Proactive Financial Reporting Enforcement and Firm Value

By HANS B. CHRISTENSEN, LISA YAO LIU, and MARK MAFFETT*

February 2017

Abstract: We examine the effect of increasing the intensity of proactive enforcement of financial reporting regulation on equity values. Theoretically, it is unclear whether the benefits to shareholders of an increase in enforcement outweigh the costs. Using a setting in the United Kingdom where a regulator periodically selects specific market sectors for increased scrutiny, we find that an approximately 150% increase in the likelihood of regulator-initiated reviews of financial reports on average (at the median) reduces equity values by 2.0% (1.7%). Reductions in equity values are greater for firms listed on the self-regulated AIM market. Further evidence suggests that the permanent increases in compliance costs and myopic investment arising from increased enforcement contribute to the observed declines in equity values.

1. Introduction

In most developed countries, the extent of public enforcement of financial reporting regulation has increased dramatically over the past two decades. Increased public oversight is typically justified by externalities and difficulties privately enforcing disclosure-policy commitments. In the presence of such frictions, a publicly-enforced, mandatory-reporting regime could increase aggregate shareholder wealth by bringing disclosure closer to the value-maximizing level. A substantial body of research documents capital-market benefits of tighter public enforcement (see Leuz and Wysocki 2016 for a review). Yet, despite this evidence, there are reasons to be skeptical about the net benefits to shareholders of increasing public oversight.

First, the case for public enforcement depends crucially on the presumed inability of private contracting and market discipline to mitigate the factors that give rise to suboptimal financial reporting. Although private solutions are likely imperfect, the economic importance of the frictions such mechanisms leave unresolved is unclear. Second, public oversight is also subject to problems, such as inefficient bureaucracies and regulatory capture, which could also lead to outcomes that reduce firm value (Stigler 1971; Watts and Zimmerman 1978, 1986). Moreover, even if public regulators are effective in enforcing penalties for observed violations, it is less clear whether they have the resources and expertise to *proactively* identify and correct reporting deficiencies market participants cannot. Although prior research acknowledges the existence of enforcement costs, there is little direct evidence on their magnitudes, and hence on the net benefits of proactive public enforcement of financial-reporting regulation.[1]

---

[1] While there are some notable exceptions, including, for example, papers that focus on the net benefits of Sarbanes-Oxley (SOX) (e.g., Zhang 2007; Li et al. 2008), these papers examine bundled regulatory changes and do not specifically focus on proactive financial reporting enforcement.

In this paper, we exploit a setting with unanticipated, within-country changes in enforcement intensity to provide evidence on whether, and under what conditions, additional proactive financial reporting enforcement (FRE) increases equity values. We examine the proactive focus sector review program of the Financial Reporting Review Panel (FRRP)—a regulatory body charged with ensuring compliance with accounting standards in the U.K. From 2004 to 2011, the FRRP annually selected a subset of "focus sectors," within which companies were subject to enhanced regulatory scrutiny in the form of a higher likelihood of having an FRRP review of their financial statements. The establishment of this proactive program represents a substantial departure from the prior (reactive) regime, where most inspection and enforcement actions arose as a result of complaints from investors or other interested parties (see Brown and Tarca 2007).

Similar to the Securities and Exchange Commission's (SEC) comment and review process, deficiencies identified during an FRRP review can lead to prospective reporting changes, accounting restatements, and/or public announcement of the deficiency through a press release. In an effort to deter misreporting, the FRRP publicly announces its focus sectors, usually consisting of four to five targeted industries, in a press release prior to the end of the fiscal year that will be subject to the planned increase in regulatory scrutiny. We estimate that there is a nearly 150% increase in enforcement intensity for firms in focus sectors relative to those in non-focus sectors.

Our empirical identification strategy exploits the sharp increase in expected enforcement intensity for focus industries relative to non-focus industries by comparing changes in the market value of equity in a narrow window around the eight FRRP focus-sector announcements. To mitigate the potential influence of confounding industry events that coincide with the

2

announcements, we adjust U.K. returns using U.S. (and alternatively German) returns from the same industry. Hence, our identification strategy controls for concurrent events that are U.K. specific (focus relative to non-focus sector returns) and industry specific (U.K. relative to U.S./German returns). Because the treatment is determined by industry, our estimates include any potential positive within-industry externalities, but not cross-industry effects.[2]

Using an eight-day window around the announcement date, we find that an increase in expected enforcement intensity leads to an average (median) reduction in the market value of equity of 2.0% (1.7%) for focus-sector firms relative to non-focus-sector firms. For the average (median) focus-sector firm, the loss in equity value is approximately $32 ($3) million relative to non-focus-sector firms. While this effect is economically large, it is important to recognize that our estimate captures the combined impact of the increase in enforcement for focus-sector firms and the decrease in enforcement for non-focus-sector firms. Looking individually at each announcement, the average (median) difference in returns is negative in seven (six) out of eight years and significantly so in five (six) years, indicating that the sign of the effect is unambiguous.

Next, we examine whether variation in the level of regulation a firm chooses explains the market reactions to increased public oversight. On the London Stock Exchange (LSE) there are two core segments, the Main Market, on which listed firms are subject to all aspects of securities regulation, and the Alternative Investment Market (AIM), which is a self-regulated exchange where firms are subject to less public oversight. Ex ante, it is unclear which market segment is likely to be most disrupted by increased public oversight. On the one hand, an increase in enforcement intensity could benefit shareholders of AIM firms more if the already weak

---

[2] Prior research typically assumes that positive externalities from disclosure accrue within industry (e.g., Wang 2014, Shroff et al. 2016). Relatedly, our estimates do not include any economic benefits of transparency that accrue to stakeholders other than shareholders, such as tax authorities or bondholders (e.g., Chow 1983).

enforcement level is below the level that maximizes the value of equity. On the other hand, it is also possible that firms self-select into the regulatory regime that maximizes their equity values and that AIM firms select less public oversight because tighter enforcement destroys firm value. If the latter is true, we expect that more public oversight reduces the market value of AIM firms more than Main Market firms.

Consistent with firms self-selecting into the enforcement regime that maximizes their equity values, we find that the decrease in the market value of equity for AIM firms included in focus sectors is approximately 0.8 percentage points larger than for Main Market firms. These results suggest that firms choose the value-maximizing level of enforcement and, that, from the standpoint of shareholders, private contracting allows firms to sort into the optimal regime without government intervention.

An important identifying assumption of our analysis is that the FRRP is not endowed with private, value-relevant information, which is then used to select focus sectors. If the FRRP did have private, value-relevant information, the market reactions could be caused by the revelation of this information through the selection of focus sectors rather than (or in addition to) the impact of enforcement. On a conceptual level, this explanation seems unlikely. The accounting policies examined by the FRRP are publicly observable and the FRRP announcements are for entire industries, rather than specific firms. It is unlikely that the FRRP would know more about industry-wide (value-relevant) accounting deficiencies than sophisticated market participants.[3]

Nevertheless, to assess this possibility, we examine cross-sectional variation in the magnitude of the market reactions to the FRRP focus sector announcements. Among firms

---

[3] Anecdotally, our discussions with a member of the FRRP panel tasked with the annual selection of the focus sectors support this conjecture.

within the focus sectors, accounting deficiencies are most likely to be uncovered, and the market response the FRRP announcements most negative, where investors know relatively less about the quality of a firm's financial reporting prior to the announcement. Inconsistent with the FRRP announcements revealing private information, we find no evidence of stronger market reactions for firms that are small, have no large blockholders, have no analyst following or hire Big-4 auditors.

To provide evidence on potential mechanisms through which increased enforcement could decrease shareholder value, we examine two specific channels: changes in compliance costs and investment policies. Increased enforcement could provide an incentive for managers to expend additional resources to ensure compliance with accounting regulation because corrective enforcement actions could impose private costs on managers. For example, these additional expenditures could be used to: improve information systems, obtain a more thorough external or internal audit, and/or increase managerial scrutiny of the financial reports. We proxy for compliance costs using the level of external audit fees, which are widely available for a broad sample of firms and likely associated with the overall amount of resources used on compliance (e.g., Ball et al. 2012, De George et al. 2012 and Kim et al. 2012). We find evidence of a significant increase in audit fees in the fiscal year subsequent to a firm's selection into an FRRP focus sector, relative to other non-focus sector firms and years.

Despite the observed increase, compliance costs alone are unlikely to be large enough to fully explain the observed reduction in firm value for focus-sector firms. Increases in transparency could also lead to less efficient investment by creating an incentive for managers to pursue a myopic investing approach to meet short-term, financial-reporting objectives (Stein 1989; Ewert and Wagenhofer 2005; Gigler et al. 2014). Using a novel measure of investment

horizon based on the association between current capital expenditures and future short- and long-term cash flows, we find evidence of an increase (a decrease) in the correlation between capital expenditures and short-term (long-term) cash flows for firms that have been subject to increased enforcement relative to those that have not. While, viewed in isolation, this result does not necessarily imply a decrease in investment efficiency, coupled with the observed negative market reactions to the focus-sector announcements, this evidence is consistent with firms' switch to more short-term investments being a channel through which increased enforcement leads to a decline in firm value.

Our paper contributes to several streams of the extant literature. First, a large literature in accounting and finance finds significant benefits of enforcement (e.g., a lower cost of capital Hail and Leuz, 2006 and Li, 2010; or higher liquidity Christensen et al. 2013, 2016). While, these studies acknowledge that greater enforcement also likely has costs, they cannot identify them in their settings. In contrast, our setting allows us to estimate the net benefits to shareholders of increased enforcement. Because enforcement changes are often motivated by a desire to protect shareholders (e.g., Securities Act of 1933 and 1934), isolating the effect on shareholder wealth is particularly important.

In prior research, the evidence on the benefits of securities regulation is mixed and existing studies focus on major reforms that affect many aspects of regulation at the same time, including both disclosure requirements and the enforcement thereof, such as the Securities Acts of 1933 and 1934, the Sarbanes-Oxley Act, or Regulation Fair Disclosure.[4] Our paper provides

---

[4] See, for example: Stigler 1964; Benston 1969 and 1973; Jarrell 1981; Chow 1983; Shehata 1991; Mahoney and Mei 2013; Heflin et al. 2003; Bushee et al. 2004; Gintschel and Markov 2004; Francis et al. 2006; Chhaochharia and Grinstein 2007; Wang 2007; Zhang 2007; Li et al. 2008; Doidge et al. 2010; Coates and Srinivasan 2014; and Chen and Yuan 2004.

an empirical examination of the effect of increased financial reporting enforcement on shareholder wealth independent of other regulatory changes.

Further, our paper provides empirical evidence on the role of compliance costs and changes in investment horizon as mechanisms through which increased enforcement can lead to a decline in firm value. Prior research has found a positive association between disclosure and investment efficiency (Biddle and Hilary 2006; Biddle et al. 2009; Shroff et al. 2013). Alternatively, we examine an increase in regulatory enforcement intensity and find that firms shift towards shorter-term (and potentially less efficient) investment.

There is also a large literature that examines the effects of ex-post remedial actions undertaken by the SEC and FRRP, including enforcement actions (Feroz et al. 1991; Dechow et al. 1996; Beatty et al. 1998; Bonner et al. 1998; Beneish 1999; Hines et al. 1999; Peasnell et al. 2001; Farber 2005) and comment letters (Johnson and Petacchi, 2015). In contrast, in our primary analyses, we examine *ex-ante* increases in expected enforcement as opposed to ex-post enforcement actions. This ex-ante focus allows us to speak to the net benefits to shareholders of an increase in enforcement intensity, which is not possible when examining the ex-post outcomes (i.e., while an ex-post corrective enforcement action pursued against a firm is unambiguously bad news, an increase in the level of enforcement could reveal both good and bad types, benefiting some firms and harming others).

2.   Costs and Benefits of Public Enforcement

Conceptually, there are arguments both for and against securities regulation and enforcement. On the benefits side, numerous papers highlight the potential for positive externalities, the limitations of private enforcement, the need for a binding commitment mechanism, and general cost savings (e.g., Coffee 1984; Easterbrook and Fischel 1984; Zingales

7

2009; Johnson, et al. 2002; Leuz and Wysocki 2016). On the costs side, others point out the difficulties of ensuring effective enforcement and the potential for regulatory capture (e.g., Stigler 1971; Posner 1974; Peltzman 1976; and Becker 1983). Ultimately, as illustrated by Djankov et al. (2003), given the tradeoff between the competing costs of 'disorder and dictatorship' faced in designing a regulatory framework, the net benefits of publicly enforced securities regulation are an empirical matter.

In the specific context of financial reporting, public enforcement is generally motivated by either externalities or the lack of private commitment mechanisms for disclosure policies (Kothari et al. 2010). Positive externalities may arise because corporate disclosures can provide information that is relevant to the valuation of other firms (e.g., Foster 1981; Dye 1990; Admati and Pfleiderer 2000). For instance, one firm's disclosure may provide information on investment risks or technological shocks that are relevant to the valuation of other firms in the same industry (Badertscher et al. 2013). Although there are strong conceptual arguments for positive externalities, the economic importance of these effects when it comes to public enforcement of accounting standards is less clear.

Another argument for public enforcement is that the lack of a private commitment mechanism for managers and ex-post coordination problems among dispersed shareholders leads to a suboptimal level of disclosure without regulatory intervention (Coffee, 1984). This lack of disclosure exacerbates agency conflicts between managers and shareholders, which leads investors to price protect, and, in turn, will prevent otherwise profitable investments from being financed. However, many potential market-based solutions exist that could mitigate commitment and coordination problems (e.g., auditors, analysts, outside blockholders, and private litigation), which casts doubt on the need for a government solution.

If the market failures created by externalities and commitment problems are not as pervasive as predicted by proponents of increased public enforcement, increasing the level of regulatory oversight could impose significant costs on firms by forcing them into a suboptimal level of transparency. Beyond basic compliance costs, financial reporting enforcement could also lead managers to make less efficient (e.g., myopic) investment decisions (e.g., Stein 1989; Ewert and Wagenhofer 2005, 2016; Gigler et al. 2014). Common intuition suggests that, because increased disclosure reduces informational differences between traders, more information is always preferable to less. However, such a perspective confuses "price efficiency" with "economic efficiency" and thereby overlooks the possibility that increased disclosures could create an incentive for firms to alter their business decisions in a way that that has real economic consequences (Gigler et al. 2014).

Specifically, Stein (1989) shows, analytically, that an increase in the informativeness of earnings can increase the price pressure managers face, which can lead to a less efficient, myopic investing approach. Explicitly in the context of improving financial reporting, Ewert and Wagenhofer (2005) show that tightening accounting standards strengthens the relationship between accounting earnings and market prices, which increases the cost of accrual-based earnings management and creates a greater incentive to achieve financial reporting objectives through "real" earnings management. This line of research illustrates that, although increased enforcement should unambiguously lead to an increase in the informativeness of reported earnings, it can also increase managers' incentives to alter their real investment decisions in an effort to achieve their financial reporting objectives. Because such changes in real activities lead to a deviation from the otherwise optimal actions, they have negative consequences for the value of the firm.

In the end, there are arguments both for and against increasing public oversight and, as with securities regulation more generally, it is an empirical question whether an increase in the enforcement of financial reporting provides net benefits for shareholders.

3.   Institutional Setting

The settings used in prior research on the capital market effects of financial reporting enforcement (FRE) have generally precluded researchers from drawing conclusions on FRE's net benefits to shareholders for two reasons. First, FRE changes are often bundled with other regulatory changes (e.g., SOX, IFRS, and Reg. FD) making it hard to separately identify the effect of FRE. Second, the costs of enforcement are rarely observable and most research, while acknowledging their existence, only examines the benefits of FRE (e.g., Christensen et al. 2016). The FRRP setting overcomes both of these issues.[5]

The FRRP was set up in 1991 as a subsidiary of the Financial Reporting Council (FRC), a legally mandated, private-sector body, with the aim of improving compliance with the U.K. regulatory framework for financial reporting.[6] The FRRP is responsible for the enforcement of financial reporting rules for listed companies, PLCs, and large private companies in the U.K. However, detecting fraud is not the objective of the FRRP. In the U.K., the main legal provisions on fraud are contained in the Fraud Act of 2006 and the Theft Act of 1968 and as such are not the responsibility of the FRRP (Peasnell et al. 2001). From its inception until the early 2000s, the FRRP was a reactive body that reviewed financial reports only in response to investor complaints, referrals from other regulators, or press reports. This reactive approach gave the FRRP limited choice in the cases it reviewed and matters it considered (Brown and Tarca 2007).

---

[5] Of course, the FRRP setting also has some limitations. For example, cannot capture any across-industry externalities, such as a general increase in the confidence in financial markets.
[6] The information in this section is compiled from the FRRP's annual activity reports (see, www.frc.org.uk).

In 2002, following the collapse of Enron and the turbulence in U.K. equity markets that followed, the Chancellor of the Exchequer ordered a review of financial regulation in the U.K., including financial reporting and auditing standards (Fearnly and Hines 2003b). A report by the Coordinating Group on Audit and Accounting Issues (CGAA) to the Department of Trade and Industry (DTI) and the Treasury in January 2003, called for the adoption of a proactive, risk-based enforcement regime similar to the SEC's comment and review process. The U.K. Secretary of State announced major reforms on January 29, 2003—including an explicit mandate for a proactive regime for monitoring accounts by the FRRP. The establishment of this proactive program represented a substantial departure from the prior (reactive) regime (see Christensen et al. 2013).

Under the proactive review process, in addition to investigating complaints, the FRRP began sampling based on firm characteristics associated with risk. The FRRP's risk-based approach selects accounts for review based on the probability of a breach of accounting requirements and the impact that such a breach would have on market and investor confidence.[7] If the FRRP identifies a possible breach, it engages the management of the potentially non-compliant firm through a comment and review process. If the FRRP continues to believe the company is not compliant, it will try to persuade the company to change accounting practices either through a restatement or a prospective change in reporting practices. Once this process is complete, the FRRP may decide to issue a company-specific press release that explains the changes in accounting practices. If this process fails, the FRRP can sue to force the courts to decide whether the report at issue complies with the law.

---

[7] The fact that the FRRP selects focus sectors based on risk is not a problem for our analysis as long as these risk factors are publicly observable to investors. We also empirically address this issue in Section 4.4.

From 2004 to 2011, one of the key aspects of the FRRP's proactive review process was the selection of focus sectors that would be subject to enhanced regulatory scrutiny in the form of a higher likelihood of having a proactive FRRP review of the next year's financial statements.[8] To deter misreporting and give companies a chance to improve their financial reporting compliance in advance of publishing their accounts, focus sectors are announced (several months) in advance of the release of the financial statements for the fiscal year subject to the increased likelihood of inspection. Hence, upon the announcement of next year's focus sectors, there is an abrupt increase in the probability of a financial statement review for the subset of firms that are in the announced focus sectors and a similar abrupt decrease in the probability of inspection for those firms that are not in focus sectors. Importantly, because all firms in announced focus sectors are subject to an increased likelihood of FRRP inspection, treatment is not limited to firms within a focus sector that are actually reviewed ex post.

To estimate the increase in the probability of a future review at the time of the focus sector announcements, we use data on the number of companies selected for review from focus and non-focus sectors in 2007—the only year the FRRP made this data publicly available. We estimate this change by comparing the probability of a review for both focus- and non-focus-sector firms to the probability of a review not distinguishing between focus- and non-focus-sector firms. Based on this approach, and assuming that there is no anticipation of the selected sectors, the estimated change in the probability of a review upon the announcement of the focus

_____

[8] In 2012, the FRRP was replaced by the Monitoring Committee as part of a change in the overall structure of the FRC. Under the Monitoring Committee, the practice of having focus sectors still exists, however, the Monitoring Committee has a broader scope than the FRRP (e.g., includes reviews of auditors) and they do not announce the priority sectors in press releases, which prevents us from using our identification strategy to assess its impact on equity values. For these reasons, we limit our tests to the eight announcements by the FRRP from 2004 to 2011.

sectors is 148 percent (see Table 1 for calculation).[9] It is this abrupt change in the probability of a financial statement review that allows us to estimate the net benefits of FRE using share price reactions in narrow event windows around the announcements.

Table 2 reports the announcement dates, priority sectors, and number of sample firms in focus and non-focus sectors. Some sectors are focus sectors in multiple years. The most frequently selected focus sector is retail (6 years) whereas telecommunication, advertisement, recruitment, information technology, and insurance are focus sectors in only one year. The practice of selecting the same focus sector for multiple years likely makes it difficult for market participants to predict future focus sectors. Over the sample period, there are 15 unique focus sectors, 639 firms are in a focus sector at least once, and 832 firms are never in a focus sector.

In Table A1 of Appendix A, we provide descriptive statistics on the annual review activity of the FRRP. Consistent with our empirical analyses, we include only statistics for the proactive reviews of U.K. public companies. Panel A reports that, on average, 178 companies are reviewed each year. An average of 69 of those inspections (about 42%) arose from the proactive focus sector review program.[10] Panel B reports that, of the companies reviewed, on average, 103 of those companies (about 58%) were contacted in regard to an identified reporting issue. The time-series variation in the number of companies the FRRP approaches suggests that their activities increased for fiscal years after 2005/06. Panel C reports that, of the companies contacted, on average, 48 (about 47%) agreed to make prospective changes in their financial reporting. Panel D reports that of the 178 companies reviewed, on average, the FRRP filed press releases for 2 of those companies (about 1%) announcing reporting changes.

---

[9] Of course, it is highly unlikely that there is no anticipation of any of the selected focus sectors. Thus, this estimate represents an upper bound on the increase in enforcement intensity.

[10] The FRRP annual activity reports provide specific details on the number of companies selected under the focus sector review program only in 2006 and 2007.

The high level of company cooperation with the FRRP is likely attributable to the severity of the penalties the FRRP can indirectly impose on managers for a lack of compliance. Specifically, while the FRRP has no direct authority to make legal decisions, after first seeking to persuade the firm question to voluntarily make the requested reporting changes, the FRRP then has the power to seek a court order requiring the changes be made. In the event the court approves the request, the company's managers and directors who approved the defective statements are liable for all court costs and expenses incurred by the company in connection with the preparation of revised financials (Companies Act 2006, s456(5)). To date, the FRRP has never taken a case to court indicating that the threat is sufficient to incentivize managers to make the requested changes.

In Table A2 of Appendix A, we provide details on the specific reporting issues identified by the FRRP during each inspection year based on summaries of the annual activity reports.[11] Overall, the vast majority of the issues highlighted pertain to inadequate, incomplete, or uninformative disclosures rather than disclosures that are technically incorrect. Thus, the summaries in Tables A1 and A2 highlight the fact the overwhelming majority of the issues identified by the FRRP's proactive focus-sector inspections lead to future improvements in reporting transparency, rather than retroactive restatements of accounts. The wide-ranging nature of the identified issues, the significance of the accounts to which they pertain (e.g., revenue recognition, liability, and segment disclosures), and the severity of the penalties that can be applied if corrective action is not taken, make it plausible that material changes in reporting related to these issues could lead to substantial prospective increases in transparency and, as a consequence, real changes in firm activities.

---

[11] The FRRP activity reports do not specifically disclose which issues were identified as a result of the proactive focus sector reviews and which arose from their other targeted reviews.

Despite the dramatic regulatory changes, many saw the FRRP's existing operations as relatively successful given its small budget and staff—as compared to larger agencies such as the U.S. SEC (e.g., Bruce 2003; Fearnley and Hines 2003a). Critics contended that the adoption of the proactive financial reporting reviews was largely a political move intended to increase the visibility of the FRRP and to combat the loss in credibility suffered by all regulators in the wake of the SEC's failure to detect the Enron and other scandals, rather than an economically grounded attempt to improve the FRRP's effectiveness (Bruce 2003; Fearnley and Hines 2003a). In the absence of a clearly identified and articulated economic motivation and set of objectives for the FRRP's proactive focus-sector review program, it remains uncertain whether the financial reporting changes recommended by the FRRP can enhance firm value.

4. The Effect of Proactive Financial Reporting Enforcement on Firm Value

We organize our empirical analyses of the impact of proactive financial reporting enforcement intensity on firm value as follows: first, we investigate the average effect on the market value of equity of being in a focus sector (i.e., the effect of the revelation that the firm will be subject to an increase in enforcement intensity in the subsequent fiscal year); second, we examine cross-sectional variation in the effect of enforcement on equity values based on the prior level of enforcement and market-based monitoring to which a firm is exposed.

4.1 Research Design and Identification Strategy

As discussed in Section 2, there are theoretical arguments for both a positive and negative effect of FRE on equity values. We employ short-window returns in our analysis and hence our identification strategy relies on the abrupt change in enforcement intensity around the FRRP focus-sector announcements for focus-sector relative to non-focus-sector firms (and the assumption that equity markets quickly incorporate this information). We obtain return data from

Thomson Reuter's Datastream database and financial data from *Worldscope* through the *QA Direct Quantitative Analysis* platform. After imposing the data requirements and the sample filters discussed in Appendix B, our final sample consists of 7,209 firm-year observations from 2004-2011.

Non-focus-sector firms provide a natural benchmark to control for any contemporaneous U.K.-economy-wide return news. A remaining concern is the potential confounding effect of any contemporaneous, industry-specific news. Because FRE affects all U.K. firms in a particular industry, there is no natural industry-level benchmark in the U.K. As an alternative, we use the return of firms within the same four-digit ICB industry in the U.S that are listed on NASDAQ, AMEX, or NYSE. Given the close economic ties between the U.S. and the U.K., industry-level shocks within the U.K are likely to be highly correlated with those in the U.S.[12]

Because it is unclear ex ante when exactly any updating in market expectations related to FRE might occur, we begin by plotting the difference in the U.S. industry-adjusted, cumulative average abnormal return for focus sector versus non-focus-sector firms over a horizon of -15 to +15 days. Figure 1 presents the results, which show clear evidence of a strong negative reaction beginning approximately five days prior to the announcement of the focus sectors. This plot provides some initial evidence that shareholders perceive FRE to be costly and also suggests that there is some anticipation of the announcement.

Based on the evidence in Figure 1, we select a return measurement window of eight days, beginning five days prior to the focus sector announcements—to incorporate the apparent anticipation—and ending two days subsequent to the announcement, at which point it appears

---

[12] Results throughout the paper are similar if we instead use German firms as a benchmark.

the information is fully incorporated.[13] For our main analyses, we estimate the following

univariate regression (subscript i indicates a firm and t a year):

$$CAR_{i,t} = \alpha_0 + \alpha_1 FRE_{i,t} + \varepsilon_{i,t} \tag{1}$$

CAR is defined as the cumulative abnormal return in an eight-day window (from day t-5 to t+2)

around the focus sector announcement date. *FRE*, the variable of interest, is an indicator coded as

one if, in year t, firm i is in an announced focus sector (i.e., a treated firm), and zero otherwise.

The control group is comprised of firms not included in an FRRP focus sector in year t. We

cluster observations by the focus-sector announcement year to account for cross-sectional

correlation in daily returns.[14]

4.2   Equity Value Effects of Proactive Financial Reporting Enforcement

Table 3 Panel A reports results for the average effect of increased enforcement intensity

on the market value of equity across the eight FRRP focus-sector announcements from 2004 to

2011. Column (1) presents results using an unadjusted CAR (i.e., without adjusting for the U.S.

industry return but still relative to non-focus-sector firms). The estimated coefficient for *FRE*

indicates a decrease in shareholder's equity of -1.2% (and is significant at the 1% level).

Columns (2)-(4) report results based on U.S.-industry-adjusted returns. Column (2) presents

results for the average effect of FRE using ordinary least squares (OLS). Column (3) shows

results for the median effect using a quantile regression. Column (4) provides results using the

---

[13] In additional sensitivity tests, we assess the robustness of our results to alternative return accumulation windows of five days (-2 to +2) and eleven days (-5 to +5) and reach similar conclusions. However, as is apparent from Figure 1, the magnitude of the return differential is lower in each of these specifications (-1.5% and -1.3%, respectively).
[14] Because we only have eight unique event dates, we have a relatively small number of and clusters, and thus our standard errors could be inconsistently estimated. For this reason, we also report t-statistics using the Fama-MacBeth (1973) approach. Besides accounting for cross-sectional correlations within events, another advantage of the Fama-MacBeth approach is that it does not require the assumption of homogeneity (e.g., Bester et al. 2011 and 2016).

Fama-MacBeth (1973) approach. Across the three specifications, the treatment effect ranges from -1.5% to -2.0% and is significant at the 1% level.

Next, to assess the consistency of the pooled results, we separately examine each of the eight annual FRRP focus-sector announcements. Table 3 Panel B presents results repeating each of the specifications from Panel A with the exception of the Fama-MacBeth (1973) approach, which is not applicable to a single-period analysis. Across all eight announcements and in each of the three specifications, the market reaction is generally negative and is often statistically significant (the frequency of negative [significant] coefficients is as follows: Column (1): 7[4]; Column (2): 7[4]; Column (3): 6[5]).

With respect to the insignificant announcement periods, two consistent patterns emerge. The first is the absence of a significant effect in the first two announcement years. One potential explanation is the FRRP's low enforcement activity noted in Table 2 for 2004 and 2005. Another explanation is that shareholders initially have difficultly assessing the implications of the FRRP focus sector review program and gradually learn of its costs over time. The second empirical consistency is the lack of a significant effect in 2008. A potential explanation for this is that the 2008 FRRP announcement date (October 30th) occurred in the midst of the 2008 financial crisis and significant uncertainty and volatility in the global stock markets, which makes it difficult to separately identify the effect of increased enforcement.[15]

Finally, to provide further evidence on the consistency of the negative effect of enforcement on returns, we separately examine the market reaction for each focus sector in each year (untabulated). From 2004-2011, the FRRP announced 41 focus sectors (with some

---

[15] During the week of October 26th, 2008 several significant events related to the ongoing financial crisis occurred, including the announcement of additional national funding for many financial institutions, which lead to extremely volatile stock prices for financial institutions during this period. Banks were one of the selected focus sectors in 2008. The focus-sector announcement return for 2008 is significantly negative if we exclude banks.

repetition among the sectors). Across all the sectors, we find evidence of negative market reactions for 80% (33) of the sectors, 34% (14) of which are statistically significant. Only 5% (2) of the announcements have significantly positive market reactions.[16]

Overall, the results in this section provide evidence of a robust, economically significant, negative market reaction to FRE and suggest that the market perceives the additional enforcement scrutiny to be costly.

4.3   Variation in the Existing Enforcement Regime—AIM vs. the Main Market

In this section, we examine whether the reaction to FRRP announcements varies based on firms' existing enforcement regimes. On the LSE there are two core segments, the Main Market and AIM. The Main Market is an EU-regulated market which means that it is subject to all aspects of the E.U.'s securities regulation. AIM, on the other hand, is a self-regulated exchange that is exempt from many E.U. regulatory provisions (Gerakos et al. 2013). If firms choose to list on AIM because its relatively low regulatory oversight maximizes firm value, we expect more negative market reactions for AIM firms subject to FRRP focus sector reviews. Alternatively, if AIM's private enforcement regime allows insiders to expropriate from outsiders, we expect increased public oversight to lead to increases in AIM share prices.

Table 4 Panel A presents market reactions to the FRE focus-sector announcements conditional on market segment. For ease of comparison, for this (and all subsequent) cross-sectional comparisons, we present the total coefficient for each group (i.e., we add, and jointly assess significance for, both the main effect and interaction coefficients). Market reactions to the

---

[16] For firms that are selected in three or more consecutive years (e.g., retail, commercial property, travel and leisure, and utilities), we observe that the return response is generally more negative the more times an industry has previously been selected as a focus sector. This suggests that firms make additional reporting changes each time their industry is included in a focus sector and that these additional disclosure changes move firm value farther away from the optimal level at an increasing rate (i.e., that firm value is a concave function of the level of transparency).

FRE announcements for both the Main Market and AIM are significantly negative, -1.6% and -2.4%, respectively. The larger negative response for the AIM market of 0.8% is statistically significant at the 5% level.

Overall, these results suggest that market forces lead firms to choose the value-maximizing level of enforcement and, therefore, that additional enforcement is more costly for firms that self-select into regimes with less public oversight. From the standpoint of shareholders, private contracting allows firms to sort into the optimal level of regulation without government interference.

4.4   The potential revelation of private information by the FRRP

An important identifying assumption of our analysis is that the FRRP is not endowed with private, value-relevant information, which is used to select focus sectors.[17] If this assumption is invalid, a potential alternative explanation for our results is that, rather than a response to increased enforcement, the observed market reactions to the focus sector announcements are attributable to the FRRP revealing private information through their selection of focus sectors.

Although it seems implausible that the FRRP has general information about which industries are overvalued (or would be interested in conveying such information), it is possible the FRRP has private information about industry-wide, accounting deficiencies. The revelation of accounting deficiencies could be value relevant if the market expects an improvement in reporting quality to uncover bad news. Among firms within the focus sectors, bad news is most

---

[17] Our discussions with a member of the FRRP panel tasked with the annual selection of the focus sectors support this conjecture. Specifically, this panel member noted that, while the selection of the focus sectors is not completely random (i.e., there is some consideration of sectors where it is public knowledge there might be an accounting issue), there is "some arbitrariness in the choice for at least some of the sectors" and little indication that the selection group knows "anything significant the market didn't already know."

likely to be uncovered, and the market response the FRRP announcements most negative, where investors know relatively less about the quality of a firm's financial reporting prior to the announcement. We expect investors to have more uncertainty about potential accounting deficiencies for firms that are small, lack a large independent blockholder, have low analyst following and Big-4 auditors. To assess this possibility, we examine cross-sectional variation, among focus sector firms, in the magnitude of the market reactions to the FRRP focus sector announcements.

In Table 5 Panel A, we partition the sample based on size. Investors are likely relatively more informed about the reporting quality of large firms. Column (1) [(2), (3)], presents results for the pooled [Main Market, AIM] sample. We measure size based on the firm's book value of total assets and classify large firms as those with above median assets, calculated by exchange segment. Across all three samples, the magnitude of the market reactions to the FRE focus sector announcements is similar for both small and large firms, suggesting that observed negative responses to the FRRP announcements is unlikely driven by the revelation of private information. These results also suggest that the observed difference in the magnitude of the response for AIM firms relative to Main Market firms is unlikely to be attributable to size differences between the two markets [see Table 4].[18]

Next, we partition the sample based on whether the firm has an outside blockholder. Outside blockholders, whose large ownership positions give them a strong incentive to monitor management, represent an alternative means of mitigating agency conflicts and coordination problems between managers and shareholders (Shleifer and Vishny 1997; Edmans 2009; Edmans

---

[18] In additional untabulated analyses, we confirm that the larger negative response for AIM firms is consistent across the majority of focus sectors and years.

and Manso 2011). In other words, the FRRP is less likely to have private information about accounting deficiencies for firms with large blockholders.

We obtain data on share ownership from the Argus Vickers Owners Service Share Register Analysis System (AVSR). The AVSR database classifies owners into six mutually exclusive categories: 1) Execution-Only Stockbrokers, 2) Full-Service Stockbrokers, 3) Private-Client Investment Managers, 4) Private Banks, 5) Institutions, 6) Large Individual and Private Clients. Insider ownership is captured in the Large Individual and Private Client classification, which means an external share block could be obtained through any of the other five classifications. Accordingly, we define an indicator, *Blockholder*, which equals one if any unique owner in AVSR classifications 1 through 5 holds a position larger than 5%, and zero otherwise. For our sample of 7,209 firm-years, AVSR has data for 6,367 and in 81% of these firm-years there is at least one blockholder.

Table 5 Panel B presents market reactions to the FRE announcements separately for treated firms with and without large blockholders for the pooled, Main Market, and AIM samples. Across all three samples, the market reaction to FRE is negative (and significantly so in five of six instances). The market reaction is more negative for firms with large blockholders—the difference ranges from -1.4% to -0.5%—which is inconsistent with the market reactions being attributable to the revelation of private information by the FRRP through the selection of focus sectors.

Table 5 Panel C presents market reactions to the FRE announcements separately for treated firms with above and below mean analyst coverage for the pooled, Main Market, and AIM samples. Table 5 Panel D presents the same market reactions for treated firms with and without a Big-4 auditor. We expect uncertainty about potential accounting deficiencies to be

higher for firms with low analyst following (e.g., Lang and Lundholm 1996), and for firms without a Big-4 auditor (e.g., DeAngelo 1984). The results, in both panels, provide no indication of a larger market response for firms with lower analyst following or a Big-4 auditor, which is again inconsistent with the FRRP announcements revealing private information.

If FRRP focus sector selection were indicative of the FRRP's awareness of unrevealed problems in that sector, those problems would likely be more severe for companies with more uncertainty about potential accounting deficiencies. On the contrary, overall in the four tests in this section, we find the most negative (or similar) responses for firms that likely have relatively less uncertainty about potential accounting deficiencies.

5.   Financial Reporting Enforcement and Changes in Resource Allocation

The large reductions in shareholder wealth documented in Section 4 suggest that firms make significant changes in resource allocation following an increase in enforcement intensity. In this section, we examine two specific changes in firms' resource allocation decisions that could lead to a decline in shareholder value: increased expenditures on reporting compliance and changes in investment policies.[19]

5.1   Compliance Costs

Increased enforcement likely provides an incentive to increase expenditures on systems to ensure compliance with accounting regulations. The additional resources expended could be used to deal with the immediate administrative burden associated with the increased regulatory scrutiny during FRRP inspection years and also as a way to commit to an ongoing higher level of disclosure (Ball et al. 2012, De George et al. 2012 and Kim et al. 2012). That firms simply ignore regulators' demands that lead a sub-optimally high level of transparency is an unlikely

---

[19] Our analyses presume that investors have rational expectations and correctly anticipate the firm value implications of future changes in firm behavior (e.g., Stein 1989 and Gigler et al. 2014).

response since managers are personally responsible for legal costs in cases where the FRRP's dispute is successful (see Section 2). We use audit fees to proxy for these compliance costs, but consistent with Ball et al. (2012), we assume that the level of audit fees is positively associated with the quantity and quality of a wide range of firm disclosure-related activities.

We obtain data on audit fees and control variables from *Worldscope*. Our sample includes a panel of firm-year observations from 1995 through 2012. We employ a difference-in-differences design that compares the change in audit fees for firms included in FRRP focus sectors to those that are not. Specifically, to assess the effect of FRE on audit fees, we estimate the following regression:

$$Ln(AuditFees)_{i,t} = \alpha_t + FRE_t + Controls_t + Fixed\ Effects + \varepsilon_{i,t} \qquad (2)$$

Ln(AuditFees) is the natural log of audit fees measured in millions of USD. *FRE*, the variable of interest, is an indicator coded as one for all years subsequent to a firm's inclusion in an announced focus sector (i.e., a treated firm), and zero otherwise. Following prior research (e.g., Craswell et al. 1995), we include several controls known to be determinants of the level of audit fees, including: the natural log of total assets, the ratio of total liabilities to total assets (*Leverage*), and the ratio of net income to total assets (*ROA*). We include industry and year fixed effects to control for cross-sectional differences in audit fees across industries and to flexibly account for changes in audit fees over time. We winsorize all variables at the 1% and 99% level and cluster standard errors by industry.

Table 6 Panel A presents descriptive statistics. The median firm pays audit fees of $172,000 per year, has $61 million of total assets, has leverage of about one half of total assets, and has a return on assets of 3.8%. Table 6 Panel B presents regression results. Consistent with prior research, coefficients for the control variables indicate that audit fees are higher for larger,

more leveraged firms, with lower profitability (e.g., Chaney et al. 2004, Choi et al. 2009 and Iliev 2010). The coefficient of interest, $FRE_{(t=0\ to\ t=n)}$, is positive and statistically significant at the 1% level. The magnitude of the coefficient indicates that, relative to firms not inspected by the FRRP, FRRP-focus-sector firms experience a 7.7% increase in audit fees following their inclusion in a focus sector, or approximately $75,000.

Next, we test whether the observed increase in audit fees is attributable to additional costs incurred only in the year of the enforcement increase, or whether firms, as part of their commitment to a higher transparency level, permanently increase expenditures on compliance. Specifically, following Florou et al. (2016), we partition the $FRE_{(t=0\ to\ t=n)}$ variable into three separate indicators, $FRE_{(t=0)}$, $FRE_{(t=1)}$, and $FRE_{(t=2\ to\ t=n)}$, where $FRE_{(t=0)}$ ($FRE_{(t=1)}$; $FRE_{(t=1\ to\ t=n)}$) takes a value of one during the year of the FRRP focus sector reviews (in the year following the focus sector reviews; for all years subsequent to the FRRP review) for focus-sector firms, and zero otherwise. The results reported in Column (2) Table 6 Panel B suggest a permanent increase in expenditures on compliance in the year following the focus sector reviews (but not in the year of the reviews).[20] Although, the percentage increase in audit fees of 7.8% indicated by the coefficient on $FRE_{(t=1)}$ is larger than $FRE_{(t=2\ to\ t=n)}$ for subsequent years of 6.4% and, consistent with a lasting increase in transparency arising from the prospective recommendations of the FRRP, the difference is not statistically significant.[21]

5.2   *Investment Policies*

Changes in firms' investment policies are another potential real effect of increased enforcement and greater firm transparency. Gigler et al. (2014) show analytically that increased

---

[20] The lack of a significant increase in audit fees in the year of review could be a result of a lag in the timing of negotiating or insufficient provisioning for the year's audit fees.
[21] Our finding of a positive association between audit fees and enforcement is consistent with the complementary relationship predicted for certain levels of enforcement by Ewert and Wagenhofer (2016).

disclosure can increase the market pressure managers face and lead to a less efficient, myopic investing approach as firms pursue alternative approaches for meeting their financial reporting objectives. Kraft et al. (2016) provides empirical support for this conjecture by examining the association between increased reporting frequency and the level of investments.

Faced with fewer options for meeting reporting objectives and increased capital market scrutiny in light of increased disclosure, managers could substitute projects with relatively short-term cash flows for (more profitable) long-term investment activities to boost current period reporting. Although we cannot directly measure investment efficiency, we can, with the benefit of hindsight (i.e., using data not available to investors at the time the investments are made), observe the level of investment and its correlation with future cash flows. Coupled with the observed negative market reactions to the focus sector industries, subsequent changes in investment activity are likely to be less efficient.

We obtain data on investments and operating cash flows from *Worldscope*. Our sample includes a panel of firm-year observations from 1995 through 2012. We assess the potential substitution toward relatively shorter-horizon investment projects based on the association between current capital expenditures and future short- and long-term cash flows. The correlation between current investment and the timing of future cash flows is likely indicative of the horizon of the selected investment. We measure investment using capital expenditures and research and development (R&D) spending. To assess the effect of *FRE* on future investment, we estimate the following difference-in-differences regression:

$$
\begin{aligned}
Investment = {} & \alpha_0 + \alpha_1 \textit{S-T Cash Flows} + \alpha_2 \textit{L-T Cash Flows} + \alpha_3 FRE_{(t=0 \text{ to } t=n)} + \\
& \alpha_4 \textit{S-T Cash Flows} \times FRE_{(t=0 \text{ to } t=n)} + \alpha_5 \textit{L-T Cash Flows} \times FRE_{(t=0 \text{ to } t=n)} + \qquad (3) \\
& \textit{Fixed Effects} + \varepsilon
\end{aligned}
$$

The dependent variable, *Investment*, is defined as the sum of capital expenditures and R&D over a firm's fiscal year (*t*). *S-T Cash Flows* is defined as the sum of operating cash flows measured *one to two* years subsequent to the fiscal year when the investment is made (i.e., *t+1* and *t+2*). *L-T Cash Flows* is defined as the sum of operating cash flows *three to five years* subsequent to the fiscal year when the investment is made (i.e., *t+3*, *t+4*, and *t+5*). *FRE* is an indicator coded as one for all years subsequent to a firm's inclusion in an announced focus sector (i.e., a treated firm), and zero otherwise.

The primary variables of interest are *S-T Cash Flows*× *FRE*$_{(t=0 \text{ to } t=n)}$ and *L-T Cash Flows*× *FRE*$_{(t=0 \text{ to } t=n)}$, where *S-T Cash Flows*×*FRE* (*L-T Cash Flows*× *FRE*$_{(t=0 \text{ to } t=n)}$) captures the incremental change in the correlation between current period investment and short-term (long-term) future cash flows for firms included in an FRRP focus sector. If firm managers become more myopic as a result of the increased scrutiny and disclosure arising from the FRRP review process, we expect firms to shift to relatively more short-term investments (i.e. a positive *S-T Cash Flows*× *FRE*$_{(t=0 \text{ to } t=n)}$ coefficient) and away from longer-term investments (i.e. a negative *L-T Cash Flows*× *FRE*$_{(t=0 \text{ to } t=n)}$ coefficient). We include industry and year fixed effects to control for cross-sectional differences in investments across industries and to flexibly account for changes in investments over time. We winsorize all variables at the 1% and 99% level and cluster standard errors by industry.

Table 7 Panel A presents descriptive statistics. The median firm invests approximately $3 million per year (*Investment*) and has about $8 million of short-term cash flows (*S-T Cash Flows*) and $15 million in long-term cash flows (*L-T Cash Flows*). Table 7 Panel B presents results for the investment horizon analysis. The coefficient on *S-T Cash Flows* of 0.130 is positive and statistically significant (1% level) and indicates that each dollar of investment is

associated with 13 cents in cash flows over the next two years. The coefficient on *L-T Cash Flows* of 0.039 is positive and statistically significant (1% level) and indicates that each dollar of investment is associated with about 4 cents in cash flows from three to five years after the investment. Consistent with an increase in managerial myopia, *S-T Cash Flows×FRE$_{(t=0\ to\ t=n)}$* is positive and statistically significant (1% level), indicating the association between investments and short-term cash flows increase after FRRP inspections. In contrast, the coefficient on *L-T Cash Flows×FRE$_{(t=0\ to\ t=n)}$* is negative and statistically significant (5% level), indicating a substitution to a relatively shorter investment horizon.

Overall, the evidence suggests that, when subject to FRE, firms in our sample change to a shorter investment horizon. While, viewed in isolation, this result does not imply a decrease in investment efficiency, coupled with the observed negative market reactions to the focus sector industries, this evidence is consistent FRE causing managers to become more myopic.

6.   Conclusion

Prior research documents numerous capital market benefits of greater enforcement of financial reporting regulation, but provides little evidence on its costs, leaving the net effect of enforcement on equity value unresolved. Our paper sheds light on the net benefits to shareholders of increasing the intensity of proactive enforcement of financial reporting regulation on equity values.

Our results indicate that an estimated 148 percent increase in the likelihood of regulator-initiated financial statement reviews on average (at the median) reduces equity values by 2.0% (1.7%). The reductions in equity values are greater for firms that self-select into a weaker enforcement regime and for firms subject to alternative market-based monitoring mechanisms, which suggests that, from the standpoint of shareholders, private contracting sorts firms into the

optimal level of regulation without government interference. We also document two specific changes in firms' resource allocation decisions—increased expenditures on reporting compliance and changes in investment horizon—that likely contribute to the observed decline in shareholder value. Overall, our results demonstrate an instance where the costs of increased (proactive) enforcement outweigh the benefits to shareholders.

Importantly, the results in this paper do not contradict prior evidence that financial reporting enforcement causes (or is associated with) transparency improvements and capital market benefits (e.g., Preiato et al. 2013; Byard et al. 2011; Christensen et al. 2013, 2016; Daske et al. 2008; Lang et al. 2012; Hope 2003). In fact, the mechanism behind our theoretical framework is improved transparency (Stein 1989; Gigler et al. 2014). The difference in our paper is that we can observe the net benefits to shareholders of increased transparency—in the setting we examine, the costs exceed the benefits.

We acknowledge that our interpretation of the results is subject to several limitations. Importantly, maximizing equity values does not equate to maximizing social welfare in the presence of externalities. Positive financial reporting externalities can arise from network effects or because certain financial statement users cannot pass the costs of poor financial reporting on to shareholders (e.g., the IRS). To the extent that externalities occur within sectors, our analysis incorporates them. However, our analysis does not speak to cross-sector externalities or the economic benefits of transparency that for other reasons do not fall to shareholders.

Furthermore, we observe the change in enforcement in only one equity market, the U.K.'s LSE. Because the effects we document may depend on the initial level of enforcement, it is unclear to what extent these results can be generalized to other settings with different preexisting levels of regulation. However, it is worth noting that regulators in many different

jurisdictions pursue approaches similar to that of the FRRP in terms of choosing particular areas

of focus for increased regulatory scrutiny.

References

Admati, A. R., Pfleiderer, P. (2000). Forcing firms to talk: Financial disclosure regulation and externalities. Review of Financial Studies, 13(3), 479-519.

Ball, R., Jayaraman, S., Shivakumar, L. (2012). Audited financial reporting and voluntary disclosure as complements: A test of the confirmation hypothesis. Journal of Accounting and Economics, 53(1), 136-166.

Badertscher, B., Shroff, N., White, H. D. (2013). Externalities of public firm presence: Evidence from private firms' investment decisions. Journal of Financial Economics, 109(3), 682-706.

Beatty, R. P., Bunsis, H., Hand, J. R. (1998). The indirect economic penalties in SEC investigations of underwriters. Journal of Financial Economics, 50(2), 151-186.

Becker, G. S. (1983). A theory of competition among pressure groups for political influence. The Quarterly Journal of Economics, 371-400.

Beneish, M. D. (1999). Incentives and penalties related to earnings overstatements that violate GAAP. The Accounting Review, 74(4), 425-457.

Benston, G. J. (1969). The value of the SEC's accounting disclosure requirements. The Accounting Review, 44(3), 515-532.

Benston, G. J. (1973). Required disclosure and the stock market: An evaluation of the Securities Exchange Act of 1934. The American Economic Review, 63(1), 132-155.

Bester, C. A., Conley, T. G., Hansen, C. B. (2011). Inference with dependent data using cluster covariance estimators. Journal of Econometrics, 165(2), 137-151.

Bester, C. A., Conley, T. G., Hansen, C. B. (2016). Performing Statistical Inference with Dependence: A Review. Working paper.

Biddle, G. C., Hilary, G. (2006). Accounting quality and firm-level capital investment. The Accounting Review, 81(5), 963-982.

Biddle, G. C., Hilary, G., Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? Journal of Accounting and Economics, 48(2), 112-131.

Bonner, S. E., Palmrose, Z. V., Young, S. M. (1998). Fraud type and auditor litigation: An analysis of SEC accounting and auditing enforcement releases. The Accounting Review, 503-532.

Brown, P., Tarca, A. N. (2007). Achieving high quality, comparable financial reporting: A review of independent enforcement bodies in Australia and the United Kingdom. Abacus, 43(4), 438-473.

Bruce, R. (2003, April 24). A proactive policeman. *Financial Times*.

Bushee, B. J., Matsumoto, D. A., Miller, G. S. (2004). Managerial and investor responses to disclosure regulation: The case of Reg FD and conference calls. The Accounting Review, 79(3), 617-643.

Byard, D., Li, Y., Yu, Y. (2011). The effect of mandatory IFRS adoption on financial analysts' information environment. Journal of Accounting Research, 49(1), 69-96.

Chaney, P. K., Jeter, D. C., Shivakumar, L. (2004). Self-selection of auditors and audit pricing in private firms. The Accounting Review, 79(1), 51-72.

Chen, K. C., Yuan, H. (2004). Earnings management and capital resource allocation: Evidence from China's accounting-based regulation of rights issues. The Accounting Review, 79(3), 645-665.

Chhaochharia, V., Grinstein, Y. (2007). Corporate governance and firm value: The impact of the 2002 governance rules. The Journal of Finance, 62(4), 1789-1825.

Choi, J. H., Kim, J. B., Liu, X., Simunic, D. A. (2009). Cross-listing audit fee premiums: Theory and evidence. The Accounting Review, 84(5), 1429-1463.

Chow, C. W. (1983). The impacts of accounting regulation on bondholder and shareholder wealth: the case of the securities acts. The Accounting Review, 485, 489-502.

Christensen, H. B., Hail, L., Leuz, C. (2013). Mandatory IFRS reporting and changes in enforcement. Journal of Accounting and Economics, 56(2), 147-177.

Christensen H., Hail L., Leuz C. (2016). Capital-market effects of securities regulation: prior conditions,

implementation, and enforcement. Review of Financial Studies, forthcoming.

Coates, J. C., Srinivasan, S. (2014). SOX after ten years: A multidisciplinary review. Accounting Horizons, 28(3), 627-671.

Coffee Jr, J. C. (1984). Market failure and the economic case for a mandatory disclosure system. Virginia Law Review, 717-753.

Craswell, A. T., Francis, J. R., Taylor, S. L. (1995). Auditor brand name reputations and industry specializations. Journal of Accounting and Economics, 20(3), 297-322.

Daske, H., Hail, L., Leuz, C., Verdi, R. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences. Journal of Accounting Research, 46(5), 1085-1142.

DeAngelo, L. (1981). Auditor size and auditor quality. Journal of Accounting and Economics, 3(3), 183-199.

Dechow, P. M., Sloan, R. G., Sweeney, A. P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. Contemporary Accounting Research, 13(1), 1-36.

De George, E. T., Ferguson, C. B., Spear, N. A. (2012). How much does IFRS cost? IFRS adoption and audit fees. The Accounting Review, 88(2), 429-462.

Djankov, S., Glaeser, E., La Porta, R., Lopez-de-Silanes, F., Shleifer, A. (2003). The new comparative economics. Journal of Comparative Economics, 31(4), 595-619.

Doidge, C., Karolyi, G. A., Stulz, R. M. (2010). Why do foreign firms leave US equity markets?. The Journal of Finance, 65(4), 1507-1553.

Dye, R. A. (1990). Mandatory versus voluntary disclosures: The cases of financial and real externalities. Accounting Review, 1-24.

Easterbrook, F. H., Fischel, D. R. (1984). Mandatory disclosure and the protection of investors. Virginia Law Review, 669-715.

Edmans, A. (2009). Blockholder trading, market efficiency, and managerial myopia. The Journal of Finance, 64(6), 2481-2513.

Edmans, A., Manso, G. (2011). Governance through trading and intervention: A theory of multiple blockholders. Review of Financial Studies, 24(7), 2395-2428.

Ewert, R., Wagenhofer, A. (2005). Economic effects of tightening accounting standards to restrict earnings management. The Accounting Review, 80(4), 1101-1124.

Ewert, R., Wagenhofer, A. (2016). Effects of increasing enforcement on firm value and financial reporting quality. Working paper.

Fama, E. F., MacBeth, J. D. (1973). Risk, return, and equilibrium: Empirical tests. The Journal of Political Economy, 607-636.

Farber, D. B. (2005). Restoring trust after fraud: Does corporate governance matter?. The Accounting Review, 80(2), 539-561.

Fearnley, S. and T. Hines (2003a, September 25). Sour taste of a bad law. *Financial Times*.

Fearnley, S. and T. Hines (2003b). The regulatory framework for financial reporting and auditing in the United Kingdom: the present position and impending changes. The International Journal of Accounting 38, 215-233.

Feroz, E. H., Park, K. J., Pastena, V. (1991). The financial and market effects of the SEC's accounting and auditing enforcement releases. Journal of Accounting Research, 29, 107-142.

Florou, A., Morricone, S., Pope, P. F. (2016). Is there an enforcement premium in audit fees?. Working paper.

Foster, G. (1981). Intra-industry information transfers associated with earnings releases. Journal of Accounting and Economics, 3(3), 201-232.

Francis, J., Nanda, D., Wang, X. (2006). Re-examining the effects of regulation fair disclosure using foreign listed firms to control for concurrent shocks. Journal of Accounting and Economics, 41(3), 271-292.

Gerakos, J., Lang, M., Maffett, M. (2013). Post-listing performance and private sector regulation: The experience of London's Alternative Investment Market. Journal of Accounting and Economics, 56(2), 189-215.

Gigler, F., Kanodia, C., Sapra, H., Venugopalan, R. (2014). How Frequent Financial Reporting Can Cause Managerial Short-Termism: An Analysis of the Costs and Benefits of Increasing Reporting Frequency. Journal of Accounting Research, 52(2), 357-387.

Gintschel, A., Markov, S. (2004). The effectiveness of Regulation FD. Journal of Accounting and Economics, 37(3), 293-314.

Hail, L., Leuz, C. (2006). International differences in the cost of equity capital: Do legal institutions and securities regulation matter?. Journal of Accounting Research, 44(3), 485-531.

Heflin, F., Subramanyam, K. R., Zhang, Y. (2003). Regulation FD and the financial information environment: Early evidence. The Accounting Review, 78(1), 1-37.

Hines, T., McBride, K., Page, M. (1999). An investigation into the stock market reaction to press notices issued by the Financial Reporting Review Panel. Journal of Applied Accounting Research, 5(2), 54-82.

Hope, O. K. (2003). Disclosure practices, enforcement of accounting standards, and analysts' forecast accuracy: An international study. Journal of Accounting Research, 41(2), 235-272.

Iliev, P. (2010). The effect of SOX Section 404: Costs, earnings quality, and stock prices. The Journal of Finance, 65(3), 1163-1196.

Ince, O. S., Porter, R. B. (2006). Individual equity return data from Thomson Datastream: Handle with care! Journal of Financial Research, 29(4), 463-479.

Jarrell, G. A. (1981). The economic effects of federal regulation of the market for new security issues. The Journal of Law Economics, 24(3), 613-675.

Johnson, S., McMillan, J., Woodruff, C. (2002). Courts and relational contracts. Journal of Law, Economics, and Organization, 18(1), 221-277.

Johnston, R., Petacchi, R. (2015) Regulatory oversight of financial reporting: Securities and Exchange Commission comment letters. Working paper.

Karolyi, G. A., Lee, K. H., Van Dijk, M. A. (2012). Understanding commonality in liquidity around the world. Journal of Financial Economics, 105(1), 82-112.

Kim, J. B., Liu, X., Zheng, L. (2012). The impact of mandatory IFRS adoption on audit fees: Theory and evidence. The Accounting Review, 87(6), 2061-2094.

Kothari, S. P., Ramanna, K., Skinner, D. J. (2010). Implications for GAAP from an analysis of positive research in accounting. Journal of Accounting and Economics, 50(2), 246-286.

Kraft, A., Vashishtha, R., and Venkatachalam, M. (2016). Frequent Financial Reporting and Managerial Myopia. Working paper.

Lang, M., Lins, K. V., Maffett, M. (2012). Transparency, liquidity, and valuation: International evidence on when transparency matters most. Journal of Accounting Research, 50(3), 729-774.

Lang, M., Lundholm, R., (1996). Corporate Disclosure Policy and Analyst Behavior. The Accounting Review, 71(4), 467-492.

Lang, M., Maffett, M., (2011). Transparency and liquidity uncertainty in crisis periods. Journal of Accounting and Economics, 52(2), 101-125.

Leuz, C., Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. Journal of Accounting Research, 54(2), 525-622.

Lesmond, D. A. (2005). Liquidity of emerging markets. Journal of Financial Economics, 77(2), 411-452.

Li, S. (2010). Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? The Accounting Review, 85(2), 607-636.

Li, H., Pincus, M., Rego, S. O. (2008). Market reaction to events surrounding the Sarbanes Oxley Act of 2002 and earnings management. Journal of Law and Economics, 51(1), 111-134.

Mahoney, P., Mei., J. 2013. Mandatory vs. contractual disclosure in securities markets: Evidence from the

1930s. Working paper.

Peasnell, K. V., Pope, P. F., Young, S. (2001). The characteristics of firms subject to adverse rulings by the Financial Reporting Review Panel. Accounting and Business Research, 31(4), 291-311.

Peltzman, S. (1976). Towards a more general theory of regulation. Journal of Law and Economics 19, 211–40.

Posner, R. (1974). Theories of economic regulation. Bell Journal of Economics and Management Science 5, 335–58.

Preiato, J. P., Brown, P. R., Tarca, A. (2013). Mandatory Adoption of IFRS and Analysts' Forecasts: How Much Does Enforcement Matter?. UNSW Australian School of Business Research Paper.

Shehata, M. (1991). Self-selection bias and the economic consequences of accounting regulation: An application of two-stage switching regression to SFAS No. 2. The Accounting Review, 768-787.

Shleifer, A., Vishny, R. W. (1997). A survey of corporate governance. The Journal of Finance, 52(2), 737-783.

Shroff, N., Verdi, R. S., Yost, B. P. (2016). Inter-temporal variation in the externalities of peer-firm disclosures. Working paper.

Shroff, N., Verdi, R. S., Yu, G. (2013). Information environment and the investment decisions of multinational corporations. The Accounting Review, 89(2), 759-790.Stein, J. C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. The Quarterly Journal of Economics, 655-669.

Stigler, G. J. (1964). Public regulation of the securities markets. The Journal of Business, 37(2), 117-142.

Stigler, G. J. (1971). The theory of economic regulation. The Bell Journal of Economics and Management Science, 3-21.

Watts, R. L., Zimmerman, J. L. (1978). Towards a positive theory of the determination of accounting standards. The Accounting Review, 112-134.

Watts, R., Zimmerman, J. (1986). Positive theory of accounting. Englewood Cliffs, NY: Prentice-Hall.

Wang, C. (2014). Accounting standards harmonization and financial statement comparability: Evidence from transnational information transfer. Journal of Accounting Research, 52(4), 955-992.

Wang, I. Y. (2007). Private earnings guidance and its implications for disclosure regulation. The Accounting Review, 82(5), 1299-1332.

Zhang, I. X. (2007). Economic consequences of the Sarbanes Oxley Act of 2002. Journal of Accounting and Economics, 44(1), 74-115.

Zingales, L. (2009). The future of securities regulation. Journal of Accounting Research, 47(2), 391-425.

Appendix A: Details on FRRP review activity

Table A1: FRRP review activity by year

Panel A: Number of accounts reviewed

Year	Accounts Reviewed	Focus Sector Reviews	FTSE 100	FTSE 250	Other	AIM
2005	165	n.d.	52	55	58	n.d.
2006	135	66	28	31	42	34
2007	195	72	46	33	74	42
2008	116	n.d.	31	42	29	14
2009	188	n.d.	27	50	38	73
2010	186	n.d.	25	34	50	77
2011	219	n.d.	23	67	49	80
2012	221	n.d.	38	51	77	55
Average	178	69	42	40	58	38

Panel B: Number of companies contacted

Year	Company Contacted	Focus Sector Reviews	FTSE 100	FTSE 250	Other	AIM
2005	67	n.d.	16	24	27	n.d.
2006	58	n.d.	15	9	18	16
2007	112	n.d.	18	24	46	24
2008	99	n.d.	18	37	26	18
2009	96	n.d.	16	24	25	31
2010	136	n.d.	19	22	40	55
2011	133	n.d.	11	37	30	55
2012	122	n.d.	20	25	42	35
Average	103	-	16	19	30	20

Panel C: Number of companies agreeing to changes

Year	Companies Agreeing to Changes	Focus Sector Reviews	FTSE 100	FTSE 250	Other	AIM
2005	32	n.d.	12	9	11	n.d.
2006	30	10	7	4	8	11
2007	82	22	14	21	34	13
2008	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2009	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2010	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2011	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
2012	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Average	48	16	11	11	18	12

Appendix A: cont.

Panel D: Number of press releases issued

Year	Press Releases
2005	0
2006	3
2007	4
2008	2
2009	2
2010	3
2011	4
2012	0
Average	2

Notes: This table presents actions taken by the FRRP over the sample period from 2004 to 2011. Information on actions taken is collected from FRRP annual reports. n.d. indicates that the item in question was not disclosed in the FRRP annual report for that year.

Appendix A: cont.

Table A2: Issues identified by the FRRP reviews and highlighted in the FRRP's annual reports

2005

Cash flow statements	Inconsistencies, incorrect classification of cash flows, insufficient disclosures.
Provisions and contingent liabilities	Insufficient explanation of the nature of the obligations.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.
Goodwill and intangible assets	Insufficient disclosure detail.
Revenue Recognition	Insufficient disclosure of practices and procedures (e.g., warranties and sales returns).

2006

Provisions and contingent liabilities	Insufficient explanation of the nature of the obligations.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Revenue Recognition	Insufficient disclosure of practices and procedures.
Derivatives and other financial instruments	Insufficient disclosure of all the necessary information relevant to holding or issuing of financial instruments during the year.

2007

Accounting policies	Insufficient disclosure of practices and procedures (e.g., warranties and sales returns).
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Cash flow statements	Inconsistencies, incorrect classification of cash flows, insufficient disclosures.
Reporting financial performance	Failure to present separately the aggregate results of continuing operations, acquisitions and discontinued operations.
Fair values in acquisition accounting	Insufficient disclosure detail.
Associates and joint ventures	Insufficient disclosure detail.
Goodwill and intangible assets	Weak disclosures on the presumptions of accounting treatments.
Impairment of fixed assets and goodwill	Insufficient disclosure of the accounting treatments.
Provisions and contingent liabilities	Insufficient explanation of the nature of the obligations.
Retirement benefits	Insufficient disclosure of the accounting measurements.

Income taxes, deferred tax	Unable to recognize deferred tax expenses.
Financial instruments disclosures and presentation	Insufficient disclosure about risk arising from financial instruments.
Earnings per share	Incorrect calculation of the diluted and basic eps.

2008

Judgements, Estimates, and Risks	Disclosures tend towards boiler-plate and do not refer to the specific issues faced by individual companies.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Departure from standards	Departures from the requirements of IFRS
Revenue Recognition	Insufficient disclosure of practices and procedures.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Banks' annual financial statements	Need for refinement of certain disclosures.
Transparency of disclosure about financial instruments	Insufficient disclosure about risk arising from financial instruments.
Presentation of financial statements	Insufficient disclosure of narrative and descriptive comparative information.
Inventories	Insufficient disclosure of recognition and valuation.
Construction Contracts	Insufficient disclosure of the determinants of the stage of completion of construction contracts.
Income taxes, deferred tax	Unable to recognize deferred tax expenses.
Leases	Failure to disclose significant leasing arrangements (i.e., the total of the future minimum lease obligation).
The effects of changes in foreign exchange rates	Insufficient disclosure of recognition and measurement details.
Borrowing costs	Insufficient disclosure of the capitalization rate.
Related Party Disclosures	Lack of disclosures for related parties and the relationship.
Consolidation / acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Impairment of Assets	Insufficient disclosures regarding the assumptions underlying management's cash flow projection, discount and growth rates.
Share - based payment	Insufficient disclosure of the weighted average share price.
Business Combinations	Insufficient disclosure of the factors related to the cost of a business and information on the combined entity.

2009

Judgements, Estimates, and Risks	Disclosures tend towards boiler-plate and do not refer to the specific issues faced by individual companies.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.

Impairment of Assets	Insufficient disclosures regarding the assumptions underlying management's cash flow projections and discount and growth rates.
Capital disclosures	Insufficient disclosures to help users evaluate a company's objectives, policies and processes for managing capital.
Assets and liabilities classification	Inappropriate classification.
Leases	Failure to disclose significant leasing arrangements (i.e., the total of the future minimum lease obligation).
Revenue Recognition	Insufficient disclosure of practices and procedures.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Financial instruments disclosures	Insufficient disclosure about risk arising from financial instruments.
Operating segments	Insufficient explanations of the decision to aggregate operating segments.

2010

Segment disclosures	Segments omitted although it is clear that the entity has multiple entities from qualitative discussion of the business.
Provisions and contingent liabilities	Insufficient explanation of the nature of the obligations.
Judgements, Estimates, and Risks	Disclosures tend towards boiler-plate and do not refer to the specific issues faced by individual companies.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Impairment of Assets	Insufficient disclosures regarding the assumptions underlying management's cash flow projections and discount and growth rates.
Related-party disclosures	Lack of disclosures for non-executives directors. Insufficient disclosures regarding the nature of certain relationships and management compensation.
Cash flow statements	Inconsistencies, incorrect classification of cash flows and insufficient disclosures.
Capital disclosures	Insufficient disclosures to help users evaluate a company's objectives, policies and processes for managing capital.
Leases	Failure to disclose the total of future minimum lease and sub-lease payments under non-cancellable operating leases in the periods specified by the standard.
Revenue	Insufficient disclosure of practices and procedures (e.g., how the stage of completion was established).
Business combinations and intangible assets	Insufficient disclosure of the recognition and measurement criteria.
Financial instruments disclosures	Insufficient disclosure about risk arising from financial instruments.
Operating segments	Insufficient explanations of the decision to aggregate operating segments.

2011

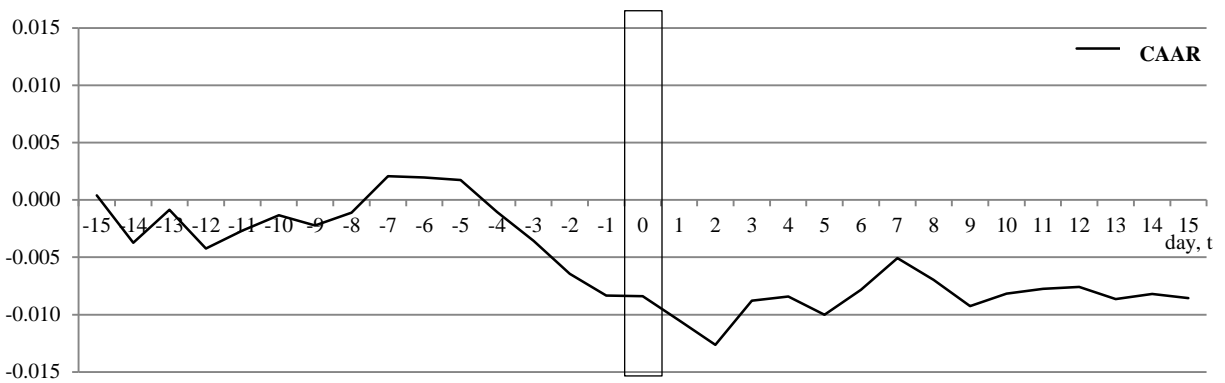|	
Segment disclosures	Segments omitted although it is clear that the entity has multiple entities from qualitative discussion of the business.
Provisions and contingent liabilities	Insufficient explanation of the nature of the obligations.
Judgements, Estimates, and Risks	Disclosures tend towards boiler-plate and do not refer to the specific issues faced by individual companies.
Accounting policies	Insufficient detail to enable reasonably knowledgeable users to understand the policy applied in practice.
Consolidation/acquisitions	Some entities not consolidated and insufficient information for unconsolidated entities. Incorrect calculation of acquisition value or insufficient disclosure of acquisition value.
Impairment of Assets	Insufficient disclosures regarding the assumptions underlying management's cash flow projection, discount and growth rates.
Related Party Disclosures	Lack of disclosures for non-executives directors. Insufficient disclosures regarding the nature of certain relationships and management compensation.
Cash flow statements	Inconsistencies, incorrect classification of cash flows, insufficient disclosures.
Comparative information	Insufficient disclosure of relevant explanations required by the standard (e.g., the reasons for reclassification).
Income taxes, deferred tax	Unable to recognize deferred tax expenses.
Leases	Failure to disclose the total of future minimum lease and sub-lease payments under non-cancellable operating leases in the periods specified by the standard.
Revenue	Insufficient disclosure of practices and procedures (e.g., how the stage of completion was established).
Share-based payment	Insufficient disclosure of practices.
Business combinations	Insufficient disclosure of the recognition criteria.
Renegotiation of borrowing facilities	Insufficient disclosure of the modification of the terms of the loan due to the renegotiation.
Operating segments	Insufficient explanations of the decision to aggregate operating segments.

Appendix B: Main variable definitions

CAR	The cumulative abnormal return in an eight-day window (from day t-5 to t+2) around the focus sector announcement date. U.K. returns are adjusted by U.S. returns from the same industry. To ensure the reliability of the return data, following prior research (e.g., Karolyi et al. 2012; Lang and Maffett 2011), the following screens are used. All observations where the FTSE 100 index return value is missing are eliminated to exclude non-trading days. Following Ince and Porter (2006), observations with a daily return index value below 1.0 are eliminated. Stocks with more than 80% zero-return days within a given month are excluded (Lesmond 2005). Returns are trimmed at 0.1% and 99.9% to remove potentially erroneous return observations. These and additional data requirements (i.e., primary exchange, LSE market segment, location of the firms' primary operating activities, and Industrial Classification Benchmark (ICB) code) lead to 7,209 firm-year observations across the sample period.
FRE	An indicator coded as one if a firm is in an announced focus sector (i.e., a treated firm), and zero otherwise.
Leverage	The ratio of total liabilities to total equity, measured at the fiscal year-end, from Worldscope.
ROA	The ratio of net income to total assets, measured at the fiscal year-end, from Worldscope.
Investment	The sum of capital expenditures and research and development over a firm's fiscal year (t).
S-T Cash Flows	The sum of operating cash flows measured one to two years subsequent to the fiscal year when the investment is made (t+1 and t+2).
L-T Cash Flows	The sum of operating cash flows three to five years subsequent to the fiscal year when the investment is made (t+3, t+4, and t+5).

Figure 1: Effect of Enforcement on the Market Value of Equity in Event Time

Notes: This figure plots, in event time, the daily cumulative average abnormal returns (CAARs). CAARs are computed as the average difference between the U.S. industry-adjusted CAR for focus-sector compared to non-focus-sector firms. The vertical axis indicates CAAR. The horizontal axis indicates the event day in a 31 day estimation window [t-15, t+15], where t = 0 denotes the focus-sector announcement day, and time is counted in trading days.

Table 1: Enforcement Intensity for Focus-Sector and Non-Focus-Sector Firms

	All firms	Focus-Sector Firms	Non-Focus-sector Firms
Number of reviews	195	72	123
Number of firms	3,305	633	2,672
Probability of review	5.9%	11.4%	4.6%
Change in probability upon knowing focus sectors	—	93%	-22%
Incremental probability for focus sector firms	—	148%	—

Notes: This table reports the enforcement intensity for firms in focus sectors relative to those in non-focus sectors. The data is obtained from the FRRP annual report for 2008 (i.e., the 2007 focus-sector announcement). The change in the probability of review upon announcement is calculated by comparing the probability of a review conditional on knowing the focus sectors announced in 2007 to the unconditional probability. For instance, for focus-sector firms the expected probability of a review increases by (11.4%-5.9%)/5.9%=93% if you know the firm is in a focus sector. Based on this approach and assuming that there is no anticipation of the selected sectors, the estimated change in the expected probability of a review is 148% upon the announcement of the focus sectors (i.e., (11.4%-4.6%)/4.6%=148%).

Table 2: Focus Sectors from 2004 to 2011

Periods		Focus Sectors (treated)					N (firms)	
Announce-ment Dates	Fiscal Year	First (1)	Second (2)	Third (3)	Fourth (4)	Fifth (5)	Treated (6)	Non-treated (7)
December 21, 2004	2004/05	Automobile 3	Pharma-ceutical 14	Retail 41	Transport 11	Utilities 11	80	569
December 12, 2005	2005/06	Automobile 3	Pharma-ceutical 20	Retail 41	Transport 12	Utility 11	87	709
December 11, 2006	2006/07	Travel and leisure 51	Retail 45	Utility 14	Telecom-munications 12	Media 52	174	725
November 9 2007	2007/08	Banking 105	Retail 48	Travel and leisure 60	Commercial property 43	House builders 12	268	834
October 30, 2008	2008/09	Banking 96	Retail 45	Travel and leisure 58	Commercial property 36	House builders 12	247	759
December 9, 2009	2009/10	Commercial Property 28	Advertising 17	Recruitment 12	Media 20	Information technology 74	151	744
November 25, 2010	2010/11	Commercial Property 30	Insurance 24	Support services 103	Travel 17	—	174	807
December 9, 2011	2011/12	Commercial Property 27	Retail 40	Support services 96	—	—	163	718

Notes: This table presents the announcement dates, the review year, focus sectors announced, and the number of treated and non-treated firms each year. Announcement dates and focus sectors are collected from FRRP press releases.

Table 3: Effect of Enforcement on the Market Value of Equity

Dependent Variable: Cumulative Abnormal Returns (-5 to +2)	Unadjusted	US-Industry-Adjusted		
	Average	Average	Median	Fama-MacBeth
	(1)	(2)	(3)	(4)
Panel A: All (eight) Announcements				
FRE	-0.012***	-0.020***	-0.017***	-0.015***
	(-4.22)	(-6.36)	(-4.40)	(-3.86)
R-squared	0.002	0.007	0.007	0.007
N (firm-announcements)	7,209	7,209	7,209	7,209
Panel B: Effect by Announcement				
Treatment effects:				
FRE_2004	0.001	0.001	0.009	—
	(0.24)	(0.12)	(1.25)	
FRE_2005	-0.001	-0.006	0.006	—
	(-0.17)	(-0.95)	(1.00)	
FRE_2006	-0.013**	-0.023***	-0.020***	—
	(-2.01)	(-3.60)	(-4.04)	
FRE_2007	-0.012**	-0.029***	-0.030***	—
	(-2.47)	(-5.54)	(-6.20)	
FRE_2008	-0.007	-0.010	-0.006	—
	(-0.65)	(-0.88)	(-0.52)	
FRE_2009	-0.002	-0.015*	-0.017***	—
	(-0.22)	(-1.92)	(-2.71)	
FRE_2010	-0.011*	-0.009	-0.008*	—
	(-1.74)	(-1.37)	(-1.76)	
FRE_2011	-0.016**	-0.027***	-0.018***	—
	(-2.49)	(-4.04)	(-3.10)	

Notes: This table reports results from our analysis of the effect of FRE on the market value of equity. The sample period is from 2004 to 2011. In Panel A, we report the average effect across all years and in Panel B we report results by year. *FRE* is a binary indicator that takes the value of one for firms in focus sectors in a given year and zero for all other firms. In Column (1), the dependent variable is the raw cumulative abnormal return (CAR). In Columns (2) to (4), the dependent variable is the U.S. industry-adjusted CAR. See Appendix A for further details on the calculation of CAR. In Columns (1) and (2), we estimate the effect using OLS. In Columns (3) and (4) we use quantile and Fama-MacBeth regressions, respectively. In Columns (1) to (3) we cluster standards errors by announcement. T-statistics are reported in parentheses. *, **, and *** indicate significance (two-sided) at the 10%, 5%, and 1% levels, respectively.

Table 4: Effect of Enforcement Conditional on Existing Enforcement Regime

Dependent Variable: CAR (US-Industry-Adj., -5 to +2)	All Announcements
Treatments effects:	
FRE_Main Market	-0.016***
	(-9.59)
FRE_AIM	-0.024***
	(-5.03)
Incremental effect for AIM:	
FRE_AIM minus FRE_Main Market	-0.008**
	(-2.12)
R-squared	0.007
N (firm-announcements)	7,078

Notes: This table reports treatment effects conditional on whether firms are listed in the Main Market or the Alternative Investment Market (AIM). The sample period is from 2004 to 2011 and the dependent variable is the U.S. industry-adjusted CAR. *FRE_Main Market (FRE_AIM)* is a binary indicator that takes on the value of one for firms in focus sectors listed on the Main Market (AIM). See Appendix A for further details on variable definitions. We cluster standards errors by announcement and report t-statistics in parentheses. *, **, and *** indicate significance (two-sided) at the 10%, 5%, and 1% levels, respectively.

Table 5: Cross-Sectional variation in the Effect of Increased Enforcement Intensity on the Market Value of Equity

Dependent Variable: CAR (US-Industry-Adj., -5 to +2)	Pooled (1)	Main Market (2)	AIM (3)
Panel A: Big vs. small firms			
Treatment Effects:			
FRE_Small Firms	-0.019***	-0.015***	-0.025**
	(-3.94)	(-9.05)	(-2.09)
FRE_Large Firms	-0.019***	-0.017***	-0.024***
	(-6.00)	(-4.33)	(-4.50)
Incremental effect for large firms:			
FRE_Large minus FRE_Small Firms	-0.000	-0.002	0.001
	(-0.08)	(-0.54)	(0.08)
R-squared	0.006	0.007	0.006
N (firm-announcements)	7,078	3,877	3,201
Panel B: Blockholder vs. no blockholder			
Treatment effects:			
FRE_No Blockholders	-0.009*	-0.005	-0.024***
	(-2.17)	(-0.83)	(-5.65)
FRE_Blockholders	-0.023***	-0.018***	-0.029***
	(-5.73)	(-8.30)	(-5.05)
Incremental effect for blockholders:			
FRE_Blockholders minus FRE_No Blockholders	-0.014**	-0.013*	-0.005
	(-2.33)	(-1.95)	(-0.91)
R-squared	0.007	0.006	0.008
N (firm-announcements)	6,367	3,497	2,870
Panel C: Analysts following vs. no analysts following			
Treatment effects:			
FRE_Low Analyst Following	-0.020***	-0.016***	-0.024***
	(-4.01)	(-4.36)	(-3.05)
FRE_High Analyst Following	-0.020***	-0.016**	-0.025***
	(-3.39)	(-2.13)	(-3.01)
Incremental effect for high analyst following:			
FRE_High Analyst Following minus FRE_Low Analyst Following	0.000	-0.000	-0.001
	(0.00)	(-0.04)	(-0.04)
R-squared	0.007	0.008	0.006
N (firm-announcements)	7,079	3,862	3,217
Panel D: Big4 vs. Not Big4			
Treatment effects:			
FRE_Not Big4 Auditor	-0.021***	-0.010*	-0.024***
	(-4.05)	(-1.85)	(-3.97)
FRE_Big4 Auditor	-0.020***	-0.018***	-0.024**
	(-6.61)	(-9.57)	(-2.30)
Incremental effect for Big4 auditors:			
FRE_Big4 Auditor minus FRE_Not Big4 Auditor	0.001	-0.008	-0.000
	(0.27)	(-1.27)	(-0.03)
R-squared	0.006	0.008	0.007
N (firm-announcements)	7,079	3,862	3,217

Table 5 continued

Notes: This table reports treatment effects of FRE conditional on the size of firms (Panel A), blockholder ownership (Panel B), and Analyst following (Panel C). The sample period is from 2004 to 2011 and the dependent variable is the U.S. industry-adjusted CAR. *FRE_Small Firms (FRE_Large Firms)* is a binary indicator that takes on the value of one for firms in focus sectors that are below (above) the median assets in each market segment. *FRE_Blockholders* (*FRE_No Blockholders)* is a binary indicator that takes the value of one for firms in focus sectors with (without) at least one blockholder. Blockholder is defined as a firm with any unique owner holding a position larger than 5% in AVSR database with the classifications:1. Execution-Only Stockbrokers; 2. Full-Service Stockbrokers; 3. Private-Client Investment Managers; 4. Private Banks; 5. Institutions. *FRE_Low Analyst Following* (*FRE_High Analyst Following*) is a binary indicator that takes on the value of one for firms in focus sectors that are below (above) the mean number of analysts in each market segment. *FRE_Big4 Auditor* (*FRE_Not Big4 Auditor)* is a binary indicator that takes the value of one for firms in focus sectors with (without) a Big-4 auditor. We classify Deloitte, PwC, EY, and KPMG as Big-4 Auditors. See Appendix A for further details on variable definitions. We cluster standards errors by announcement and report t-statistics in parentheses. *, **, and *** indicate significance (two-sided) at the 10%, 5%, and 1% levels, respectively.

Table 6: Enforcement and Compliance Costs

Panel A: Descriptive Statistics for Audit Fee Analyses

	N	Mean	Std. Dev.	p1	Median	p99
Audit Fee ($m)	23,077	0.983	2.921	0.007	0.172	16.866
Total Assets ($m)	23,077	1,368	6,669	0	61	28,715
Leverage	23,077	0.561	0.619	0.013	0.497	2.827
ROA	23,077	-0.116	0.621	-3.031	0.038	0.365

Panel B: Change in Audit Fees Around Increased Enforcement Intensity

Dependent Variable: Log(Audit Fee)	First & Subsequent Years (1)	First vs. Subsequent Years (2)
Treatment effects:		
$FRE_{(t=0 \text{ to } t=n)}$	0.077***	—
	(3.08)	
$FRE_{(t=0)}$	—	0.018
		(0.94)
$FRE_{(t=1)}$	—	0.078***
		(3.61)
$FRE_{(t=2 \text{ to } t=n)}$	—	0.064*
		(1.94)
Control variables:		
Log(Total Assets)	0.652***	0.652***
	(59.87)	(59.83)
Leverage	0.122***	0.122***
	(5.87)	(5.86)
ROA	-0.288***	-0.288***
	(-14.47)	(-14.51)
Fixed Effects:		
Industry	Yes	Yes
Year	Yes	Yes
Observations	23,077	23,077
R-squared	0.812	0.812

Notes: This table reports results from our analysis of the effect of FRE on compliance costs, which we proxy for using audit fees. The sample period is from 1995 to 2012. Panel A presents descriptive statistics for firms included in the analyses and Panel B presents OLS regression estimates of the effect of FRE on audit fees. *Audit Fee* is the total annual audit fees. *Size* is the natural log of total assets. *Leverage* is the ratio of total liabilities to total assets. *ROA* is the ratio of net income to total assets. $FRE_{(t=0 \text{ to } t=n)}$ is a binary indicator that takes on the value of one for firms in focus sectors beginning the year of increased scrutiny thru the end of the sample period. $FRE_{(t=0)}$ is a binary indicator that takes on the value of one for firms in focus sectors in the year of increased scrutiny. $FRE_{(t=1)}$ is a binary indicator that takes on the value of one for firms in focus sectors in the year after increased scrutiny. $FRE_{(t=2 \text{ to } t=n)}$ is a binary indicator that takes the value of one for firms in focus sectors in all years subsequent to the year after increased scrutiny. See Appendix A for further details on variable definitions. We cluster standards errors by industry and report t-statistics in parentheses. All regressions include industry and year fixed effects. *, **, and *** indicate significance (two-sided) at the 10%, 5%, and 1% levels, respectively.

Table 7: Enforcement and Investment Policies

Panel A: Descriptive Statistics for Investment Policy Analyses

	N	Mean	Std. Dev.	p1	Median	p99
Investments	16,598	78.36	292.94	0.00	2.98	2,234.28
S-T Cash Flows	16,598	304.86	1,237.04	-78.00	7.90	9,622.45
L-T Cash Flows	16,598	568.93	2,366.46	-111.93	14.94	18,738.25

Panel B: Change in Investment Horizon Around Increased Enforcement Intensity

Dependent Variable: Investment	
Association between investments and future cash flows:	
S-T Cash Flows	0.130***
	(7.22)
L-T Cash Flows	0.039***
	(10.75)
Association between investments and future cash flows after enforcement:	
S-T Cash Flows * $FRE_{(t=0 \text{ to } t=n)}$	0.095***
	(2.83)
L-T Cash Flows * $FRE_{(t=0 \text{ to } t=n)}$	-0.042**
	(-2.38)
Fixed effects:	
$FRE_{(t=0 \text{ to } t=n)}$	Yes
Industry	Yes
Year	Yes
Observations	16,598
R-squared	0.781

Notes: This table reports results from our analysis of FRE on investment policies. The sample period is from 1995 to 2012. Panel A presents descriptive statistics for firms included in the analyses and Panel B presents OLS regression estimates of the effect of FRE on investment policies. *S-T Cash Flows* (*L-T Cash Flows*) is defined as the sum of operating cash flows measured one and two (three to five) years subsequent to the fiscal year when the investment is made, i.e., t+1 and t+2 (t+3, t+4, and t+5). The dependent variable in Panel B, *Investment,* is defined as the sum of capital expenditures and R&D over a firm's fiscal year (t). $FRE_{(t=0 \text{ to } t=n)}$ is a binary indicator that takes the value of one for firms in focus sectors beginning the year of increased scrutiny thru the end of the sample period. See Appendix A for further details on variable definitions. We cluster standards errors by industry and report t-statistics in parentheses. All regressions include *FRE*, industry, and year fixed effects. *, **, and *** indicate significance (two-sided) at the 10%, 5%, and 1% levels, respectively.