Strategic Interactions in Financial Reporting Quality

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Abstract

This study investigates how firms strategically interact with their peers in determining financial reporting quality (FRQ), particularly in sensitive environments. Using an instrumental variable approach, we provide robust empirical evidence that a firm's FRQ is significantly influenced by the financial reporting practices of its peers. We identify a novel "industry spotlight effect," where firms not only improve their FRQ but also align more closely with their peers when their industry faces heightened scrutiny, such as during M&A deal withdrawals or financial distress. Our findings have important implications for regulators, investors, and corporate managers, offering new insights into the strategic dynamics of financial reporting in competitive and high-pressure settings.

Keywords: Strategic Interaction, Financial Reporting Quality, Peer Effect, Sensitive Environment

1. Introduction

The peer pressure for accounting manipulation is often alleged in practice. One famous example happened in the telecom industry in early 2000s. As documented by **?**, once Worldcom started to resort to illegal reporting practice to boost its performance[1], competitors faced enormous pressure to perform and had to either a) commit accounting fraud to keep pace with telecom's growth rate, or b) be viewed as underperformers, with severe consequences. Qwest and Global Crossing ended up choosing accounting fraud, while AT&T and Sprint took actions to boost their short-term performance at the expense of long-term firm value. **?** show that managers tend to manipulate financial report more often if they believe their peers' reports are more likely to be manipulated. **?** build a theory model demonstrating that managers may influence stockholders' beliefs regarding the value of their firm not only by managing their own earnings report but also by influencing the earnings reports of rival firms. Despite substantial anecdotes and ample theory works emphasizing the importance of peer effects in financial report quality, little empirical work has been done to quantify the effects. This paper aims to fill this gap. Using short interest residual as the instrument variable, we empirically quantify how a firm strategically responds to peer companies' financial report quality (FRQ henceforth)[2].

We also examine how firms react to peer information under two types of sensitive environments. First, we investigate the peer firm effects on FRQ in an environment where

[1] eg. To hide its falling profitability, WorldCom inflated net income and cash flow by recording expenses as investments, reporting a profit of 1.4 billion-instead of a net loss-in Q1 2002.

[2] "Following the quality of financial reports" refers to the tendency of firms to align their financial reporting practices with those of their industry peers. This alignment can occur as firms seek to maintain credibility, enhance comparability, or respond to competitive and regulatory pressures. High-quality financial reporting is characterized by transparency, accuracy, and adherence to accounting standards, while lower-quality reporting may involve earnings management or strategic distortions.

at least one other firm in the industry withdraws from an M&A event, either as the acquirer or the target. Studies involving M&A settings have shown that target firms' FRQ significantly influences the outcomes of the M&A deals. Target firms with high FRQ increase acquiring firms' valuation and foster more efficient capital allocation (**?**; **?**).However, target firms with low FRQ are more likely to see M&A deals terminated (**?**). When the information environment is sensitive at the industry level, as proxied by an M&A deal withdrawal, firms' FRQ may be more likely to align with their peers to avoid future failure. When a target withdraws from an M&A in the industry, other firms in the same industry may become concerned about the underlying reasons for the withdrawal and take steps to avoid similar issues. In such cases, firms are more sensitive to their peers' performance and try not to fall behind relative to their peers. We refer to this pressure as the "spotlight effect", and expect such sensitive environments may cause firms' FRQs to be more strongly influenced by their peers' FRQs.

Second, we examine how firms respond to peer FRQ when they are financially constrained, as quantified by the firm's WW index (**?**). In the case for M&A deals, the incentives to increase financial reporting quality and comparability are clear. However, the incentives are less straight forward when firms are financially constrained. On one hand, the same spotlight effect described above suggests that financially constrained firms may align their FRQ with industry peers to reduce uncertainty and negotiate better terms for new credit or outside investment **?**. On the other, **?** finds that in order to artificially boost outside perceptions of the firm, managers employ upward earnings management when the firm is financially constrained. Thus, we aim not only to provide evidence for the existence of peer effects under sensitive environments but also to identify the types of environments that amplify these effects.

While theoretically intuitive, it is empirically challenging to identify peer effects due to the reflection problem (**?**). By using measures of peer firm financial report quality, such as industry average FRQ, or peer firm FRQ determinants as explanatory variables for individual firm's FRQ, any correlation between firms' FRQ and the actions or characteristics of their peers can be attributed to the endogenous selection of firms into peer groups or an omitted common factor. This selection results in firms from the same peer group facing similar institutional environments and having similar characteristics. Peer firm measures proxy for latent factors that are common to firms in a peer group and determine FRQ. The correlation between firms' FRQ and the policies or characteristics of their peers inherently reflects an endogeneity bias.

This challenge can be overcome by showing that, controlling for characteristics of their own firm, firms' behaviors are significantly correlated with exogenous characteristics of their peers. We use peer firms' short interest residual (i.e., idiosyncratic private negative information shocks) as a possible source of exogenous variation in peer firm attributes. The motivation for this approach comes from existing research such as **?**, who use short interest residual as a measure for managerial private negative information and shows that managerial private information will affect a firm's decision in information disclosure. Indeed, idiosyncratic private negative information shocks have several desirable properties. First, the shocks to different firms within a peer group are largely uncorrelated with one another since the shocks capture private information for each firm. Second, the shocks are serially uncorrelated and serially cross-uncorrelated, implying that firms' shocks do not forecast future shocks for themselves or for other firms. Finally, the shocks are uncorrelated with firm characteristics typically used to explain variation in FRQ. While these features do not guarantee exogeneity, they are reassuring because they suggest that peer

firm private information shocks contain little common variation. Our results show that firms' FRQ is significantly influenced by their peers. FRQ is strongly negatively related to peer firm private negative information shocks. Furthermore, these inferences are robust to a host of measurement and endogeneity concerns.

To address the second identification challenge (i.e., the channel through which peer effects operate), we show that, conditional on peer firm FRQ policy, FRQ is largely insensitive to peer firms' idiosyncratic private negative information. In other words, firms' FRQ only respond to peer firms' private information shocks when those shocks are accompanied by changes to peer firms' FRQ. Furthermore, peer firm characteristics (other than their private negative information shocks) are largely irrelevant for FRQ policy, both statistically and economically. This evidence suggests that the primary channel through which peer effects operate is via actions—firms respond to the FRQ of their peers.

We make several contributions. First, we provide a clear identification strategy to quantify peer effects on financial reporting quality, to givinge empirical backing to theoretical findings. **?** theoretically prove that managers tend to manipulate more if they believe the reports of peer firms are more likely to be manipulated. **?** build a theoretical model and show that managers may influence stockholders' beliefs regarding their firm's value by managing their own earnings reports and influencing the earnings reports of rival firms. Second, we extend our understanding of how firms are affected by their peers in extreme cases, such as M&A deal withdrawals and financial constraints. While prior studies document the peer effects in various corporate decisions on average (**?**; **?**; **?**; **?**; **?**; **?**; **?**; **?**), our work highlights the amplifying role of sensitive environments in shaping financial reporting choices. Third, by employing residual short interest as an instrumental variable, we address endogeneity concerns that have previously hindered empirical assessments of

peer effects in financial reporting quality. Finally, our findings have significant implications for regulators, investors, and corporate managers by shedding light on the dynamic and strategic nature of financial reporting. We show that firms do not operate in isolation when determining their financial reporting policies but rather respond strategically to the practices of their peers, particularly in high-pressure settings where information asymmetry and market scrutiny are heightened. This insight enhances our understanding of the broader forces shaping financial transparency and corporate accountability.

The rest of the paper is structured as follows: Section 2 reviews the relevant literature and develops our hypotheses; Section 3 describes the data and methodology used in our empirical analysis; Section 4 presents the main results on peer effects in financial reporting quality; Section 5 presents robustness checks; Section 6 concludes with a discussion of the implications for regulators, investors, and corporate managers.

2. Literature Review and Hypotheses

2.1. Literature

Studies show that there is a strong relation between firms' financial reporting quality and the outcome of M&A deals. Deals whose target has low quality financial reporting are more likely to be terminated presumably due to breaches of generally accepted accounting principles (GAAP) (**?**). Similarly, better firm accounting quality has also been shown to increase the likelihood that an M&A deal will be completed and ultimately the speed with which the deal reaches final resolution (**?**). Additionally, **?** show that targets involved in failed deals are more likely to restate their financial statements soon after the deal is terminated.

Acquirers are also able to make more profitable acquisition decisions when target firms' financial statements are more comparable, even when controlling for the target firms' accrual quality (**?**). More generally, **?** find that when target firms have higher-quality accounting information, acquirer returns around the acquisition announcement are higher; this is consistent with the logic that higher quality accounting information allows an acquirer to more precisely value the target firm and determine the bid price. A related previous study finds that bidders share information risk with target shareholders by paying with more equity, rather than cash, for targets with poor earnings quality (**?**).

The breakdown of an M&A deal might cast a spotlight on other firms in an industry, leading to additional monitoring. Using a natural experiment that exploits exogenous reductions in coverage resulting from brokerage house mergers, **?** find that a reduction in coverage causes deterioration in financial reporting quality. The effect of coverage on disclosure is more pronounced for firms with weak shareholder rights. We argue that sensitive environments increase implicit monitoring of firms, which in turn increases managers' incentives to improve financial reporting quality or match that of their peers.

These results suggest that M&A transactions involving target firms with poor accounting quality are generally associated with a more costly, inefficient and risky process than transactions involving targets with higher accounting quality that is comparable to their peers. Thus, acquirers are likely to favour target firms with higher quality and comparable financial reports. Consequently, if firms in an industry aim to be the target of a successful M&A deal, there is an incentive to both increase financial reporting quality and match the report quality of their peers, especially if a deal in the industry has been recently terminated. We extend these conclusions by analyzing what the termination of an M&A deal might signal to the market, and in turn, the actions of industry peers. We give evidence

that an M&A termination might not just lead firms to restate financial statements, but also bring their financial disclosure quality closer to that of their peers.

We also give evidence that increased financial constraint has a similar peer effect of an M&A deal breakdown. Previous studies have shown that greater financial constraint leads to greater upward earnings management when selling equity (**?**); while on the other hand, increased analyst following is shown to decrease earnings management (**?**). We extend these findings by considering the the effects of financial constraint on the degree on which firms tend to match peer's reporting quality.

Financial reporting quality is also shown to affect a firm's risk profile to outside investors not necessarily interested in acquisition. Previous literature gives evidence that investors can benefit from private information when investing poor FRQ stocks; nonetheless, the poor FRQ could also increase the arbitrage risk of trading strategies by increasing the costs of holding a mispriced security for a long duration until a correction occurs (**?**). Similarly, **?** find that deteriorating earnings quality is associated with higher idiosyncratic return volatility from 1962 to 2001 due to increased dispersion in analyst forecasts. **?** also finds that better reporting quality is associated with less uncertainty about credit risk as captured by disagreement among the credit rating agencies. Furthermore, the comparability of financial reports has also been shown to reduce uncertainty in investment outcomes and overall investment efficiency (**?**).

Thus, improving financial reporting quality and comparability can also attract certain investors even if they are not interested in a full acquisition of the firm. This adds to the incentive to improve financial reporting quality if the firm is in need of outside capital if being the target of an acquisition is not viable or beneficial. We show that this incentive can be demonstrated via the peer effect during sensitive times.

2.2. Hypotheses

Based on the literature considered in Section 2,we propose two hypotheses to examine the role of peer effects in financial reporting quality (FRQ) and how sensitive environments amplify these effects.

H1 Firms are consistently affected by their peers' financial reporting quality.

Prior theoretical work suggests that managers tend to manipulate financial reports more often if they believe their peers' reports are more likely to be manipulated (Gao and Zhang, 2019). Einhorn et al. (2018) further demonstrate that managers may influence stockholders' beliefs about their firm's value by managing their own earnings reports and influencing the earnings reports of rival firms. These findings imply that firms are consistently influenced by their peers' FRQ, regardless of the environment. We therefore hypothesize that firms' FRQ is consistently affected by their peers' FRQ, even in the absence of sensitive environments.

H2 Sensitive environments that cast a spotlight on a firm's industry increase the effects of peers' financial reporting quality.

Sensitive environments, such as M&A deal withdrawals or financial constraints, increase the scrutiny and pressure on firms to align their FRQ with industry peers. For example, when an M&A deal involving a peer is withdrawn, particularly when the target firm is involved, it casts a "spotlight" on the industry, prompting other firms to improve their FRQ and align more closely with their peers to avoid similar scrutiny (Skaife and Wangerin, 2013; Chen et al., 2018). Similarly, financially constrained firms may align their FRQ with peers to reduce uncertainty and secure better financing terms (Akins, 2018), though they may also engage in earnings management to artificially boost perceptions

of their performance (Kurt, 2018). These dynamics suggest that sensitive environments amplify the influence of peer FRQ on firms' reporting practices. We therefore hypothesize that the effects of peers' FRQ are stronger in sensitive environments.

3. Data and Variable Construction

In this section, we describe our data sources, outline the construction of our main variables, and present our main empirical models.

Our sample includes publicly listed American firms for the period of 1973-2019 for the investment sample. Financial reporting data are from Compustat, and price and return data are from CRSP. We winsorize all our data at the 1^{st} and 99^{th} percentiles to mitigate the influences of extreme observations. Our main independent variable is firm's residual short interest (ResSI), and is calculated using Equation 1.

$$SI_{i,t} = \alpha + \beta_1 IO_{i,t} + \beta_2 CONVERT_{i,t} + \beta_3 TREND_t + \epsilon_{i,t} \tag{1}$$

where i and t represent firm and quarter, respectively. SI is the short interest ratio calculated as the raw short interest divided by the total shares outstanding obtained from CRSP. IO is institutional ownership, which represents the supply of lendable shares. $CONVERT$ is an indicator variable that controls factors relate to the hedging-based short selling. $TREND$ is a time-trend variable that controls for market-wide institutional factors. We estimate Equation 1 using $567,081$ firm quarter observations. Residual short interest ($ResSI$) is then the estimated residuals from the regression.

The main dependent variable is firm quarterly FRQ, which is calculated using Jones Model with Ball's revision (**?**, **?**). That is, the basic Jones model adding controls of cash flow, an indicator of negative cash flow, and the cross term of the two. In the process of

calculating FRQ, we define industries by its 1-digit, 2-digit, and 3-digit SIC code (SIC1, SIC2, SIC3, respectively), as well as using a Fama-French 12 industry classification. Our main regression model is specified in Equation 2.

$$FRQ_{i,t+1} = \alpha + \beta_1 ResSI_{i,t} + \beta_2 controls_{i,t} + \nu_i + \gamma_t + \epsilon_{i,t} \quad (2)$$

We examine how firm financial reporting qualities affected by residual short interests. The dependent variable is set at time $t+1$ to mitigate the concern of the potential reversed causality problem. Control variables include firm size, book-to-market ratio, return on asset, and also institutional ownership. We also control quarter and firm fixed effects to avoid problems from unobserved heterogeneity.

In additional to this baseline regression, we further look at how firm financial reporting quality affected by its peers and how a sensitive environment affecting such effects. The regression is specified as the following equation:

$$FRQ_{i,t+1} = \alpha + \beta_1 ResSI_{i,t} + \beta_2 Event_{i,t} + \beta_3 ResSI_{i,t} * Event_{i,t} + \beta_4 controls_{i,t} + \nu_i + \gamma_t + \epsilon_{i,t} \quad (3)$$

Here, we define a sensitive environment as a quarter where at least one firm in the industry withdrew from a M&A event (i.e. whether the sensitive event happens in quarter t where the industry that firm i is in). We look at events on which the acquiror withdraws, events on which the target withdraws, as well as events on which either party withdraws. We exclude event firms that experience such withdrawn events in all regressions.

We also consider whether a firm's WW-index affects their reaction to peer FRQ. The WW index aims to quantify a firm's financial constraint and is defined by

$$WW = 0.652 - 0.091CF - 0.062DIVPOS + 0.021TLTD - 0.044LNTA + 0.102ISG - 0.035SG \quad (4)$$

where $TLTD$ is the ratio of the long-term debt to total assets; $DIVPOS$ is an indicator that takes the value of one if the firm pays cash dividends; SG is firm sales growth; $LNTA$ is the natural log of total assets; ISG is the firm three-digit industry sales growth measured by percentage change in sales; and CF is the ratio of cash flow to total assets $\frac{IB+DP}{AT}$. Note that WW-index calculated here is negative, we add the constant value 0.652 from **?** to make the WW-index positive. We also fill in the missing value for IB and DP with value of 0 and find results qualitatively remain the same. Additionally, as several firms report missing sales in some quarters, which is necessary for generating WW-index, we also fill in missing values with 0s.[3].

This analysis aims to complement our studies of failed M&A deals by focusing on a sensitive environment surrounding the firm itself. We examine how a firm's WW-index affects a firm's FRQ and its cross effects. Here, the sensitive environment is defined by a high WW-index, that is, when the firm faces financial constraint.

We also try to quantify the strategic interaction in financial report quality among peers. we use average peer short interest residual as the instrumental variable for average peer FRQ, and then examine how a firm's FRQ is influenced by its peers' average FRQ. We estimate the following regression:

$$FRQ_{i,t} = \alpha + \beta_1 \overline{FRQ_{-i,t}} + \beta_2 controls + \nu_i + \gamma_t + \epsilon_{i,t} \tag{5}$$

We test if the peer effects are stronger or weaker when the information environment is more sensitive. Specifically, we examine whether a firm will react more strongly or weakly to peer's FRQ when there is a major M&A withdraw event.

[3]Tables with and without the zero imputation are provided in the online appendix

4. Results

4.1. Effect of residual short interest on firm financial reporting quality

We begin by validating our choice of residual short interest as an instrument for financial reporting quality by exploring it's correlation with the outcome. We also consider the cross effects of residual short interest with M&A withdraw and the WW-index, which shall be re-evaluated using residual short interest as an instrument.

4.1.1. Validation Tests for Residual Short Interest

We regress firm future monthly abnormal returns on residual short interest (ResSI) while controlling for firm and quarter fixed effects and find a significant negative effect across all analyzed time frames. Results are outlined in Table 1.

We observe that the relationship between residual short interest and abnormal returns is negative and significant, indicating that residual short interest contains valuable information about a firm's future performance. Specifically, we find that higher residual short interest is associated with lower future abnormal returns, supporting the argument that ResSI captures managerial private negative information that is not immediately incorporated into stock prices. These findings align with **?**, who suggest that undisclosed negative information held by managers is gradually reflected in stock prices over time. Since short interest represents market participants' expectations about a firm's future prospects, our results imply that firms with higher ResSI are more likely to experience deteriorating financial performance.

This result forms the basis for our use of residual short interest as an instrumental variable for the overall quality of financial disclosures (FRQ). The strong predictive rela-

tionship between ResSI and future returns strengthens our confidence that ResSI effectively captures unobserved private information, making it a suitable proxy for evaluating strategic interactions in financial reporting quality.

[Insert Table 1]

4.1.2. Base result

Table 2 reports the effect of residual short interest (ResSI) on firm financial reporting quality (FRQ). Results show a significant positive relationship between residual short interest and FRQ that is consistent across different industry classifications.

From this baseline model, we observe that firm residual short interest, which serves as a measure of managerial private negative information, contributes positively to our FRQ measure. This supports our hypothesis that higher levels of undisclosed negative information correspond to lower financial reporting quality. It is important to note that our FRQ metric is measured by the absolute value of the residual, meaning that larger values indicate worse financial reporting quality. Thus, a negative relationship between ResSI and FRQ would suggest that firms with lower levels of private negative information tend to have higher reporting quality. Our results confirm this intuition, indicating that higher FRQ is associated with lower levels of managerial private bad news.

These findings are consistent with our previous validation tests and further solidify our decision to use residual short interest as an instrumental variable for FRQ. The robustness of this relationship across various industry classifications strengthens the reliability of our identification strategy, providing a strong foundation for subsequent analyses of peer effects in financial reporting quality.

[Insert Table 2]

4.1.3. Cross Effects of M&A Withdrawals and Financial Constraints on Financial Reporting Quality

Tables 3 presents the results of how firm financial reporting quality (FRQ) is affected by residual short interest (ResSI) and how sensitive environments, such as M&A withdrawals and financial constraints, influence this effect. We define a sensitive environment in two ways: (1) based on whether at least one firm in the industry withdrew from an M&A event in a given quarter and (2) based on a firm's level of financial distress, measured by the Whited and Wu (WW) index.

To examine the effects of M&A withdrawals, we analyze three scenarios: when the acquirer withdraws, and when the target withdraws. Panel A and B of Table 3 present the results. Our results indicate that an M&A withdrawal has a negative effect on firm FRQ, suggesting that firms in industries experiencing withdrawn deals face heightened uncertainty and scrutiny. When examining the interaction between predicted peer FRQ and the withdrawn event, the cross effect is positive and significant, which is consistent with our base result. However, this positive effect is primarily driven by cases where the withdrawn firm was the target, rather than the acquirer. Additionally, we find that the cross effect of ResSI and an M&A withdrawal event is significantly negative across all industry classifications, including Fama-French 12, SIC1, SIC2, and SIC3. This implies that when an industry faces an M&A withdrawal, the effect of managerial private negative information on FRQ is weakened. The likely explanation for this finding is that a sensitive environment incentivizes managers to disclose more information to mitigate investor uncertainty.

An M&A withdrawal casts a spotlight on other firms in the industry, increasing scrutiny from both investors and potential acquirers. When negative industry-level information

emerges, investors become more cautious, prompting managers to adopt higher financial reporting transparency to maintain market confidence. This aligns with the findings of **?**, who show that M&A deals involving targets with low-quality financial reporting are more likely to be terminated. In such cases, the heightened attention reduces information asymmetry, weakening the influence of ResSI on FRQ.

As an alternative measure of a sensitive environment, we also examine financial distress using the WW index. By interacting the WW-index with ResSI, we assess how financial constraints impact the relationship between managerial private negative information and financial reporting quality. The WW-index is defined as in Equation 4.

The results from Panel C of Table 3 show that financial distress significantly influences FRQ behavior. Specifically, the cross effect of ResSI and the WW-index is negative and statistically significant, suggesting that the effect of ResSI on FRQ becomes weaker when firms are more financially constrained. This result is consistent with our previous findings regarding M&A withdrawals, reinforcing the idea that firms in sensitive environments face stronger incentives to enhance financial transparency. However, in this case, it is not an external M&A event but financial distress that increases scrutiny on a firm's financial reporting. When a firm is financially constrained, investors exercise greater caution, prompting managers to be more conservative in financial disclosures to maintain credibility and secure access to external capital. Similar to the effect observed in industries experiencing M&A withdrawals, the increased monitoring pressure from investors and creditors reduces asymmetric information, thereby weakening the impact of ResSI on FRQ.

For both M&A withdrawals and financial distress, our findings suggest that managerial private negative information plays a weaker role in determining FRQ when firms

operate in a sensitive financial environment. This highlights the strategic nature of financial reporting decisions and underscores the importance of external scrutiny in shaping corporate transparency.

[Insert Tables 3]

4.2. Peer Effects in Financial Reporting Quality: 2SLS Estimation Using Peer Firm ResSI as an Instrument

We use peer firm residual short interest (ResSI) as an instrumental variable for peer firm financial reporting quality (FRQ) to examine how a firm's FRQ is affected by that of its peers. Tables 4 provide a comprehensive view of these peer effects under different conditions. Panel A presents the overall results.

[Insert Table 4]

The first-stage results indicate that for all industries except SIC1, ResSI contributes positively to firm financial reporting quality, aligning with our base results. In the second stage, the fitted value from the first-stage estimation shows a significantly positive effect for all industries except SIC1, suggesting that firms' FRQ is positively influenced by the FRQ of their peers. The discrepancy observed in SIC1 industries may be due to industry-specific variation captured by the mean but not fully accounted for in the base model. This variability could explain the negative but insignificant results in the second stage.

4.2.1. Cross effect with M&A events

Table 4 also examines peer effects in a sensitive environment, where at least one firm in the industry withdraws from an M&A event—either as an acquirer or a target. Panel B and C present the results. The sequence of analysis follows the consolidated structure,

ensuring a logical flow of results. The first-stage results remain consistent with our previous findings, confirming that peer firm ResSI is a strong instrument for peer FRQ. In the second stage, we find that the cross effect of peer firm FRQ and M&A withdrawal is positive and significant only when the withdrawn firm was the target, particularly for Fama-French 12, SIC1, and SIC2 industries. For SIC3, the effect is positive but not significant, whereas in all other cases, the cross effect is statistically significant.

This result reinforces our spotlight effect hypothesis, suggesting that firms react more strongly to peer FRQ changes when a target firm withdraws from an M&A deal. The heightened investor scrutiny and industry-wide uncertainty following a target firm's withdrawal amplifies peer effects, and since peer FRQ is instrumented using peer firm ResSI, we mitigate concerns about endogenous FRQ alignment. In contrast, withdrawals by acquirers do not generate the same level of reaction, indicating that the sensitivity of peer FRQ is conditional on whether the withdrawn firm was a target.

4.2.2. Cross effect with WW-index

To further investigate the impact of sensitive environments, we examine the interaction between peer firm FRQ and the WW-index, a widely used measure of financial distress. Panel D of Table 4 presents these cross effects in the second-stage results, with peer firm FRQ still instrumented using peer ResSI to ensure exogeneity.

The findings indicate that the cross effect between peer firm FRQ and the WW-index is positive and significant for Fama-French 12 and SIC1 industries, but positive and insignificant for SIC2, and negative but insignificant for SIC3 and SIC4. This suggests that the interpretation of financial distress as a sensitive environment is less meaningful compared to M&A withdrawals, particularly when the firm at risk is a target.

These results imply that higher financial constraints may not necessarily strengthen peer effects on FRQ. Instead, the effect depends on the interplay of two competing incentives. On one hand, firms facing financial distress may engage in more aggressive earnings management to improve external perceptions **?**. On the other hand, increased investor scrutiny and analyst following tend to reduce earnings management behaviors **?**. By instrumenting peer FRQ with peer ResSI, we ensure that the observed peer effects are not driven by firms' endogenous financial constraints but rather by exogenous variations in peer FRQ.

Across both M&A withdrawals and financial constraints, we find that peer firm financial reporting quality significantly influences a firm's FRQ. However, this effect is strongest when a target firm withdraws from an M&A deal, as this creates a spotlight effect that increases investor scrutiny. In contrast, the impact of financial distress on peer FRQ effects is less consistent, as competing incentives may either strengthen or weaken firms' motivation to align their FRQ with their peers. By leveraging peer firm ResSI as an instrumental variable, we mitigate endogeneity concerns and provide strong empirical evidence that firms' financial reporting choices are strategically influenced by their peers, particularly in high-pressure environments.

5. Robustness Checks

5.1. Alternative sensitive environment

5.1.1. Cross effect with Distance to Default

We also consider Distance to Default (DD) as an additional sensitive scenario. We use Distance to Default cross with peer firm FRQ to see how firm react to its peers when they

are closer to default. Details of our calculation of Distance to Default are included in Appendix A.

The results, presented in table 5, indicate that the effect of ResSI on FRQ is weakened by Distance to Default. Specifically, the cross effect of ResSI and DD is significant and negative, meaning that as the distance to default increases, the effect of ResSI on FRQ decreases. This suggests that firms farther from default are less influenced by the private negative information embedded in residual short interest. To further validate these findings, we conduct the same tests on a subsample of firms with a probability of default (PD) greater than 0.01%. The results, also reported in panel B of table 5, remain consistent, reinforcing the conclusion that firms in financially precarious positions experience a weaker relationship between ResSI and FRQ due to heightened investor scrutiny.

Our examination of the relationship between Distance to Default and firm FRQ yields findings similar to our previous analysis of financial constraints (WW index) and M&A withdrawals. Firms that are closer to default operate in a delicate financial environment, which naturally increases external monitoring from investors and creditors. Under such conditions, managers have less flexibility to withhold negative information, regardless of residual short interest levels. However, it is important to note that, much like financial constraints, Distance to Default does not generate a spotlight effect on peers within the industry.

[Insert Table 5]

5.1.2. Quantifying Peer Effects using Distance to Default

Building on the previous section, we now examine whether peer firm financial reporting quality (FRQ) plays a significant role in shaping a firm's FRQ when firms are

operating in a financially distressed environment, measured by Distance to Default (DD). Unlike M&A withdrawals, which cast a spotlight on the entire industry, financial distress is typically a firm-specific issue, meaning the external scrutiny a firm experiences is often confined to the distressed firm itself rather than extending to its peers.

As shown in Tables 6, the second-stage cross effect of peer firm FRQ and Distance to Default on firm FRQ is not significant for any industry classification. This suggests that firms do not adjust their financial reporting behavior in response to their peers' FRQ when they are farther from default, reinforcing the idea that proximity to default increases scrutiny at the firm level rather than at the industry level. These findings align with the patterns observed in our WW-index analysis, where financial constraints also failed to generate a significant peer effect. When a firm nears default, investor scrutiny and monitoring pressures intensify, forcing the firm to increase transparency or adjust financial reporting to meet external expectations. However, because financial distress is not an industry-wide phenomenon, the peer effect observed in M&A withdrawal cases does not translate to firms experiencing financial distress.

This distinction is important because it highlights the conditions under which firms are most likely to respond to peer FRQ. In industry-wide sensitive environments, such as M&A withdrawals, where multiple firms may be affected, firms tend to align their financial reporting behavior with their peers to manage investor perceptions and mitigate uncertainty. Conversely, in firm-specific distress scenarios, such as a firm approaching default, external pressure is concentrated on the individual firm rather than its industry peers, limiting the scope of peer effects on FRQ. These results further support our initial hypothesis that peer-driven FRQ alignment is strongest when the entire industry is under scrutiny rather than when financial distress is isolated to a single firm.

[Insert Tables 6]

5.2. Effect of Equity Shock on FRQ

In this section, we examine the effect of equity shock (EQS) as an alternative measure to residual short interest (ResSI) on firms' financial reporting quality (FRQ). Unlike ResSI, which serves as a proxy for undisclosed private negative information held by managers, EQS captures firm-specific variations in market reactions, reflecting how external equity market fluctuations influence financial reporting decisions. This distinction is critical, as it highlights two different mechanisms through which financial reporting behavior can be shaped—one driven by internal managerial incentives (ResSI) and the other by external market pressures (EQS).

When calculating equity shock, we first estimate a market model regression controlling for peer firm performance for each firm, where peer firms are defined as competitors within the same industry, based on different industry classifications. We then estimate betas for each quarter and compute residuals from the model. The equity shock for each quarter is defined as the average of the monthly shocks within that quarter. The details of this equity shock calculation are provided in **?**. By using EQS as an alternative proxy for financial reporting incentives, we aim to assess whether firms respond differently to external market shocks versus internal firm-specific pressures when determining their FRQ. This comparison provides additional insight into the robustness of our main findings and the different channels through which financial reporting quality is shaped.

The results, presented in Panel A of Table 7, indicate that firms' equity shock contributes negatively to FRQ, meaning that higher financial reporting quality is associated with higher levels of equity shock. This result contrasts with the findings in Table 2, where

residual short interest had a positive effect on FRQ. This difference is expected, given the distinct nature of equity shock versus residual short interest. Since EQS captures firm-specific variations in market reactions, it directly reflects how financial transparency influences investor sentiment, whereas ResSI serves as a proxy for managerial private negative information.

[Insert Tables 7]

5.2.1. Cross effect with M&A events

Panel B of Table 7 examines how firm financial reporting quality is affected by equity shock in a sensitive environment, specifically when at least one firm in the industry withdraws as a target in an M&A event during a given quarter. Unlike our previous findings with residual short interest, the cross effect between equity shock and M&A withdrawal is not significant across any industry classifications. This indicates that a firm's FRQ response to equity shocks remains largely unchanged, regardless of whether a peer firm experiences an M&A withdrawal.

This divergence from earlier results suggests that equity shock captures a different aspect of managerial behavior compared to residual short interest. Unlike ResSI, which proxies for undisclosed private negative information, equity shock is primarily driven by observable market fluctuations. Consequently, M&A withdrawal events, which introduce additional uncertainty at the industry level, do not significantly alter how equity shocks translate into financial reporting quality changes.

5.2.2. Cross effect with WW-index

In this section, we look at how financial distress affects the effect of firms EQS on FRQ. Panel C of Table 7 explores the interaction between equity shock and financial distress,

measured by the WW-index. The results show that equity shock continues to have a significant negative effect on FRQ, confirming the robustness of our base findings.

However, the cross effect of WW-index and EQS is significant and positive, indicating that financial distress weakens the effect of equity shock on FRQ. This means that firms experiencing higher levels of financial distress are less sensitive to changes in equity shock when determining their financial reporting quality. One possible explanation is that financially constrained firms face stronger incentives to manipulate financial reporting to maintain investor confidence. While equity shocks generally promote higher FRQ, firms under financial distress may prioritize short-term earnings management over transparency, thereby diminishing the influence of equity shocks on their reporting decisions.

Overall, the findings in Table 7 confirm that equity shock serves as a distinct determinant of financial reporting quality, separate from residual short interest. While higher equity shocks are generally associated with higher FRQ, M&A withdrawal events do not significantly alter this relationship, suggesting that EQS is less sensitive to industry-wide uncertainty than ResSI. However, financial constraints weaken the effect of equity shock on FRQ, reinforcing the idea that financially distressed firms prioritize short-term survival over transparency. These results highlight the role of external market forces in shaping financial reporting choices, demonstrating that while firms respond to equity shocks in normal conditions, financial distress can disrupt this relationship.

5.3. Effects of peer firm financial reporting quality: 2SLS using peer firm EQS as IV

Building on the prior section, we now investigate the role of peer firm financial reporting quality (FRQ) in influencing a firm's own FRQ, particularly when using peer equity

shocks (peer EQS) as an instrumental variable (IV). While the previous analysis in Section focused on how a firm's own equity shock affects its financial reporting quality, this section shifts the focus to peer-driven effects, allowing us to explore the extent to which firms adjust their FRQ in response to changes in their industry peers' financial reporting practices. We employ a two-stage least squares (2SLS) methodology, using the average value of peer firm equity shocks (peer EQS) as an IV in the first stage. This approach helps address potential endogeneity concerns, ensuring that peer FRQ is not simply reflecting unobserved common shocks within an industry but instead represents an exogenous driver of a firm's FRQ behavior.

Panel A of Table 8 presents the overall results. The first-stage results remain consistent with our base findings, showing that peer EQS is a strong predictor of peer FRQ, reinforcing its validity as an instrumental variable. As observed in prior sections, ResSI continues to contribute positively to firm financial reporting quality. In the second stage, we analyze whether the predicted FRQ from the first stage significantly impacts a firm's own FRQ. The results confirm a significantly positive effect, suggesting that firms align their FRQ with their peers' financial reporting practices. However, this effect is not significant in Fama-French 12 and SIC1 industries, indicating potential industry-specific variations in the strength of peer effects.

These findings reinforce the broader theme observed throughout our analysis—firms do not make financial reporting decisions in isolation but respond to peer behavior, particularly when external monitoring pressures or industry-wide uncertainties are at play.

[Insert Tables 8]

5.3.1. Cross effect with M&A events and WW-index

We also examine the interaction between peer firm FRQ and M&A withdrawals, specifically when at least one firm in the industry withdraws as a target in an M&A event. Table 8 's Panel B presents the results. The cross effect is introduced in the second stage of the 2SLS model to assess how firms respond to their peers under heightened industry scrutiny.

The first-stage results are again consistent with our previous findings, confirming that peer firm EQS serves as a strong instrument for peer FRQ. In the second stage, we find that the cross effect of peer firm FRQ and M&A withdrawal is positive and significant for industry classifications Fama-French 12, SIC1, and SIC2. For SIC3, the effect is positive but not significant, while for SIC4, the effect is negative. This suggests that firms are more sensitive to their peers' FRQ in industries experiencing M&A target withdrawals, supporting the spotlight effect hypothesis.

Additionally, We test the cross effect between peer firm FRQ and the WW-index. Panel C presents our findings. The results indicate that the second-stage cross effect is negative but not statistically significant across all industry classifications. This finding is in line with our previous results, where M&A withdrawals of target firms generate a strong industry-wide peer effect on FRQ, while financial distress (WW-index) does not elicit a comparable response.

The findings presented in Table 8 reinforce the robustness and consistency of our prior analysis. Specifically, peer effects driven by M&A events involving target firm withdrawals are positive and statistically significant, confirming that such events increase industry-wide scrutiny and induce firms to respond to their peers' FRQ adjustments. Conversely, financial constraints (WW-index) do not trigger a comparable reaction, as firms facing

financial distress tend to focus on firm-specific challenges rather than aligning their FRQ with industry peers. These results provide further empirical support for our hypothesis that peer effects on FRQ are strongest when industry-wide attention increases due to M&A withdrawals, whereas financial distress primarily affects firm-level reporting behavior.

6. Conclusion

This study provides robust empirical evidence of strategic interactions in financial reporting quality (FRQ) among firms, particularly in sensitive environments. Using an instrumental variable approach, we show that firms' FRQ is significantly influenced by the financial reporting practices of their peers. Specifically, we identify a "spotlight effect," where firms improve their FRQ and align more closely with their peers when their industry faces heightened scrutiny, such as during M&A deal withdrawals or financial distress. Our results reveal that peer effects are strongest when the withdrawn firm is the target of an M&A deal, as this casts a spotlight on the industry, prompting firms to reduce information asymmetry and avoid negative market perceptions. Additionally, we find that financially constrained firms are more sensitive to peer FRQ, as they seek to mitigate uncertainty and secure better financing terms.

Our findings have important implications for regulators, investors, and corporate managers. For regulators, the "spotlight effect" suggests that interventions in industries undergoing significant events, such as M&A deal withdrawals, can incentivize firms to improve their financial reporting quality (FRQ) and align with best practices. Regulators could also use our findings to identify industries susceptible to peer-driven reporting behavior and target oversight efforts accordingly. For investors, the "spotlight effect" implies that temporary FRQ improvements during sensitive periods may not reflect long-term funda-

mentals, and financially constrained firms may engage in earnings management to align with peers, potentially distorting their true financial position. Investors should, therefore, scrutinize the financial health and reporting practices of firms in high-distress industries. For corporate managers, aligning FRQ with peers during sensitive periods can enhance market reputation and reduce uncertainty, but over-reliance on peer-driven reporting may lead to suboptimal decisions or regulatory scrutiny. Financially constrained firms should balance aligning with peers to secure financing with avoiding excessive earnings management that undermines long-term value.

In conclusion, this study advances our understanding of strategic interactions in financial reporting quality by providing the first empirical quantification of peer effects and identifying the conditions under which these effects are amplified. Our findings have important implications for regulators, investors, and corporate managers, offering new insights into the strategic dynamics of financial reporting in competitive and high-pressure settings.

Appendix

A. Distance to Default and Probability of Default

Following the literature, We use

$$DD = \frac{\ln(V_a/debt) + (\mu - 0.5 * \sigma_{V_a}^2)}{\sigma_{V_a}} \tag{6}$$

$$d2 = d1 - \sigma_V \tag{7}$$

to calculate Distance to Default, and black-sholes simulations.

There are 2 possible ways to perform this simulation. Here, method 1 is to use black-scholes to estimate V_e, then use $V_a = V_e + debt$ for value, as a result, we have

$$V_a = debt + V_a * N(d1) - debt * e^{-rf} * N(d2) \tag{8}$$

$$d1 = \frac{\ln(V_0/debt) + (rf + 0.5 * \sigma_V^2)}{\sigma_V} \tag{9}$$

$$d2 = d1 - \sigma_V \tag{10}$$

We use V_0 in $N(d1)$ and $N(d2)$, which is from the step nearest iteration, and $V_e + debt$ for the first step iteration. σ_V is the moving standard deviation of the change of the firm value from the nearest step iteration.

Method 2 uses black-scholes to estimate V_a directly,

$$V_a = \frac{V_e + debt * e^{-rf} * N(d2)}{N(d1)} \tag{11}$$

where V_0 is used in N(d1) and N(d2), which is from the step nearest iteration, and is $V_e + debt$ for the first step iteration. σ_V is the moving standard deviation of the change of the firm value from the nearest step iteration. Iterations stops when σ_V converges.

After generating the standard deviation of firm value (σ_V), we perform a last step of black-scholes using this end value of σ_V, and either the initial ($V_{initial} = V_e + debt$) or end the value (V_a) is used as V_0. The firm value is then used to calculate expected return and its standard deviation, as well as the distance to default measure. Taking the normal of the negative of this distance to default measure (DD), I get the probability to default ($PD = N(-DD)$)

In this paper, we focus on DD and PD calculated by method 2, start with end value. We also deduct the industry average value of DD and PD. DD values are winsored at 1% and 99% levels.

Table 1: Validation Tests of Residual Short Interest

Dependent	ABRET			
	quarter end return		rolling return	
	t+1	t+2 to t+4	t+1	t+2 to t+4
	(1)	(2)	(3)	(4)
ResSI	-0.250	-0.500	-0.294	-0.502
	(0.016)***	(0.041)***	(0.018)***	(0.041)***
size	-0.046	-0.131	-0.053	-0.131
	(0.001)***	(0.004)***	(0.002)***	(0.004)***
btm	0.135	0.295	0.154	0.297
	(0.004)***	(0.009)***	(0.004)***	(0.009)***
L12Abret	-0.004	-0.044	-0.005	-0.040
	(0.001)***	(0.003)***	(0.002)***	(0.003)***
Constant	0.205	1.273	0.226	1.278
	(0.021)***	(0.040)***	(0.024)***	(0.040)***
R^2	0.10	0.19	0.10	0.18
N	270,816	242,231	270,816	242,231

This table reports validation tests of residual short interest. The sample period is from 1973 to 2018 at a quarterly frequency. We control for firm fixed effects when calculating residual short interests. The dependent variable is the quarterly abnormal return in period t+1 and the period from t+2 to t+4. Columns (1) and (2) use quarter-end returns, and columns (3) and (4) use rolling returns. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 2: Effect residual short interest on FRQ

Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.075	0.075	0.075	0.075
	(0.007)***	(0.007)***	(0.007)***	(0.007)***
roa	-0.135	-0.135	-0.135	-0.135
	(0.007)***	(0.007)***	(0.007)***	(0.007)***
size	-0.006	-0.006	-0.006	-0.006
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
mtb	-0.002	-0.002	-0.002	-0.002
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
IO	-0.010	-0.010	-0.010	-0.010
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
Constant	0.065	0.065	0.065	0.065
	(0.003)***	(0.003)***	(0.003)***	(0.003)***
R^2	0.35	0.35	0.35	0.35
N	251,860	251,860	251,860	251,860

This table reports the effect of residual short interest on firm FRQ. The sample period is from 1973 to 2018 at a quarterly frequency. We control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. Columns (1) through (4) show FRQ measures for firms in fama12, sic1, sic2 and sic3 industries, respectively. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 3: Cross Effect of M&A Withdrawals and Financial Constraints on FRQ

Panel A: Acquirer Withdrawn				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.081	0.083	0.082	0.079
	(0.008)***	(0.008)***	(0.008)***	(0.007)***
Withdrawn Acq	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)
ResSI*Withdrawn	-0.016	-0.018	-0.038	-0.038
	(0.010)*	(0.009)*	(0.013)***	(0.016)**
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	251,536	251,536	251,536	251,536
Panel B: Target Withdrawn				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.082	0.082	0.081	0.078
	(0.008)***	(0.008)***	(0.007)***	(0.007)***
Withdrawn Target	-0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)
ResSI*Withdrawn	-0.022	-0.019	-0.040	-0.045
	(0.010)**	(0.010)**	(0.014)***	(0.018)**
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	251,682	251,682	251,682	251,682
Panel C: Financial Constraint				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.189	0.189	0.189	0.189
	(0.026)***	(0.026)***	(0.026)***	(0.026)***
WW index pos	0.003	0.003	0.003	0.003
	(0.005)	(0.005)	(0.005)	(0.005)
ResSI*WW index	-0.322	-0.322	-0.322	-0.322
	(0.073)***	(0.073)***	(0.073)***	(0.073)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	242,508	242,508	242,508	242,508

This table reports the effect of residual short interest on firm FRQ controlling for an acquirer withdraw and cross effects. The sample period is from 1973 to 2018, with quarterly frequency. Panel A shows effects from acquirer withdrawal, Panel B shows effects from target withdrawal, and Panel C shows effects from financial constraint represented by the WW-index. Control variables include ROA, firm size, MTB, and institutional ownership, and are not reported to save space. We also control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. Columns (1) through (4) show FRQ measures for firms in fama12, sic1, sic2 and sic3 industries, respectively. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 4: 2SLS Estimation Using Peer Firm ResSI as an Instrument

Panel A: Overall Result				
First Stage				
Dependent	mean FRQ (other firms in industry)			
Industry	fama12	sic1	sic2	sic3
mean ResSI	0.242	-0.065	0.208	0.143
	(0.013)***	(0.018)***	(0.027)***	(0.016)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.79	0.73	0.61	0.48
N	248,521	248,523	248,191	244,352
Second Stage				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
mean FRQ (fitted)	1.092	-0.221	1.223	0.807
	(0.272)***	(1.183)	(0.212)***	(0.156)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	248,521	248,523	248,191	244,352
Panel B: Acquirer Withdrawn				
First Stage				
Dependent	mean FRQ (other firms in industry)			
Industry	fama12	sic1	sic2	sic3
mean ResSI	0.242	-0.065	0.208	0.142
	(0.014)***	(0.018)***	(0.027)***	(0.016)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.79	0.73	0.61	0.48
N	248,203	248,205	247,874	244,039
Second Stage				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
mean FRQ (fitted)	1.100	-0.303	1.221	0.807
	(0.273)***	(1.187)	(0.212)***	(0.156)***
Withdrawn Acq	-0.000	-0.003	0.001	0.006
	(0.003)	(0.002)	(0.003)	(0.004)
mean FRQ*Withdrawn	-0.001	0.047	-0.004	-0.093
	(0.046)	(0.041)	(0.049)	(0.068)
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	248,203	248,205	247,874	244,039

Table 4: 2SLS Estimation Using Peer Firm ResSI as an Instrument (Cont.)

Panel C: Target Withdrawn				
First Stage				
Dependent	mean FRQ (other firms in industry)			
Industry	fama12	sic1	sic2	sic3
mean ResSI	0.242	-0.065	0.208	0.143
	(0.014)***	(0.018)***	(0.027)***	(0.016)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.79	0.73	0.61	0.48
N	248,348	248,350	248,018	244,182
Second Stage				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
mean FRQ (fitted)	1.078	-0.360	1.228	0.808
	(0.272)***	(1.184)	(0.212)***	(0.156)***
Withdrawn Target	-0.006	-0.007	-0.009	-0.006
	(0.003)**	(0.002)***	(0.003)***	(0.005)
mean FRQ*Withdrawn	0.094	0.115	0.145	0.108
	(0.046)**	(0.039)***	(0.051)***	(0.074)
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	248,348	248,350	248,018	244,182
Panel D: Financial Constraint				
First Stage				
Dependent	mean FRQ (other firms in industry)			
Industry	fama12	sic1	sic2	sic3
mean ResSI	0.230	-0.069	0.211	0.144
	(0.014)***	(0.018)***	(0.027)***	(0.016)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.79	0.73	0.61	0.48
N	248,203	248,205	247,874	244,039
Second Stage				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
mean FRQ (fitted)	0.925	-0.180	1.152	0.834
	(0.298)***	(1.125)	(0.237)***	(0.184)***
WW index pos	-0.025	-0.030	-0.007	0.007
	(0.016)	(0.015)**	(0.016)	(0.016)
mean FRQ*WW index	0.478	0.556	0.169	-0.060
	(0.252)*	(0.238)**	(0.257)	(0.263)
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	248,203	248,205	247,874	244,039

This table reports the effect of the current period mean FRQ on the next period firm FRQ. Panel A presents the overall results, Panel B shows the effects of current period mean FRQ on next period firm FRQ controlling for an acquirer withdraw and cross effects, Panel C shows the effect controlling for an target withdraw, and Panel D shows the effect controlling for WW-index. Control variables include ROA, firm size, MTB, and institutional ownership, and are not reported to save space. We also control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. The table reports the results of the first and second stage of a 2SLS regression, using mean residual short interest as an instrument for mean firm FRQ. The sample period is from 1973 to 2018 at a quarterly frequency. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 5: Effect residual short interest on FRQ, Dist to Default

Panel A: All sample				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.132	0.132	0.132	0.132
	(0.013)***	(0.013)***	(0.013)***	(0.013)***
Dist to default (mean)	-0.001	-0.001	-0.001	-0.001
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
ResSI*Dist to Default	-0.012	-0.012	-0.012	-0.012
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	203,592	203,592	203,592	203,592
Panel B: Firms with Probability of Default greater than 0.0001				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
ResSI	0.129	0.129	0.129	0.129
	(0.022)***	(0.022)***	(0.022)***	(0.022)***
Dist to default (mean)	-0.004	-0.004	-0.004	-0.004
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
ResSI*Dist to Default	-0.023	-0.023	-0.023	-0.023
	(0.008)***	(0.008)***	(0.008)***	(0.008)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.35	0.35	0.35	0.35
N	66,139	66,139	66,139	66,139

This table reports the effect of residual short interest on firm FRQ controlling for Distance to Default and cross effects. The sample period is from 1973 to 2018 at a quarterly frequency. Control variables include ROA, firm size, MTB, and institutional ownership, and are not reported to save space. We also control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. Distance to Default is calculated as in Appendix A, using black-sholes to estimate V_a directly. Panel A reports results for all samples, and Panel B reports results for firms with a Probability of Default greater than 0.0001. Columns (1) through (4) show FRQ measures for firms in fama12, sic1, sic2 and sic3 industries, respectively. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 6: Cross effect with Distance to Default

Panel A: First Stage				
Dependent	mean FRQ (other firms in industry)			
Industry	fama12	sic1	sic2	sic3
mean ResSI	0.385	0.012	0.367	0.241
	(0.024)***	(0.028)	(0.049)***	(0.034)***
roa	-0.010	-0.009	-0.026	-0.041
	(0.001)***	(0.001)***	(0.002)***	(0.004)***
size	0.001	0.000	0.001	0.002
	(0.000)***	(0.000)**	(0.000)***	(0.000)***
mtb	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)*	(0.000)***	(0.000)**
IO	-0.000	-0.000	-0.000	0.001
	(0.000)	(0.000)	(0.001)	(0.001)
Constant	0.027	0.018	-0.004	0.010
	(0.009)***	(0.009)**	(0.002)**	(0.003)***
R^2	0.78	0.77	0.62	0.49
N	64,723	64,722	64,653	63,455
Panel B: Second Stage				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
mean FRQ (fitted)	1.039	7.996	1.157	1.030
	(0.347)***	(14.225)	(0.244)***	(0.213)***
Dist to default (mean)	-0.005	-0.005	-0.004	-0.002
	(0.002)***	(0.002)***	(0.002)**	(0.002)
mean FRQ*Distance to Default	0.002	0.010	-0.016	-0.033
	(0.030)	(0.028)	(0.027)	(0.027)
roa	-0.100	-0.038	-0.079	-0.070
	(0.011)***	(0.130)	(0.012)***	(0.013)***
size	-0.002	-0.005	-0.003	-0.003
	(0.001)*	(0.006)	(0.001)**	(0.001)**
mtb	-0.003	-0.001	-0.002	-0.002
	(0.001)***	(0.003)	(0.001)**	(0.001)**
IO	-0.006	-0.007	-0.006	-0.008
	(0.003)**	(0.003)**	(0.003)**	(0.003)***
Constant	0.059	-0.054	0.133	0.120
	(0.026)**	(0.253)	(0.009)***	(0.010)***
R^2	0.35	0.35	0.35	0.35
N	64,723	64,722	64,653	63,455

This table reports the effect of the current period's mean FRQ on the next period's firm FRQ, controlling for Distance to Default and cross effects. The first and second panels report the results of the first and second stages of a 2SLS regression, using mean residual short interest as an instrument for mean firm FRQ. The sample period is from 1973 to 2018 at a quarterly frequency. We control for firm fixed effects when calculating residual short interests. These results are for firms with a Probability of Default greater than 0.0001. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 7: Effect of Equity Shock on FRQ

Panel A: Effect of Equity Shock				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
EQ shock (qt)	-0.028	-0.029	-0.028	-0.028
	(0.002)***	(0.002)***	(0.002)***	(0.002)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	325,114	325,114	324,871	323,295
Panel B: Cross effect with Target Withdrawn				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
EQ shock (qt)	-0.025	-0.028	-0.028	-0.028
	(0.002)***	(0.002)***	(0.002)***	(0.002)***
Withdrawn Target	0.000	0.000	0.000	0.001
	(0.000)	(0.000)	(0.000)	(0.000)*
EQS*Withdrawn (qt)	-0.006	-0.003	0.002	0.002
	(0.003)*	(0.003)	(0.004)	(0.005)
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	324,816	324,816	324,573	322,997
Panel C: Cross effect with Financial Constraint				
Dependent	FRQ Jones, t+1			
Industry	fama12	sic1	sic2	sic3
EQ shock (qt)	-0.048	-0.051	-0.045	-0.049
	(0.007)***	(0.007)***	(0.007)***	(0.007)***
WW index pos	0.003	0.003	0.003	0.003
	(0.004)	(0.004)	(0.004)	(0.004)
EQS*WW index	0.045	0.049	0.040	0.049
	(0.016)***	(0.016)***	(0.016)**	(0.016)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	314,287	314,287	314,047	312,501

This table reports the effect of equity shock on firm FRQ. Panel A shows the overall results, Panel B shows the effects of equity shock on firm FRQ controlling for a target withdraw and cross effects, and Panel C shows the effect controlling for WW-index. Control variables include ROA, firm size, MTB, and institutional ownership, and are not reported to save space. We also control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. The sample period is from 1973 to 2018 at a quarterly frequency. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. Equity shock is calculated as in Leary and Roberts (2014). Columns (1) through (4) show FRQ measures for firms in fama12, sic1, sic2 and sic3 industries, respectively. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.

Table 8: 2SLS using peer firm EQS as IV

Industry	fama12	sic1	sic2	sic3
Panel A: Overall Effect				
First Stage Dependent	mean FRQ (other firms in industry)			
Peer EQS shock (q)	-0.014	0.022	-0.039	-0.028
	(0.005)***	(0.006)***	(0.006)***	(0.004)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.77	0.67	0.61	0.48
N	319,229	319,234	318,823	315,838
Second Stage Dependent	FRQ Jones, t+1			
mean FRQ (fitted)	-0.015	1.450	1.059	0.660
	(2.698)	(1.891)	(0.400)***	(0.232)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	319,229	319,234	318,823	315,838
Panel B: Cross Effect with Target Withdrawn				
First Stage Dependent	mean FRQ (other firms in industry)			
Peer EQS shock (q)	-0.014	0.022	-0.039	-0.028
	(0.005)***	(0.006)***	(0.006)***	(0.004)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.77	0.67	0.61	0.48
N	318,941	318,946	318,535	315,551
mean FRQ (fitted)	0.246	0.462	1.075	0.663
	(2.740)	(1.897)	(0.402)***	(0.233)***
Withdrawn Target	-0.012	-0.010	-0.013	-0.008
	(0.003)***	(0.003)***	(0.003)***	(0.004)*
mean FRQ*Withdrawn	0.194	0.172	0.202	0.144
	(0.042)***	(0.043)***	(0.052)***	(0.069)**
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	318,941	318,946	318,535	315,551
Panel C: Cross Effect with Financial Constraint				
First Stage Dependent	mean FRQ (other firms in industry)			
Peer EQS shock (qt)	-0.014	0.022	-0.039	-0.028
	(0.005)***	(0.007)***	(0.006)***	(0.004)***
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.77	0.67	0.60	0.48
N	311,102	311,107	310,703	307,757
Second Stage Dependent	FRQ Jones, t+1			
mean FRQ (fitted)	-0.283	1.762	1.147	0.783
	(2.615)	(1.904)	(0.412)***	(0.247)***
WW index pos	0.010	0.007	0.020	0.025
	(0.015)	(0.015)	(0.016)	(0.016)
mean FRQ*WW index	-0.112	-0.064	-0.268	-0.352
	(0.227)	(0.227)	(0.230)	(0.232)
Controls & Constant	Yes	Yes	Yes	Yes
R^2	0.32	0.32	0.32	0.32
N	311,102	311,107	310,703	307,757

This table reports the effect of the current period mean FRQ on the next period firm FRQ. Panel A shows the overall results, Panel B shows the effect of the current period mean FRQ on the next period firm FRQ, controlling for a target withdrawal and cross effects, and Panel C shows the effect controlling for the WW index. Control variables include ROA, firm size, MTB, and institutional ownership, and are not reported to save space. We also control for firm fixed effects when calculating residual short interests. The dependent variable is FRQ, calculated using the Jones Model with Ball's revision in period t+1. The table reports the results of the first and second stage of a 2SLS regression, using mean residual short interest as an instrument for mean firm FRQ. The sample period is from 1973 to 2018 at a quarterly frequency. All regressions control for quarter and firm fixed effects. Standard errors are clustered at the firm level. *, ** and *** denote significance at the 10%, 5% and 1% level, respectively.