

Naming and Shaming: Evidence from Event Studies

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Abstract

A firm's 'reputation' reflects the expectations of its partners of the benefits of trading with it in the future. An announcement by a regulator that a firm has engaged in misconduct may be expected to impact negatively on trading parties' (i.e. consumers or investors) expectations for a firm's future performance, and hence on its market value. How can we identify reputational losses from share price reactions? How large are these losses for different type of misconducts? The chapter seeks to answer the above questions in the light of recent empirical evidence and draws implications for regulatory enforcement policy.

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1. Introduction

An important function of financial regulators 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. Indeed, Dyck, Morse and Zingales (2014) estimate the probability of a company engaging in fraud in any given year to be as high as 14.5%. The imposition of penalties for misconduct is an important weapon in the armoury available to regulators, which, following the financial crisis, they have shown a greater willingness to deploy. However, this chapter suggests that such penalties are only one, and actually a surprisingly small, component of the overall sanctions following regulatory enforcement. There is another, far more potent, consequence.

A firm's reputation reflects the expectations that its partners have of the benefits of trading with it in the future. In general this is difficult to measure, but the release of new information provides an opportunity to do so. Following a firm's 'naming' as a wrongdoer by a regulator, it may suffer 'shaming' in terms of lost reputation.

It is important to understand the role of 'reputational sanctions' in regulating corporate enterprise and the degree to which they 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, 2008). Whilst there is agreement that accurate indexing of the efficacy of legal institutions requires account to be taken of enforcement, no consensus has emerged 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 (Coffee 2007) omits deterrent effects of reputational penalties.

Karpoff (2012) surveys a growing empirical literature on reputational sanctions which shows that such sanctions are large when a regulator reveals misconduct against customers or investors—types of trading partner—but are negligible when the misconduct is against a third party, with whom the firm does not trade. This literature, based on event studies, suffers from some methodological weaknesses. As Karpoff et al. (2017) note, the precision

of existing tests is seriously compromised by problems of identifying an ‘event’. They are based on data from the US, where financial misconduct investigations typically involve a sequence of public announcements that stretch over several years. This means that these data suffer from confounding multiple events, which make it hard to distinguish reputational from other losses. .

This chapter describes the results of previous studies, discusses the event study methodology and underlines the empirical challenges. We then present the evidence from one unique study that meet all necessary conditions for identification of reputational sanctions from event studies (Armour et al. 2017). This paper focuses on the UK, where in contrast to the US, during the period of this study, regulators only made public announcements at the successful *completion* of an enforcement process. The Financial Services Authority (‘FSA’) and the London Stock Exchange (‘LSE’) investigated firms for possible violations of financial regulation and listing rules but only made their investigations public once misconduct had been established and a fine and/or order to pay compensation had been imposed. This made that the announcement of misconduct in the UK context a well-specified event, for which the reputational consequences can be established with far greater precision than in the US. The study confirms that reputational sanctions are very real: their stock price impact is on average nine times larger than the financial penalties imposed by the FSA/LSE. However, the reputational damage is unrelated to the scale of fines imposed by regulators or the compensation paid by firms. Moreover, also in this study, reputational losses are confined to misconduct that directly affects those who trade with the firm, such as customers and investors. The announcement of a fine for wrongdoing that harms third parties who do not trade with the firm has, if anything, a weakly positive effect on stock price.

Dyck, Morse and Zingales (2014) offer an estimate of the social cost of fraud, calculated as the difference between the value of an enterprise after a fraud is revealed and what (based on various assumptions) the enterprise value would have been in the absence of the fraud. In their analysis, corporate fraud costs investors an average of 3% of enterprise value across all firms. The results from the empirical literature on reputational sanctions reveal this is only a portion of the true social cost of corporate wrongdoing. When the misconduct

harms third parties, the share price of the wrongdoer firm is unaffected even when the wrongdoing is publicly revealed but the misconduct nevertheless has a cost to society.

If they generalise, these findings—that firms suffer large reputational sanctions where harms against a firm's trading partners are revealed, but no corresponding reputational consequences where harms are revealed against third parties—have important implications for the design and effects of corporate and financial regulation. They suggest that, in some areas, the primary weapon that regulators have in their armoury are not fines but reputational sanctions. In relation to wrongs to trading partners, fines appear largely irrelevant to, and uncorrelated with, the overall loss inflicted on the firm by the announcement of its wrongdoing. In contrast, reputational incentives are either non-existent or perverse where the misconduct afflicts third parties. In these cases fines are the only effective sanction, and need to be substantially greater than they are at present if they are to have the same overall level of deterrence associated with wrongs harming trading partners.

The rest of this chapter is structured as follows. Section 2 reviews theory and prior literature on how reputational sanctions may penalize wrongdoings. Section 3 describes the role of law enforcement in financial regulation. Section 4 analyses the interaction between regulatory sanctions and reputational losses in the deterrence of wrongdoings. In Section 5, we describe the event study methodology to calculate reputational sanctions. Section 6 describes the methodological challenges and presents the results from one study which meets all the necessary identification conditions. Section 7 concludes and summarizes the implications for the design of regulatory enforcement.

2. 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 past performance, might raise these expectations. For product markets, this includes investment in advertising and brand development. Such investments, which are lost if performance subsequently

turns out to be poor, are 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 sceptical 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 (Hribar and Jenkins 2004; Graham, Li and Qiu 2008; Kravet and Shevlin 2010). 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 and environmental regulations—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 2001; Karpoff, Lott and Wehrly 2005), tort law (Karpoff and Lott 1999), and other regulatory crimes that do not affect parties in contractual arrangements with the defendant (Karpoff and Lott 1993). Particularly revealing is the more recent evidence on anti-bribery regulation (Karpoff, Lee and Martin 2017). Using data from enforcement actions initiated under the U.S. Foreign Corrupt Practices Act (FCPA), the authors find that for firms that are caught the reputational loss is negligible (the average ex post NPV net of penalties of paying a bribe is still non-negative). Only for a subset of firms that simultaneously face charges for financial fraud are the reputational losses large (in these cases also the direct cost are larger and so the ex-post NPV is negative). Bribery charges by themselves do not lead to reputational damage. At times, firms that are target of bribery enforcement actions experience large fines and regulatory penalties but the announcement of the fines does not seem to harm the firm's business relationships with its customers, suppliers, or investors.

A different perspective is offered by studies focusing on corporate social responsibility (CSR). Godrey, Merrill and Hansen (2009) report that firms that participate in 'social initiatives' likely to benefit third parties tend to suffer less adverse stock price reactions following the announcement of a lawsuit or regulatory enforcement action against the firm than firms that do not participate in such initiatives. In contrast, firms undertaking initiatives calculated to benefit their trading partners experience no such reduction in the intensity of adverse stock price reaction. The authors interpret this as consistent with the theory that CSR investments tend to provide a kind of reputational insurance when negative events such as litigation occur. However, the study does not control for the amounts of the penalties actually imposed on firms, or the nature of the wrongs for which enforcement occurred.

3. 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, 2008). 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 and compensation orders (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' behaviour. 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, 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.

4. 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. w can be earned at the expense of the firm's own customers and investors (causing loss to such 'second parties', s , who trade with the firm) or third parties (such as other firms, market participants and the general public, which we denote t).¹ Put in legal terms, this distinction captures the essence of the difference between breaches of contract (harming second parties) and torts (harming third parties).² The theory of optimal deterrence implies that policymakers should calibrate the right hand side

¹ 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).

² 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.

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 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

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

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 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 on 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.³

³ However, this posited correlation may not hold if regulators hold firms liable not as primary wrongdoers, but as gatekeepers. Wrongs perpetrated 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 has 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.

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.⁴

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 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, $V_b > C + D + R$

⁴ 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.

and $C < V_b - D - R$.⁵ 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.⁶ This negative-sum feature of reputational sanctions 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 to pay compensation. The dilemma is particularly acute if the reputational effects are not restricted to the firm in question but 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.⁷

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 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

⁵ 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.

⁶ Conversely, if the inequality holds, conventional capital requirements are unnecessary.

⁷ For example, there have been 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.

be reluctant to disclose failures if the reputational consequences are unpredictable and potentially so large as to threaten the solvency of firms.

5. Measuring reputational losses from regulatory announcements

How can a researcher measure the reputational loss (R)? Several studies have estimated reputational losses by measuring stock price reactions around announcements by regulators of misconduct. The standard event study methodology pioneered by Fama et al. (1969) is usually adopted to evaluate the stock price reaction around the public announcement. We calculate the abnormal share price reaction around the event. We use the market model as a benchmark of normal returns. The abnormal return for firm i at time t is defined as

$$AR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t} \quad (1)$$

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.⁸ The average abnormal return for each day t in the event window is computed as

$$AR_t = \frac{\sum_{i=1}^N AR_{i,t}}{N} \quad (2)$$

Where N is the number of firms over which abnormal returns are averaged on day t . The cumulative average abnormal return for small windows of t days (usually 1, 3 or 5 days) is defined as

$$CAR(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_t \quad (3)$$

⁸ In this case we describe the event study methodology, using the market model as a benchmark of normal returns. Alternative models for normal returns may be used, i.e. the CAPM. However, in short-horizon event studies the test statistic specification is not highly sensitive to the benchmark model of normal returns (Kothari and Warner 2007).

Parametric t-statistics for the mean abnormal returns are calculated from the cross-section standard error of abnormal returns.

Once this measure of abnormal share price reaction in the event window around the announcement of misconduct by the regulator is built ($\Delta V_t = V_t - V_{t-1}$), researchers subtract any financial payments the firm is required to make (fines, compensation orders, etc.) from the total stock price effect, and measure the reputational loss as the residual component of the firm's stock price decline:

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

This approach to disentangle reputational losses from share price reaction is valid only if the following three conditions are verified: a) there should be a clearly defined revelation of information relating to a firm's conduct, b) all information relevant to the firm's conduct should be released simultaneously, c) 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. Finally, also if the three conditions are satisfied the researcher needs to further consider whether 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.

6. The evidence

Data limitations owing in particular to the structure of US enforcement institutions have meant that these three conditions have not been satisfied in the prior literature discussed in Section 1.⁹

As Karpoff et al. (2017) have noted, a problem with this methodology is that there are frequently multiple announcements associated with a particular enforcement action. The

⁹ For a more complete survey, see Karpoff (2012).

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 investors¹⁰. Indeed, firms more often make payments in response to follow-on class actions by investors than fines imposed by regulators; for example, Karpoff, Lee and Martin (2008) report 231 cases in their dataset of financial settlements as part of class actions but only 47 cases of regulatory fines. According to Karpoff et al. (2017), in the US financial misconduct typically prompts a sequence of public announcements that can stretch over several years.

The response by previous researchers 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. In particular, share price movements around observed events may merely reflect the degree to which regulatory interventions were more or less onerous than previously anticipated not the overall reputational damage that they inflict. Summing share price reactions therefore risks both over- and under-inclusion of information. This makes the challenge of distinguishing reputational from other losses even harder.

We have been able to address these concerns by looking at the UK (Armour, Mayer and Polo 2017), where the entire enforcement process involves only *one* public announcement, which includes information about associated legal penalties. During the period of the study (2001- 2011), UK regulators only made public announcements on completion of the enforcement process. The Financial Services Authority ('FSA') and the London Stock Exchange ('LSE') investigated firms but only made their investigations public once

¹⁰ Bhagat, Bizjak, and Coles (1998) and Prince and Rubin (2002) measure stock price reactions to announcements that lawsuits have been filed in respect of damages for product liability. They report small negative stock price reactions.

misconduct had been established and a fine and/or order to pay compensation had been determined.¹¹ Moreover and again in contrast to the US, the announcement of an FSA/LSE enforcement action was 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/LSE's announcement of a final notice was 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 highly significant for our purposes, because it gives a much more precise and complete announcement to the market. It makes the event study less prone to distortion from 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.

We conduct an event study of the impact of announcements of regulatory sanctions on disciplined firms in the UK. We split the sample in sanctions where the prohibited conduct imposes losses on customers and/or investors (for example, mis-selling financial products or mis-statements in financial reports) and sanctions where the injured parties do not trade with the firm (for example, failure to comply with rules about money laundering or reporting of trades in other firm's stocks). The 3-day average cumulative abnormal return is -1.68% and statistically significant (the t-statistic is -1.97). However, this number is an average of the effect of all press statements in our sample. By decomposing the sample into cases involving second- and third-party wrongs, we show that misconducts against customers and investors are associated with a -2.62% share price reaction that is strongly statistically significant while third party wrongs are in fact characterized by a positive stock price reaction of 0.24%, although this is not statistically significant.¹²

¹¹ After our sample period the UK regulatory practices changed. It is now common for the UK authorities to announce the start of the investigation.

¹² Crucially for identification, both types of misconducts are sanctioned by the same regulatory institution, allowing us to rule out effects due to the reputation of the authority itself.

When we subtract the total financial payment from the market reaction to measure the reputational loss as the residual, we confirm that the differences in overall market reaction are driven by differences in reputational losses rather than financial payments.¹³ The reputational loss for the customers/investors subgroup is -2.31% of market value, while for wrongs to third parties, the reputational effect is in fact positive (0.43%). Figure 1 shows these results graphically. In cross-sectional regressions, we find that the reputational sanction is unrelated to the size of financial penalties levied, is smaller for larger firms, and increases in intensity since the financial crisis of mid-2007. In robustness tests, we are also able to discount the possibility that the reputational losses we observe are explicable as profits forgone from loss of future earnings through the proscribed activity in question.

[Figure 1]

The results in Armour, Mayer and Polo (2017), are consistent with those of previous studies (Section 1). The more precise identification of announcement dates in this paper therefore supports and significantly reinforces inferences about reputational losses that have been drawn from previous ones.

7. Conclusions and implications

A large literature surveyed by Karpoff (2012) shows that announcements by regulators about corporate misconducts attracts large reputational losses for the “named” firm”, however these losses are confined to misconducts related to customers or investors and are negligible for misconducts against third parties. This literature calculates reputational

¹³ The fine, as a percentage of market capitalization, is 0.19% for wrongs against third parties and 0.13% for wrongs against the customers and/or investors subgroup. The amount of compensation is zero for the former subgroup and 0.18% for the latter.

losses by calculating the abnormal share price reactions around the regulatory announcements and then subtracting the cost of fines and compensation.

We described in this chapter the several methodological challenges in obtaining credible estimates of reputational sanctions from event studies and we report the results of a unique study which is able to meet all these challenges producing very precise estimates of reputational losses. Reassuringly, this study confirms and reinforces previous findings.

Reputational sanctions are very real: their stock price impact is on average nine times larger than the imposed financial penalties. However, the announcement of a fine for wrongdoing that harms 'third parties' who do not trade with the firm has, if anything, a weakly positive effect on stock price.

These results have significant implications for debates about regulatory policy. In terms of the criteria described in Section 4, 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 long way from threatening the solvency of firms and preventing full compensation being paid to customers and investors.

What is more questionable is the calibration of the penalties imposed. 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 should therefore be much greater in third party than second party wrongs but in the UK, there is no evidence that they are and penalties would seem to be too modest to restrain third party wrongs. US enforcement appears more appropriate in this regard: penalties are larger and, according to Murphy, Shrieves, and Tibbs (2009), the mean legal fine for violations that affect third parties is almost double the size of frauds committed against related parties.

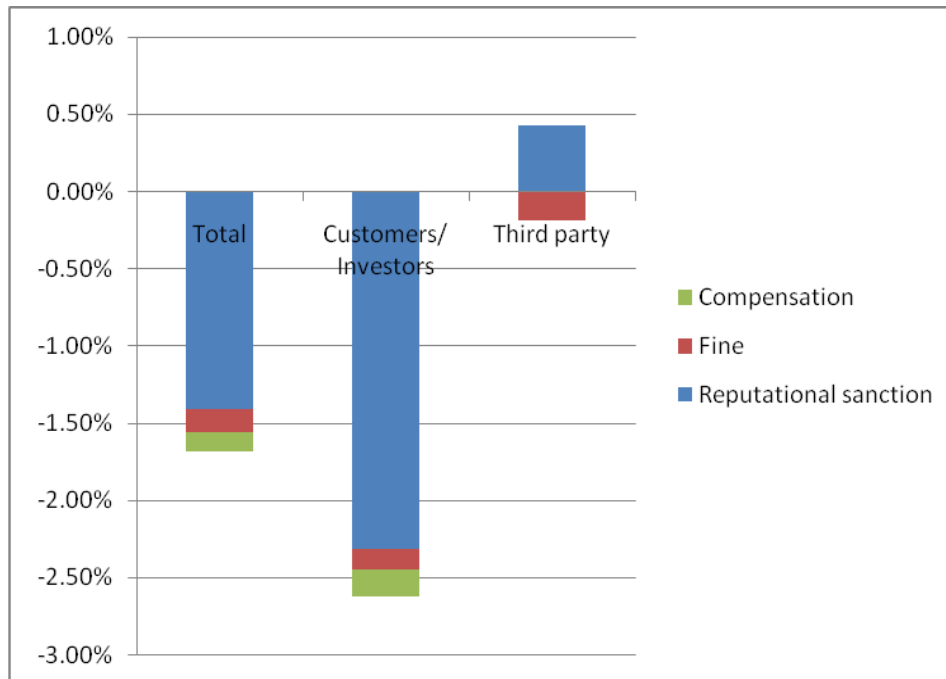
Finally, a transmission mechanism that emerged in the last few years and deserves further research in the future is that political punishment of third party wrongs. While the direct economic consequences, in terms of reputational sanctions, of third party wrongs are very small, the political ramifications resulting from negative public reactions can be

substantial. The large drops in share prices after revelations of third party wrongs in the case of BP's oil spill in the Gulf of Mexico in 2010 or Barclays' Libor-fixing scandal in 2012 illustrate the case. Initially the share prices of these companies only reflected the potential fines and class action settlements but then collapsed after a few hours when damaging political interventions were disclosed by the governments.

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Figure 1. Reputational losses

This figure shows the reputational losses calculated by subtracting the financial penalty (fine and compensation as a percentage of the market capitalization) from the market reaction (Cumulative Abnormal Reaction (CAR) in the three days around the announcement). In the first vertical bar we report the results for the all sample; in the other two bars we split the sample between wrongdoings against second (customers/investors) and third parties. Source: Armour, Mayer and Polo (2017).



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