2.29	0.87
Reputational effect t- statistic	-1.62*	-2.10**	0.97

\*,\*\* and \*\*\* denote significance at 1, 5 and 10 percent levels, respectively

**Table 4. Cross-Sectional Determinants of Reputational Losses**

This table reports cross-section Tobit regressions (with robust standard errors) of the reputational losses on a dummy variable of whether the wrongdoing is against second or third parties, the fine as a percentage of market capitalization, the log of market capitalization of the firm before the announcement, whether the firm is a subsidiary with a different name from the listed parent, 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.

Customers/Investors	0.051*** (0.001)	0.021** (0.037)
Fine		-1.79 (0.143)
Market size		-0.006*** (0.001)
Subsidiary with a different name		0.003 (0.769)
Post-crisis		0.021** (0.019)
Industry fixed effects (financial vs. non financial)	No	Yes
Intercept	-0.029** (0.020)	0.046** (0.016)
Sigma	0.025 (0.000)	0.025 (0.000)
No. obs.	46	46
No. right censored	19	19
Log pseudolikelihood	40.42	51.25
F	13.15	10.75
Prob.>F	(0.001)	(0.000)

\*,\*\* and \*\*\* denote significance at .01, .05 and .10 levels, respectively

**Table 5. Do Reputational Losses Reflect Forgone Profits?**

This table reports Tobit cross-section regressions (with robust standard errors) of the reputational losses in the 30 cases of wrongdoings against second parties on a dummy variable which reflects whether the wrongdoing was “clearly profit enhancing” (17 cases), the fine as a percentage of market capitalization, the log of market capitalization of the firm before the announcement, whether the firm is a subsidiary with a different name from the listed parent, 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.

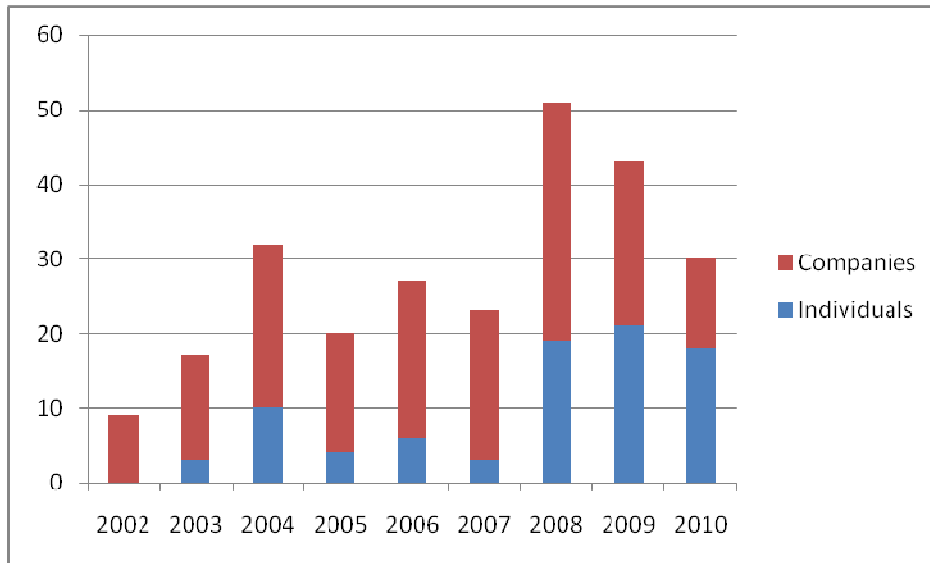
Clearly profit enhancing	-0.013 (0.202)	-0.014 (0.187)
Market size	-0.005*** (0.007)	-0.005** (0.015)
Post-crisis	0.021** (0.028)	0.021** (0.030)
Fine		0.818 (0.794)
Industry fixed effects (financial vs. non financial)	Yes	Yes
Intercept	0.064*** (0.000)	0.061*** (0.000)
Sigma	0.024 (0.000)	0.024 (0.000)
No. obs.	30	30
No. right censored	7	7
Log pseudolikelihood	47.55	47.60
F	7.22	6.14
Prob.>F	(0.001)	(0.001)

\*,\*\* and \*\*\* denote significance at 1, 5 and 10 percent levels, respectively

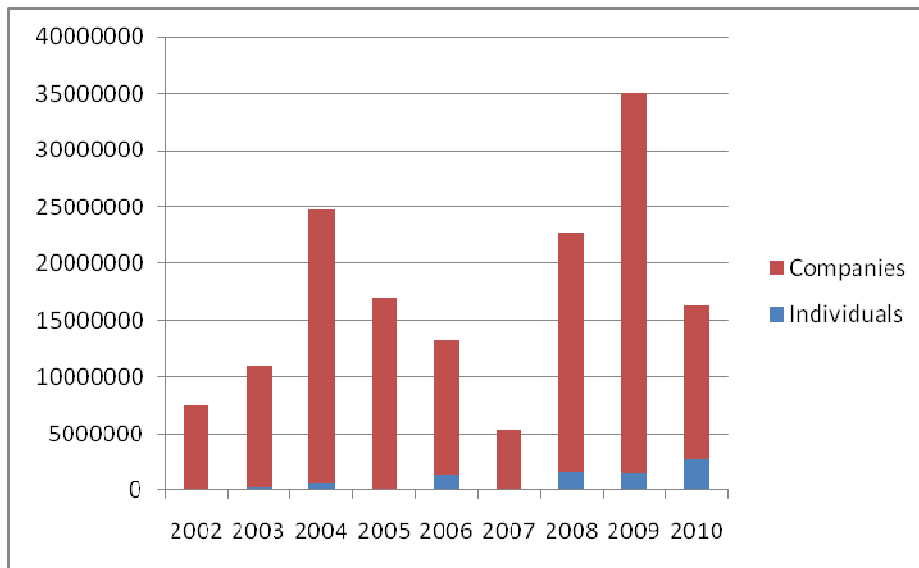
### Figure 1. Enforcement Activity by the FSA

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 April 2010.

#### 1.A Total Number of Fines

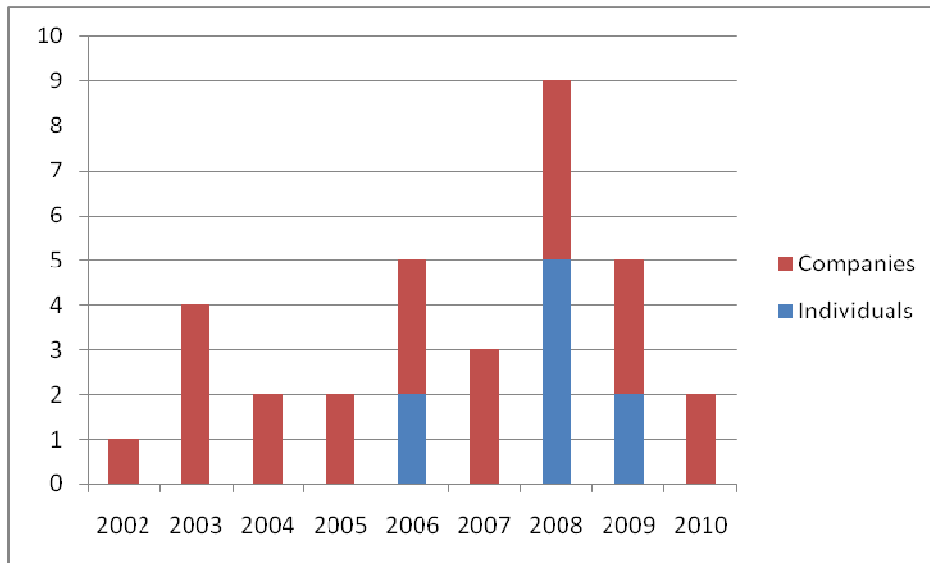


#### 1.B Total Amount of Fines



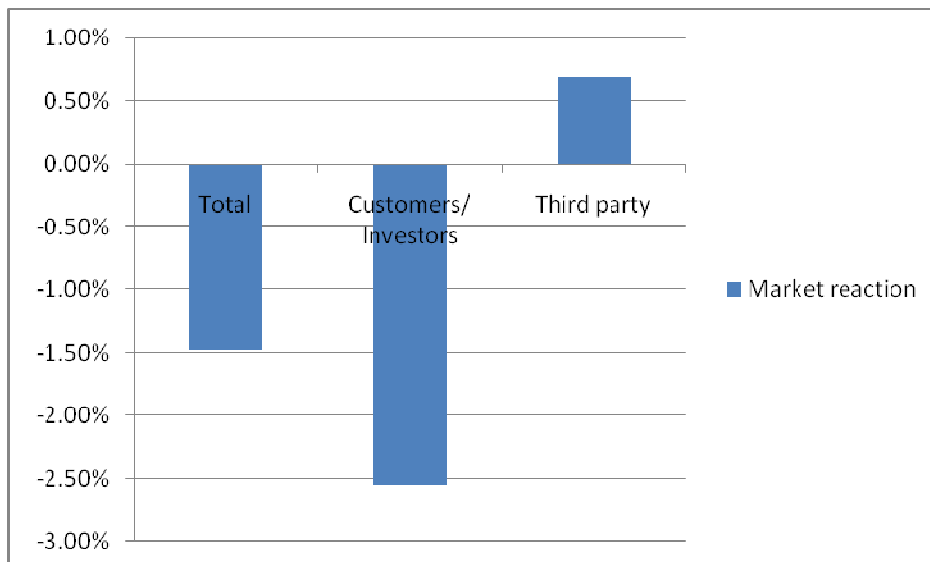


### 1.C Total Number of Cases of Public Criticism



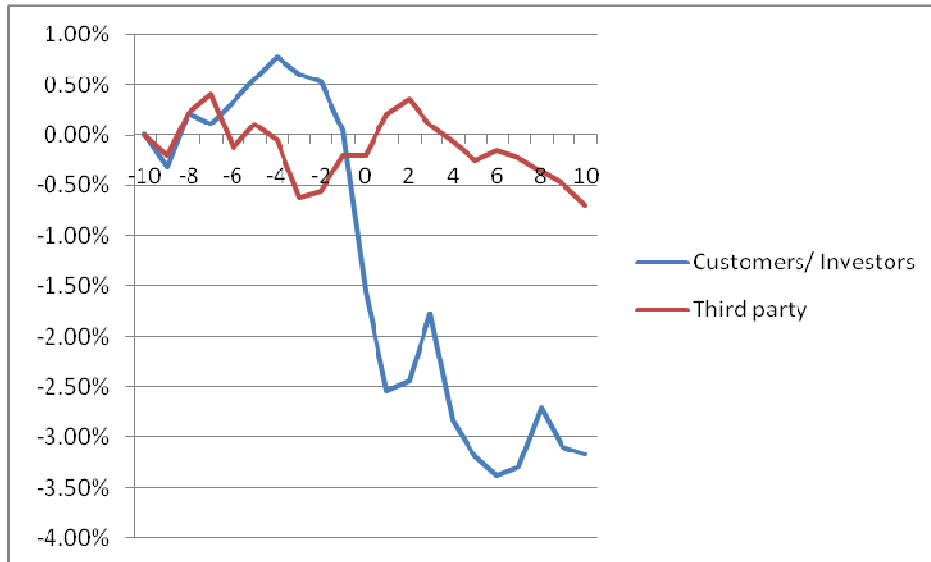
### Figure 2. CARs (-1,1) Around the Press Statement of Misconduct

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.



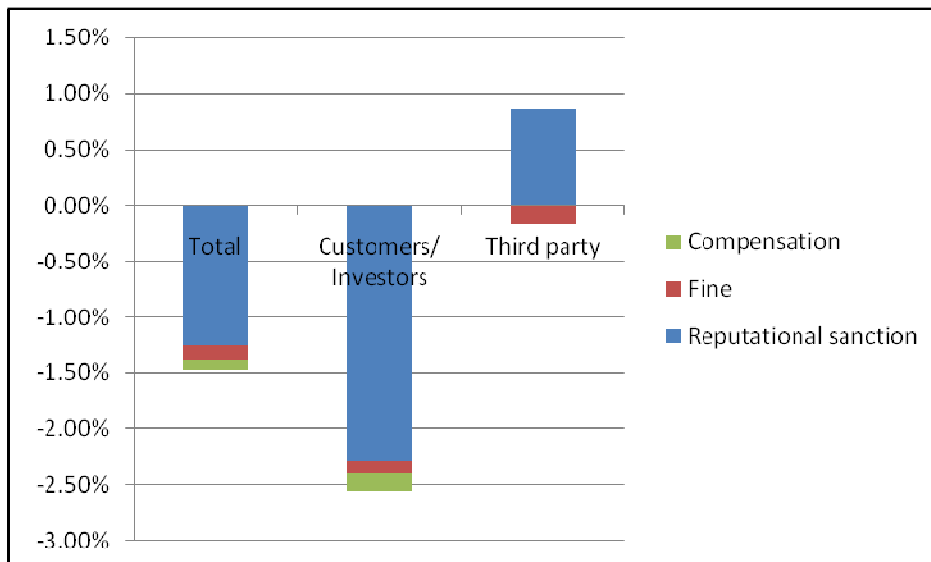
**Figure 3. CARs (-10,10) For the Two Types of Wrongdoings**

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 33, 36 and 37 in the Appendix) have been excluded because of substantial confounding announcements over the same period.



**Figure 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.



## APPENDIX

### Summary of the 46 Press Statements

#	Date	Listed - Holding Company Name	Subsidiary Name	Fine <sup>1</sup>	Total Compensation <sup>2</sup>	Nature of Misconduct	FSA/ AIM
1	25/09/2001	Credit Suisse	Winterthur Life	500000	10000000	Mis-selling of mortgage endowment policies.	FSA
2	10/9/2001	AMP	Pearl Companies	100000	345854	Not carrying out customer orders on a timely basis.	FSA
3	17/12/2002	Royal Bank of Scotland		750000	0	Failure in compliance with money laundering rules.	FSA
4	4/12/2002	Lloyds	Abbey Life Assurance Company Ltd	1000000	140000000	Mis-selling of mortgage endowment policies.	FSA
5	26/4/2002	The Big Food Group plc (formerly Iceland Group plc)		0	0	Failure in keeping the market informed of price sensitive information without delay.	FSA
6	10/12/2003	Abbey National companies		2320000	300000	Failure in compliance with money laundering rules.	FSA
7	26/11/2003	James's Place Wealth Management Group plc		250000	0	Serious monitoring and record keeping inadequacies. These failures exposed investors to the risk of surrendering existing investment contracts and committing money to new investment contracts in circumstances where this may not have been in their interests.	FSA
8	7/8/2003	National Australian Bank	Northern Bank	1250000	0	Failure in compliance with money laundering rules.	FSA
9	23/4/2003	ABN Amro	ABN Amro Equities Ltd	900000	0	Market misconduct. Traders accepted improper instructions whose purpose was to push the closing market price of certain shares to a higher level than would otherwise have been the case.	FSA
10	27/3/2003	Royal and Sun Alliance Group		950000	16600000	Mis-selling of mortgage endowment policies	FSA
11	6/3/2003	Prudential	Scottish Amicable	750000	11000000	Mis-selling of mortgage endowment policies	FSA

12	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.	FSA
13	22/12/2004	Bradford & Bingley plc		650000	6000000	Mis-selling of precipice and with-profit bonds.	FSA
14	21/12/2004	AXA	AXA Sun Life	500000	0	Misleading advertisements.	FSA
15	20/10/2004	Capita Group	Capita Trust Company Limited	300000	3500000	Mis-selling of precipice bonds.	FSA
16	2/9/2004	Bank of Ireland		375000	0	Failure in compliance with money laundering rules.	FSA
17	19/5/2004	Universal Salvage Plc		90000	0	Delay in revealing relevant information to the market.	FSA
18	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.	FSA
19	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.	FSA
20	15/1/2004	HBOS	Bank of Scotland	1250000	0	Failure in compliance with money laundering rules.	FSA
21	14/12/2005	HSBC Bank Plc		100000	0	Transaction reporting failures.	FSA
22	17/11/2005	UBS AG		100000	0	Transaction reporting failures.	FSA
23	13/1/2005	Hemscott	Hemscott Investment Analysis Limited	50000	0	Misleading financial promotions	FSA
24	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	FSA

							diligence.	
25	7/8/2006	Merrill Lynch International		150000	0		Transaction reporting failures.	FSA
26	11/4/2006	Deutsche Bank AG		6363643	0		Market misconduct in running book building transactions.	FSA
27	16/3/2006	Capita Group	Capita Financial Administrators Limited	300000	0		Poor anti-fraud controls over client identities and accounts.	FSA
28	17/12/2007	AVIVA	Norwich Union Life	1260000	0		Not having effective systems and controls in place to protect consumers' confidential information.	FSA
29	16/11/2007	Toronto Dominion Bank		490000	0		Systems and controls failures in relation to one of its trading books.	FSA
30	25/9/2008	General Electrics	GE Money Home Lending	1120000	7040000		Systems and controls failures that resulted in 684 borrowers with a regulated mortgage contract suffering financial loss.	FSA
31	12/6/2008	Woolworths Group plc		350000	0		Failure to disclose information to the market in a timely manner.	FSA
32	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 customers in relation to the sale of subprime mortgages was suitable.	FSA
33	12/5/2008	Land of Leather		210000	0		Ineffective monitoring or training in place to ensure that the insurance was being sold fairly.	FSA
34	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.	FSA
35	5/11/2009	UBS AG		8000000	42000000		Systems and controls failures that enabled four employees to carry out unauthorized transactions involving customer money.	FSA
36	8/9/2009	Barclays	Barclays Capital Securities Ltd and Barclays Bank PLC	2450000	0		Transaction reporting failures.	FSA

37	20/1/2009	Wolfson Microelectronics plc		140000	0	Delay in revealing relevant information to the market.	FSA
38	8/1/2009	Aon Ltd		5250000	0	Conducting business overseas without having in place appropriate anti-bribery and corruption systems and controls.	FSA
39	24/11/2009	Nomura International Plc		1750000	0	Widespread systems and controls failures around book marking.	FSA
40	17/12/2009	Toronto Dominion Bank		7000000	0	Systems and controls failures in relation to one of its trading books.	FSA
41	20/1/2010	Standard Life Plc	Standard Life Assurance Limited (SLAL)	2450000	0	Misleading marketing material.	FSA
42	8/4/2010	Credit Suisse		1750000	0	Transaction reporting failures.	FSA
43	8/4/2010	Nomura Holdings	Instinet Europe Limited	1050000	0	Transaction reporting failures.	FSA
44	23/11/2009	Environmental Recycling Technologies		0	0	Failure to keep the market properly informed of price sensitive information.	AIM
45	19/6/2008	Meridian Petroleum plc		75000	0	Failure to disclose price sensitive information to the market.	AIM
46	1/2/2008	Subsea Resources PLC		0	0	Failure to disclose price sensitive information to the market.	AIM

#### Notes to Appendix

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.