Securities Class Action Lawsuits and Credit Risk: Evidence from the CDS Market

Iuliana Ismailescu*, Guillermo Llorente‡

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Abstract

This study investigates how securities litigations in the U.S. affect the credit risk of sued firms. Our focus lies on the three-day change in CDS spreads (our measure of credit risk) around two securities class action events - the corrective disclosure and the lawsuit filing. We find that the CDS market reacts strongly to fraud disclosure and moderately to case filings. Moreover, the latter results are unique to rapid lawsuits as delayed complaints elicit no significant change in credit risk around the filing date. The market value loss during the class action period, informed trading, and firm size are the factors that explain the change in the sued firm's CDS spread around the fraud disclosure date. The change in CDS spread around the filing date is mainly explained by the change in credit risk around the corrective disclosure date. We also show that a large CDS spread change around the corrective disclosure date, but not around the filing date, increases the likelihood of settlement. Finally, we find that the effects of fraud revelation and rapid suit filings spill over to industry peers. All results remain robust to the exclusion of confounding events from the sample.

Keywords: securities class action lawsuits; fraud disclosure; CDS spreads; industry spillover

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* Lubin School of Business, Pace University, New York, USA. E-mail: iismailescu@pace.edu
‡ Universidad Autonoma de Madrid, Madrid, Spain. E-mail: guiller@uam.es

1. Introduction

On Friday, November 6, 2020, Reuters, followed by other news agencies, reported that the Food and Drug Administration (FDA) declined to endorse Biogen Inc.'s experimental Alzheimer's drug, aducanumab, months after the pharmaceutical company's optimistic announcement that a high dose of the drug could slow the progression of the disease.[1] On that day trading on Biogen stock was halted in anticipation of FDA's decision. By the end of the next trading day its stock price was down 28% (from $328.90 at the end of November 5 to $236.26 at the end of November 9) and the average yield on its long-term bonds was 25 basis points (bps) higher (equivalent to a bond return of -3.5%). The securities class action against Biogen was filed a week later (on November 13, 2020) alleging that the firm made false or misleading statements and failed to disclose material information during the drug approval period. The lawsuit identified November 6, the date of the corrective disclosure, as the end of the class period. It was dismissed on September 12, 2022.

In the U.S., private litigation, like the securities class action brought against Biogen, is a form of external governance that together with the government enforcement actions is intended to limit securities fraud. Although most lawsuits do not fully recover investors' losses, by imposing monetary and reputational costs to the litigated firm, they provide claimholders with a tool that may help discipline managers and reduce agency problems within the firm (Becht et al., 2003).

[1] Deena Beasley and Manojna Maddipatla. "U.S. FDA panel votes cannot ignore unsuccessful trial data on Biogen Alzheimer's drug." *Reuters*, Nov 6, 2020. https://www.nasdaq.com/articles/u.s.-fda-panel-votes-cannot-ignore-unsuccessful-trial-data-on-biogen-alzheimers-drug-2020

Securities class actions are lawsuits filed by one or more investors on behalf of a larger group, known as the class, which claims to have suffered a significant wealth loss as a result of the defendants' conduct. The time frame during which alleged fraud or other securities law violations at issue in the case have occurred is known as the class action period. Class actions are complex legal processes that involve several sequential events. They start with a corrective disclosure made by the company, a government agency, or a news agency that alerts capital markets about an alleged fraud and typically leads to a substantial decline in the firm's stock price. If one or more shareholders have reasons to believe that the disclosure and other related facts are evidence of securities law violations, they (the plaintiffs) will proceed with the filing of a complaint against the firm. To maximize the sued firm's harm to investors, plaintiffs' counsel usually selects the date of the corrective (or fraud) disclosure as the class period end (CPE). The lawsuit is filed rapidly (within a few days) after the fraud revelation if the latter contains convincing evidence of wrongdoing. In this case, the response of capital markets reflects the compound effect of the disclosure and the lawsuit that it instigates. If more information needs to be collected to support the alleged fraud, the filing occurs several weeks or months after the corrective disclosure, and markets react to each event separately.

To date, a significant amount of scholarly work has been dedicated to the impact of lawsuit filings on the stock prices of litigated firms and their peers, and a few studies have also analyzed the stock market response to corrective disclosures. The reaction of credit markets to litigation risk has been hardly examined and here is where we make a contribution to the literature. Using a sample of 207 lawsuits against 162 U.S. public firms between January 2001 and April 2016, in this paper we investigate the effects of two securities class action events - the corrective disclosure and the lawsuit filing - on the credit risk of sued firms and their peers and

analyze the predictive power of the change in CDS spreads around these two events on the lawsuit outcome.

We start our analysis by examining whether the sued firm's rating-adjusted CDS spread, our measure of credit risk, changes in response to each event. The focus of our exploration is on the 3-day window around each event. In univariate tests we find that the CDS market anticipates the fraud disclosure and reacts strongly to it, even after we control for confounding events such as credit rating changes, earnings announcements, and lawsuit filings made in the proximity of the disclosure. For example, between day -1 and day +1 of the corrective disclosure, 70% of the announcements in our sample result in an increase in the litigated firm's CDS spread, which on average goes up by 24 bps (both significant at the 1% level). The fraction of firms with positive spread changes is greater than 50% for all selected windows, indicating that averages are not skewed by just a few observations. Similar results, albeit smaller in magnitude, are obtained for the filing date, but a closer inspection reveals that they are entirely unique to rapid lawsuits (those that are filed within five days of the disclosure). Delayed complaints, which are filed more than 10 days from the disclosure, elicit no significant change in credit risk around this event. Likely, the additional information released after the corrective disclosure dilutes the informational content of the claim when it is finally filed.

Further, we examine the factors responsible for the increase in credit risk in the three-day window around each event, and find that market value loss during the class action period, informed trading, and firm size are markedly associated with the change in the sued firm's CDS spread around the fraud disclosure date. The market value loss and, to some extent, the firm size are also correlated with the change in the CDS spread around the filing date, but their effects are diminished when we include the change in credit risk around the corrective disclosure date in

the analysis. The correlation between spread changes around these two events is significant in the rapid filings subsample but not for delayed claims. Furthermore, a prior lawsuit increases the litigated firm's likelihood of default around the suit filing date, but not around the corrective disclosure date.

The marked CDS market response to the fraud disclosure and claim filing makes us wonder if the CDS spread change around these two class period events can also predict the lawsuit outcome (settled vs. dismissed). Using a battery of logistic regression models, we establish that a large three-day CDS spread change around the class period end increases the likelihood of settlement irrespective of the sample used (the entire sample, the rapid filings subsample, or the delayed filings subsample). In contrast, the three-day spread change around the filing date has no impact on the likelihood of settlement for the entire sample or the rapid filings subsample but decreases the probability of a settled lawsuit considerably if the filing is delayed. We attribute this result to the unremarkable change in credit risk around the filing date of delayed claims we indicated above.

Finally, in the last part of our analysis we test the contagion effects of litigation risk. We treat the two class period events (the fraud disclosure and lawsuit filing) as exogenous sources of litigation risk for non-sued firms in the same industry and find that the effects of the fraud revelation and rapid suit filings against wrongdoing firms spill over to their industry peers. This result indicates that corporate scandals could be industry-wide events as a claim filed against a firm within an industry likely changes the litigation risk for other firms in the same industry. Evidence of spillover effects around litigation events further suggests that credit markets react rapidly to heightened litigation risk following a lawsuit in the industry by adjusting the CDS premiums of peer firms that are also likely to be sued.

Our study makes several contributions to literature. Firstly, we investigate the impact of litigation risk on the CDS market. A significant body of work has examined the effects of securities litigations on the stock market, but their impact on credit markets has been insufficiently explored (Billings et al., 2011 and Arena, 2018). However, during periods of negative credit events, as fraud disclosures and lawsuit filings can be, the CDS market leads the stock market in price discovery (Acharya and Johnson, 2007; Qiu and Yu, 2012), which makes the analysis on the CDS market a necessary undertaking. Secondly, we separate the effects of the corrective disclosure from those of the lawsuit filing on the litigated firm's credit risk and show that the CDS market reaction to the first identified claim is unique to rapid filings. Lastly, we investigate the contagion effects of litigation risk and identify the fraud disclosure and rapid filings as the class action events with significant collateral impact on the sued firm's industry peers. The results of this study can serve as guiding principles to corporations, regulators, creditors, and asset managers. Stronger corporate governance is the most effective defense mechanism against litigation risk that both regulators and corporations can enforce. Evidence of industry spillover may also encourage asset managers to implement risk mitigating measures early on to protect investors and their debt portfolios against sizable losses. Overall, the negative effects of class action lawsuits can be reduced if the exposure to litigation risk is understood early on.

The remainder of the paper is organized as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the data and methodology, and section 4 reports the empirical results. In Section 5 we provide concluding remarks.

2. Literature review and hypotheses

The relation between securities class actions and financial markets has attracted scholarly attention since the 1990s, when Romano (1991) wrote the first comprehensive analysis of the stock market reaction to securities litigations. She found no evidence of stockholders' abnormal returns around lawsuit filings. In the following years many studies have emerged on this topic, mostly investigating the effects of U.S. securities class actions on litigated firms' value and their shareholders' wealth. Overall, the findings show that sued firms experience significant abnormal negative stock returns around the corrective disclosure date, in the run-up period to and around the class action lawsuit filing date (Karpoff and Lott, 1993; Bhagat et al., 1998; Griffin et al., 2004; Gande and Lewis, 2009; Klock, 2015; Lieser and Kolaric, 2016; Huang et al., 2017, among others). These results remain qualitatively similar for rapid and delayed filings, in spite of the compounded effects of the former (Griffin et al., 2004).

As firms rely more on debt than equity to raise capital (Henderson et al., 2006), litigation risk should have stronger effects on creditors than on shareholders. Nonetheless, very limited evidence exists about a firm's credit risk and its bondholder returns around a class action event. Billings et al. (2011) analyzes 2,241 securities class actions and finds a significant decline in bondholders' wealth around the filing date. Arena (2018) shows that, as a firm's litigation risk increases, its credit rating deteriorates and the cost of debt rises. The lawsuit filing itself, however, has minimal impact on the litigated firm's borrowing cost. This gives rise to our first hypotheses:

H1a: The credit risk of a sued firm rises in response to the fraud disclosure.

H1b: The credit risk of a sued firm increases around the lawsuit filing.

Next, we investigate the main factors that contribute to the expected changes in CDS spreads around class action events. The sued firm's market value loss caused by the alleged fraud is one of the primary reasons for securities litigations. Gande and Lewis (2009), McTier

and Wald (2011), and Lieser and Kolaric (2016) report that the propensity to be sued increases with the litigated firm's market value loss in the six-month and, respectively, one-year period before the lawsuit filing date.

Furthermore, in the run-up period to a negative credit event, informed trading is a major source of price discovery in the CDS market. The number of banking relations and of CDS quote providers have been identified as the primary channels for information transmission (Acharya and Johnson, 2007; Lee et al., 2018). Moreover, Qiu and Yu (2012) suggests that the number of quote providers is a more consistent measure of informed trading in the CDS market. More CDS dealers could indicate higher hedging demand ahead of negative credit news, which can increase the CDS premium. Given the negative connotations of the fraud discovery and the subsequent lawsuit filing on financial markets, we expect a similar relation between informed trading (measured by the number of CDS quote providers) and the CDS spread around both events.

In the corporate finance literature strong evidence exists that risky firms enhance the impact on negative events on credit markets. In mergers and acquisitions, Furfine and Rosen (2011) and Ismailescu and Col (2022) find that risky acquirers experience a larger increase in default risk surrounding a merger. Risky firms also experience higher bond trading and lower bond returns around negative earnings announcements (Easton et al., 2009). In the context of securities class actions, Strahan (1998) show that risky firms are more likely to be sued than those with lower levels of risk, and Billings et al. (2011) find a larger negative impact of lawsuit filings on bond returns if the sued firm is risky.

Considering all these findings, we hypothesize that the sued firm's market value loss, informed trading, and risk level explain the increase in credit risk around both the corrective disclosure and claim filing dates.

H2a: The market value loss, informed trading, and the risk level of the sued firm contribute to the rise in credit risk around the fraud disclosure date.

H2b: The market value loss, informed trading, and the risk level of the sued firm contribute to the rise in credit risk around the lawsuit filing date.

In 1995 Congress enacted the Private Securities Litigation Reform Act (PSLRA) to prevent unwarranted lawsuits from being filed. Since then, almost all securities class action lawsuits have been either dismissed or settled (Choi, 2007). From 1997 to 2022, 46% of the U.S. class actions settled, 43% were dismissed, and less than 1% were litigated (Goldfarb et al., 2023). Given the high standards that allegations must meet for a class action to survive, dismissals tend to occur in the earlier stages; settlements typically happen later in the litigation process. If a lawsuit is not dismissed, defendants and plaintiffs alike are willing to settle the case, to avoid the expenses associated with a costly discovery process and a long litigation. Thus, an early indication of the merit of a class action lawsuit is likely useful for both litigation parties as they may be able to better prepare their next steps in the litigation process.

Several studies have investigated predictors of settlement incidence, mostly using stock market data. According to McShane et al. (2012), a lawsuit will more likely resist the motion to dismiss when a greater number of classes of securities is associated with the case, the return of the S&P 500 index is higher during the class period, GAAP violations are alleged, and at least an individual plaintiff is listed on the case. The propensity of a settled lawsuit also increases with insider trading (Ferris and Pritchard, 2001), initial public offering (IPO) or merger allegations (Lieser and Kolaric, 2016), earnings restatements (Johnson et al., 2007) and false forward-

looking statements (Pritchard and Sale, 2005). It declines with the percent of independent directors on the sued firm's board in the post-PSLRA period (Johnson et al., 2007). Given the expected rise in credit risk around the fraud discovery and case filing dates and its implications for the sued firm's probability of default, we hypothesize that the three-day CDS spread around both class action events is another predictor of the likelihood that the lawsuit will be settled. Thus:

> *H3. The rise in the sued firm's credit risk around the fraud revelation and case filing dates increases the likelihood of a settled lawsuit.*

3. Data and methodology

3.1. Data

We identify firms named in securities class action lawsuits using the Stanford Law School's Securities Class Action Clearinghouse (SCAC).[2] The SCAC database, which is available starting 1996, includes the name of the firm, the lawsuit filing date, the start and end dates of the class action period, the plaintiffs, a copy of the original complaint, and updates of the case. We collect this information for all U.S. public companies involved in a suit between January 1, 2001 and April 30, 2016, the period of CDS data availability (described below). To avoid any compounding effects, we require that no securities class action lawsuits against the same firm occur within one year or less from one another. Otherwise, we retain the first event only. This results in an initial sample of 865 lawsuits.

The CDS data are obtained from IHS Markit Ltd., a leading vendor of credit pricing data. We use daily spreads for 5-year, USD-denominated, senior tier CDS contracts because they are the most widely traded and the most liquid for U.S. firms. CDS contracts with the modified

[2] The database can be accessed at http://securities.stanford.edu

restructuring (MR) documentation clause were the most common for U.S. underlying entities prior to "CDS Big Bang".[3] For consistency, we restrict our sample only to CDS contracts with this restructuring convention.

After we merge the CDS and SCAC data, we keep only lawsuits in which the sued firm is a reference entity in the Markit database for the above described CDS contracts and has daily CDS spreads available in the one-month periods bracketing the corrective disclosure and the lawsuit filing date. The defendant must also have data available for all Compustat variables used in our analysis (see Table A1 in the Appendix). These conditions yield a final sample of 207 lawsuits against 162 U.S. public firms.

Table 1 presents the frequency distribution of the lawsuit filings per firm (Panel A), across years (Panel B), and across sectors (Panel C). Over the period examined, 77% of the firms in our sample experienced only one lawsuit, with the remaining 23% of firms being involved in two or three litigations (Panel A). The year with the highest number of filings was 2002 (Panel B), in which the majority of the 29 lawsuits were filed against utility companies (8), financial institutions (7), and manufacturing companies (6). These three sectors were also those with the largest numbers of litigations overall (Panel C).

< Insert Table 1 about here >

Summary statistics for the sued firms and lawsuit characteristics in our sample are presented in Table 2. The typical defendant is a large company with an average asset size of approximately $74 billion, 33% leverage, and a market capitalization nearly three times higher than its book value of equity in the quarter before the lawsuit filing. It has a CDS spread of 284.81 bps and a credit rating numerical value of 13.35, which corresponds to BBB, at the time

[3] For more information about the documentation clauses, see ISDA Credit Derivatives Definitions published in February 2003.

of the filing.[4] Nearly 50% of the lawsuits have a class action period of approximately a year and are filed within 28 days from the corrective disclosure date. The litigated firm's market value loss over the class action period is about 18% on average.

< Insert Table 2 about here >

3.2. Methodology

In this paper we apply standard event study methodology to examine how the credit risk of U.S. public companies changes in response to securities class action lawsuits brought against them between January 2001 and April 2016. We measure credit risk using the firm's CDS spread. Normally, the lawsuit follows a news announcement that reveals wrongdoing or misleading behavior by the sued firm and causes a sharp decline in the firm's stock price. Plaintiffs typically use the fraud revelation date as the end of the class action period to maximize the sued firm's harm to investors. To disentangle the effects of the fraud revelation and lawsuit filing, we analyze the change in credit risk of the sued firms separately around the class period end (CPE) and the lawsuit filing date (FD). The focus of our exploration is the change in credit risk over the event window [-1,+1], where the event day (either CPE or FD) is referred to as day zero. The standard three-day measurement window is used to minimize the compounding effects of other announcements that can affect the sued firm's credit risk. If the end of the class period or the lawsuit filing date occurs over the weekend, we consider the date of the event to be the previous Friday.

To control our response measure for changes in general market conditions, we use a rating-adjusted CDS spread instead of the firm's actual CDS spread. The adjusted spread (AS_i) is defined as the difference between the firm's actual CDS spread ($Spread_i$) and the spread of either

[4] Our scale for credit rating numerical values ranges from 21 for AAA to 1 for C.

an investment grade or a high-yield CDS index ($Index_r$), depending on the credit rating of the sued firm. The two CDS indices are constructed using the actual spread levels of Markit's Investment Grade CDX (CDX.NA.IG) and the High Yield CDX (CDX.NA.HY) indices since their inception in April 2004, and extended backward to January 2001 following the CDX index construction methodology.[5] Litigated firms' Standard and Poor's credit ratings are obtained from Compustat. We then calculate the daily adjusted CDS spread change ($ASCi$) as:

$$ASC_{i,t} = \left(Spread_{i,t} - Index_{r,t}\right) - \left(Spread_{i,t-1} - Index_{r,t-1}\right) \quad (1)$$

and winsorize them at their 1st and 99th percentile values. Finally, for each event, cumulative adjusted CDS spread changes ($CASC_i$) are calculated as the sum of all daily changes over the desired window.

$$CASC_{i,[t1,t2]} = \sum_{t=t1}^{t2} ASC_{i,t} \quad (2)$$

Figures 1a and 1b display the cumulative adjusted spread changes of the sued firms for 20 days around the fraud disclosure and lawsuit filing date, respectively, for the entire sample and the rapid filings and delayed filings subsamples.

< Insert Figures 1a and 1b about here >

4. Empirical results

4.1. The corrective disclosure vs. the lawsuit filing

[5] Both indices are obtained from Bloomberg. Markit CDX Documentation can be found at http://www.markit.com/Documentation/Product/CDX. To backfill the two series, we follow Jorion and Zhang (2009) and use the list of component firms as of April 2004.

To test the impact of securities class action lawsuits on the sued firm's credit risk, we calculate the average cumulative adjusted CDS spread changes (in bps) over different days and windows around the class period end (also referred to as the correction/fraud disclosure date) and the claim filing date of the 207 lawsuits in our sample, and report them in Tables 3 and 4, respectively.

The results for the entire sample reported in the first three columns of Table 3 reveal some degree of anticipation of the fraud revelation: daily adjusted CDS spread changes are on average positive and statistically significant in three out of the five days preceding the class period end (Panel A) and the cumulative spread change over the window [-5,-2] is 6.78 bps and significant at 1% level (Panel B). Further, the CDS spread increases progressively in all windows centered on the fraud disclosure date: by 24.10 bps over the [-1,+1] window, by 31.45 bps over the [-2,+2] window, and by 41.68 bps over the longer [-5,+5] window, all statistically significant at 1%. CDS spread medians are also statistically significant at 1% for all these windows. Noteworthy is the fact that the spread continues to adjust to the new information for at least five days following the class period end. Finally, the fraction of positive CDS spread changes (reported in the third column of Panel B) is greater than 50% for all selected windows, indicating that averages are not skewed by just a few observations.

To control for potentially confounding events, we use the quarterly earnings announcements and Standard and Poor's credit ratings reported by Compustat and remove the sued firms exhibiting these types of events in the window [-10,+10] around the corrective disclosure date. Prior studies have shown that changes in a firm's credit quality and its earnings announcements are anticipated by and affect the CDS market in the period surrounding the event (Finnerty et al., 2013; Zhang and Zhang, 2013; Jenkins et al., 2016; Lee et al., 2018). The results

are summarized in columns 4-6 of Table 3, Panels A and B. Even after removing the confounding events, the cumulative CDS spread change continues to be economically and statistically significant in all windows bracketing the class period end. For example, over the window [-1,+1] the adjusted spread change is positive for 66.96% of the sample (significant at 1%) and has an average of 17.50 bps and a median of 2.71 bps (both significant at 1%). The CDS spread is positive but no longer significant over the window [-5,-2] before the class period end, but it continues to adjust to the fraud disclosure for at least five days following it.

Finally, given that 25% of the cases in our sample are filed 6 days or less from the class period end (see Table 2), to separate the effects of fraud revelation from those of the lawsuit filing, we repeat the tests using only the claims that are filed 10 days or more from the end of the class action period, referred to as delayed filings. The results summarized in columns 7-9 of Table 3, Panels A and B, show that the magnitude and significance of daily and cumulative CDS spread changes around the class period end remain consistent with those of the entire sample. Thus, the fraud disclosure has an undeniable significant negative impact on the sued firm's credit risk, which cannot be attributed to confounding events or the subsequent lawsuit filings. This finding confirms our hypothesis *H1a*.

< Insert Table 3 about here >

In Table 4 we report daily adjusted CDS spread changes (Panel A) and cumulative spread changes over several windows (Panel B) around the lawsuit filing date.[6] Similar to the CDS market behavior around the fraud disclosure date, we notice a rise in CDS spreads in anticipation of the lawsuit filing when the entire sample is considered (columns 1 and 2). The daily spread change is on average positive for all five days before the filing date and significant for days -4, -

[6] Given space constrains, we report the proportion of positive CDS spread changes only around fraud disclosure (Table 3), but we can make them available for all windows around the filing date (Table 4) upon request.

3, and -1 (Panel A), which contributes to a cumulative change of 7.10 bp over the window [-5,-2], significant at the 5% level (Panel B). The CDS premium also increases over the windows bracketing the lawsuit filing, albeit with lower economical and statistical significance than during the period surrounding the class period end, but it stops growing three days after the filing date. Our findings remain largely similar when we remove from the sample the sued firm's confounding events, which are credit rating changes and earnings announcements during the window [-10,+10] around the lawsuit filing date (columns 3 and 4).

Given the short span between the class period end and the filing date of many lawsuits in our sample, and the strong CDS market reaction to the former that we presented in Table 3, we wonder how much of the increase in credit risk reported above is associated with new information revealed at the time of the lawsuit filing and how much can be attributed to the fraud disclosure. To disentangle the effects of these two distinct but related events, we separate the delayed filings (defined above) from the rapid filings and redo the t-tests on each subsample. We consider rapid filings those that occur no more than five days after the corrective disclosure. The results obtained with the first subsample (of delayed filings) capture the effects unique to the claim filing. Those corresponding to the second subsample (of rapid filings) likely reflect the joint impact of the fraud revelation and the suit filing.

Our findings, summarized in columns 5-6 of Table 4 (Panels A and B), show that the credit risk of the sued firm is mostly unresponsive if the lawsuit filing is delayed. Apart from the 3.04 bp credit spread increase on day 0 (significant at 10%) and the market correction that follows two days later, no other CDS spread change, either daily or cumulative is significant. Alternatively, for the rapid filings subsample (columns 7-8) we find a marked increase in the sued firm's credit risk in the four-day window preceding the lawsuit filing (which overlaps with

the four-day window following the fraud disclosure) as well as in any window bracketing the filing date. These results contradict Griffin et al. (2004), which shows a significant negative response of the stock market in the window [-1,+1] around a case filing for both subsamples.[7]

< Insert Table 4 about here >

The evidence presented in Table 4 suggests that on average a lawsuit filing has no effect on the sued firm's CDS spread beyond what has been already priced in at the time of the fraud disclosure, which contradicts our hypothesis *H1b*. This may be explained by the ability of the CDS market players, all sophisticated institutional investors, to anticipate the act of and costs associated with the lawsuit filing early on (reflected by their strong response at the time of the corrective disclosure), and to remain unimpressed when the claim is filed, if it contains no additional material information.

4.2. Market value loss, informed trading, and the risk level of the sued firm

The next step in our analysis is to test hypothesis *H2*, which states that the loss of the market value during the class action period, informed trading, and the risk level of the sued firm contribute to the rise in its credit risk around the class period end (CPE) and the lawsuit filing date (FD). We define the market value loss during the class action period (*Loss*) as the percent change in the market value of equity from the beginning to the end of the class period multiplied by -1. Consistent with Qiu and Yu (2012), we measure informed trading by the CDS market depth (*Depth*), which is the number of primary dealer banks providing spread quotes on the sued firm. Given that the focus on this study is the three-day window surrounding each event (the CPE and FD), the CDS market depth of each sued firm is averaged over this period. Finally, we

[7] The definition of delayed filing in Griffin et al. (2004) is "one made five or more days following" the corrective disclosure. A rapid filing is made less than five days from the class period end.

select three measures of firm risk in the context of a legal action: 1) the credit rating at the time of the event; 2) the size, defined as the natural log of total assets, at the end of the quarter preceding the event; and 3) the market-to-book ratio (*MTB*) at the end of the quarter preceding the event. The credit rating is a common measure of firm risk. Size and the MTB ratio are risk factors more particular to litigation events. A small or undervalued firm is less able to weather a significant financial and reputational loss caused by litigation, and, thus, more likely to approach or cross the default threshold. We expect a positive relation of the change in credit risk around CPE and FD with the market value loss, CDS depth, and the risk level of the sued firm.

To get the first glimpse at the correlations between the sued firm's CDS spread change and the variables discussed above, we partition the entire sample separately for each event as follows. For the credit quality variable, we separate the sample into investment grade and speculative grade firms. For all other variables, we divide the sample into quintiles by the loss amount, CDS market depth, size, and MTB, where Q1 is the quintile with the highest values and Q5 is the quintile with the lowest values, remove Q3, and then form the High (Q1 and Q2) and Low (Q4 and Q5) partitions by each variable. Lastly, we calculate the three-day adjusted CDS spread change separately around the fraud disclosure and lawsuit filing dates for each partition, and report them in Tables 5 and 6, respectively.

Panel A of Table 5 reveals a positive relation between the sued firm's spread change around the corrective disclosure date and its market value loss: sued firms that lose more than 26% in market value during the class action period (quintiles Q1 and Q2) experience an average spread increase of 45.32 bps and a median change of 13.28 bps (both significant at 1%). The corresponding mean and median spread changes of the bottom two quintiles (Q4 and Q5),

although positive and significant (at 5% and 1%, respectively), are 41.24 bps and, respectively, 11.56 bps lower than those of the High partition (both differences significant at 1%).

A similar result extends to CDS market depth (Panel B), which Qiu and Yu (2014) interpret as a sign of information heterogeneity in the CDS market. Although the three-day CDS spread change is significant for each depth partition, it is greater for firms with more dealer quotes, suggesting that more dealers could lead to a higher CDS premium because of the one-sided nature of private information in the CDS market (the ‘‘asymmetric information’’ effect). Finally, firms in the higher risk categories (with lower credit quality, size and MTB ratios) have larger spread changes than those with lower levels of risk. Moreover, the Low MTB partition is associated with an average and a median three-day CDS spread change that are significantly higher than those corresponding to the High MTB partition (by 25.66 bps and 5.59 bps, respectively). All results (unreported) remain qualitatively and quantitatively similar when we remove from the sample the confounding events discussed in the previous section.

< Insert Table 5 about here >

Moving to Table 6, which presents the results around the lawsuit filing date, we observe that when the entire sample is used (columns 1-3), the loss in market value over the class action period continues to drive the change in credit risk (Panel A), and so do all selected risk characteristics of the sued firm (Panels C, D, and E). The three-day adjusted CDS spread rises by 16.34 bps when *Loss* is in the top two quintiles of the sample, 15.46 bps (significant at 5%) above the corresponding spread change for the Low partition. Additionally, the spread change difference is 12.40 bps between the Small and Big *Size* groups and 11.96 bps between the Low and High *MBT* groups, both significant at 10%. The only deviation from the hypothesized results in *H2* is the lack of correlation between the CDS market depth and the change in credit risk

around the lawsuit filing. This may suggest a decline in information heterogeneity around the lawsuit filing, which may remove the incentive for liquidity provision by CDS dealers. Once again, in unreported tests, the results for the entire sample remain robust to the exclusion of the confounding effects identified in Section 4.1.

Guided by the findings of Table 4, we repeat the univariate tests presented in columns 1-3 of Table 6 separately for the delayed and rapid filings. For the subsample of delayed filings (columns 4-6), the market value loss, informed trading, credit quality, and MTB ratio of the sued firm (Panels A, B, C, and E) become less relevant to the change in CDS spread around the lawsuit filing date. Although the spread change maintains a positive relation with all these variables, it is insignificant in all partitions and in differences between partitions. Size is the only variable that remains significantly associated with the three-day spread change. For the subsample of rapid lawsuit filings (columns 7-9), the sued firm's market value loss is a recent harmful experience for shareholders and creditors alike, which may explain the CDS spread increase by 30.94 bps for firms in the High *Loss* partition, 28.49 bps higher than the corresponding change in the Low *Loss* partition (albeit insignificant). No other variable is significantly related to the sued firm's credit risk. The results for this subsample, however, should be read with caution, as the low number of observations in each partition may have led to lower statistical power of the t-tests.

< Insert Table 6 about here >

To test our *H2* more formally, we estimate separate cross-sectional regressions for the fraud disclosure and lawsuit filing events, where the dependent variable is the three-day rating-adjusted CDS spread change around each event date and the main independent variables are *Loss*, *Depth* and the three risk characteristics identified above. The main model specification is:

$$CASC_i = \alpha_0 + \alpha_1 Loss_i + \alpha_2 Depth_i + \sum \beta_k Risk_{i,k} + \sum \gamma_k X_{i,k} + \varepsilon_i \qquad (3)$$

Where $CASC_i$ is the cumulative three-day rating-adjusted CDS spread change of sued firm *i* around the event date; $Loss_i$ is the percent change in the firm's market value of equity from the beginning to the end of the class period multiplied by -1; $Depth_i$ is the average number of primary dealer banks providing CDS spread quotes for the firm over the event's three-day window; $Risk_{i,k}$ are the three risk measures used in Tables 5 and 6; and $X_{i,k}$ are control variables. The risk measures are: 1) *HY*, a dummy variable equal to one if the sued firm has a sub-investment grade rating at the time of the event; 2) *Size*, the natural log of assets at the end of the quarter preceding the event; and 3) *MTB*, the market value of equity divided by the book value of equity at the end of the quarter preceding the event. The control variables are *LEV*, *VOL*, and *PriorLawsuit*. *LEV* is the leverage of the sued firm, defined as the ratio of the book value of long-term debt over the market value of equity plus the book value of long-term debt at the end of the quarter preceding the event. *VOL* is the annual equity return volatility during the 252 days prior to the event, and *PriorLawsuit* is a dummy variable equal to one if the sued firm had a prior lawsuit. Industry and year fixed effects are used in all models, and standard errors are adjusted for sued firm clustering.

Table 7 summarizes the regression results around the corrective disclosure date using the entire sample. In Table 8 we report those obtained around the lawsuit filing date for the entire sample as well as the delayed filings and rapid filings subsamples. In Model (1) of Table 7 we present the results for the sued firm's risk attributes, which collectively can explain approximately 7% of the cross-sectional variation in the three-day CDS spread change around

the fraud revelation date. Although all variables have the expected signs, only *Size* is significantly associated with the change in credit risk, which increases for firms with smaller asset values. Most firms reduce dramatically in size during periods of alleged fraud (Lieser and Kolaric, 2016), but small firms become particularly vulnerable as they have fewer resources to bear hardship, prompting credit markets to revise their proximity to default and increase their insurance premiums.

Next, we add *Loss* and *Depth* to the risk variables (Models 2 and 4). Consistent with the findings of Table 5, both have a marked effect on the three-day spread change. A percent increase in the market value loss during the class action period is associated with a 33.72 bp rise in the average CDS spread between days -1 and +1 around the event. Likewise, a unit increase in the number of primary dealers providing CDS quotes on the sued firm contributes to a 3.29 bp change in spreads over the same period. The impact of market value loss on credit risk is even bigger when the maximum market value loss (*LossMax*) is considered (Model 3). *LossMax* is defined similarly to *Loss*; the only difference is that the market value at the beginning of the class period is replaced by the maximum market value over the class period. Further, when *Loss* and *Depth* are used jointly (Model 5), they both retain their magnitude and significance, and together with the risk variables explain more than 15% of the variation in the three-day CDS spread change around the class period end, validating our second hypothesis (*H2a*).

Finally, we test the influence of credit rating changes, earnings announcements, and rapid lawsuit filings on the three-day CDS spread change by using three dummy variables: *RatingChange* and *EA*, which take the value of 1 if the sued firm had a credit rating change or, respectively, an earnings announcement within 10 days from the fraud disclosure date; and

RapidFiling, which is equal to 1 if the lawsuit is filed within 5 days from the event. As reported in Models (6) and (7), none contributes noticeably to the change in credit risk around this event.

< Insert Table 7 about here >

Turning to the lawsuit filing date in Table 8, when the entire sample is employed, *Size* and *Loss* continue to be significantly associated with the sued firm's credit risk change in the window [-1,+1], but *Depth* is no longer relevant (Models 1-3). All three findings are consistent with those of the univariate tests summarized in Table 6. Given the strong correlation between *Loss* and the three-day spread change around the fraud disclosure date, it is possible that the former is only a substitute for the latter. To address this issue, we include both variables in Model 4, and the results show that, indeed, it is the three-day spread change around the class period end (*CASC_CPE*) that influences the change in spread around the filing date rather than the sued firm's market value loss. The significance of *CASC_CPE* remains robust to the inclusion of the dummy variables for credit rating changes, earnings announcements, and rapid lawsuit filings (Model 6), but *Loss* is also significantly associated with the spread change around the filing date when tested separately (Model 5). These results largely support our *H2b*.

Further, we rerun the regressions separately on the subsamples consisting of the delayed and rapid lawsuit filings. In the delayed lawsuits subsample (Models 7 and 8) no variable is noticeably correlated with the change in CDS spread. In the rapid lawsuits subsample (Models 9 and 10), only *CASC_CPE* is significant (at the 5% level).

< Insert Table 8 about here >

The results obtained this far show that in a securities class action the fraud disclosure is a litigation step with severe consequences for the sued firm that elicits a strong response from the CDS market. On the other hand, the spread changes around a lawsuit filing that we documented

above are most likely attributed to the CDS market adjustment to the recent fraud revelation (evidenced in the rapid filings subsample), and not to the informational content of the filing itself. If the lawsuit is delayed, the additional information released after the initial corrective disclosure diminishes the novelty of the claim and the CDS market response to it when it comes. These findings are in contrast to those obtained in the bond (Billings et al, 2011) and stock (Griffin et al., 2004) markets.

4.3. Settled vs. dismissed

In an attempt to validate our third hypothesis (*H3*), in this section we run several logistic regressions in which the dependent variable takes the value of one if the lawsuit is settled (the motion to dismiss is denied) and zero if it is dismissed (the motion to dismiss is approved). The main covariates are the three-day adjusted CDS spread changes around the fraud revelation date (*CASC_CPE*) and around the claim filing date (*CASC_FD*). Of the 207 lawsuits in our sample, 86 are settled, 120 are dismissed, and one is still ongoing at the time of writing this study. Eliminating the ongoing case, all tests in this section are run on the remaining 206 lawsuits.

In addition to the spread change, we also test the predictive power of the sued firm's *Size,* defined as the natural log of assets at the end of the quarter preceding the lawsuit filing date, *N_Plaintiffs*, which is the number of plaintiffs named in the lawsuit filing, and variables *PriorLawsuit* and *RapidFiling*, which have been defined in the previous section and in Table A1 of the Appendix. According to Choi (2007), smaller firms provide plaintiffs' attorneys with lower potential damage awards, leaving their bigger counterparts the primary targets of securities class action settlements (the "deep pockets" hypothesis). Alternatively, Lieser and Kolaric argue that larger firms have greater resources to defend themselves, including better counsel, and, thus,

are more likely to win the motion to dismiss. Thus, the sign of the variable *Size* can be either positive or negative. We include the *PriorLawsuit* dummy due to its substantial impact on litigation risk (Gande and Lewis, 2009) and the expectation that repeat offenders have a lower chance to have a claim dismissed (Moore, 1992). Furthermore, a higher number of plaintiffs is associated with individual (as opposed to institutional) plaintiffs, which, according to McShane et al. (2012) make a case more likely to settle as judges are less inclined to dismiss these types of claims. Finally, a lawsuit filed rapidly after the end of the class period (captured by the variable *RapidFiling*) may signal plaintiffs' confidence in the evidence of fraud and the merit of the case.

The results reported in Table 9 show that firms with large three-day CDS spread changes around the fraud disclosure date are more likely to settle a case than to have it dismissed, which is supportive of our third hypothesis, *H3*. The predictive power of credit risk is robust to the inclusion of other covariates in the logistic regression model and consistent across all sample used: the entire sample (Models 1 and 5), the delayed filings subsample (Model 6), or the rapid filings subsample (Model 8). When the spread change around class period end (*CASC_CPE*) is replaced by its equivalent around the filing date (*CASC_FD*), the latter has no impact on the likelihood of settlement either for the entire sample or for the rapid filings subsample (Models 2 and 9), but it decreases the probability of a settled lawsuit considerably if the filing is delayed (Model 7). This result may be explained by the unremarkable change in credit risk around the filing date for this subsample that we reported in Panel B of Table 4, columns 5 and 6.

< Insert Table 9 about here >

Our findings also confirm the "deep pockets" hypothesis for the entire sample and the delayed filings subsample, which implies that, in general, the sued firm's size increases the

likelihood of settlement.[8] Moreover, the coefficient estimate for the number of plaintiffs is positive, as expected, and statistically different from zero in two of the three samples analyzed. One surprise of Table 9 is the negative coefficient of the *PriorLawsuit* dummy (significant at 5% for the entire sample), which suggests that firms with prior cases have become more skilled in presenting successful motions to dismiss. Finally, the likelihood that a case will be settled increases with the size of the market value loss during the class action period (Model 4) but does not depend on the speed of the lawsuit filing (Model 5).

4.4. Additional tests: spillover effects

While spillover effects have been studied in many contexts before, Gande and Lewis (2009) are the first to investigate the impact of securities class actions lawsuits on firms in the same industry and to find evidence of "industry spillovers". They argue that many claims are filed in response to actions that are common across industries, as business practices of one firm may be adopted by its peers. More specifically, Lai et al. (2019) claim that corporate practices and governance standards can propagate across firms through common board directors. They show that interlocked firms experience higher borrowing costs and stricter loan covenants after a fraud case against the fraudulent firm is revealed. In Fich et al. (2021) the transmission channels of litigation effects are joint ventures. When one firm is sued, the market value of the other firms in the partnership declines markedly and their probability of facing similar allegations increases.

Evidence of contagion is also found for non-sued U.S.-listed foreign firms whose stock prices decline significantly when U.S. class action lawsuits are filed against their country peers (Huang et al., 2017 and Ding et al., 2014). The country spillover effects are more pronounced

[8] Results remain qualitatively and quantitatively similar if *Size* is measured at the end of the quarter preceding the end of the class period.

for smaller, less visible, and less profitable firms located in countries with weak legal environments and poor governance, and reflect the stock market's reassessment of the likelihood of future litigation against these firms once their peers are sued. Similarly, Darrough et al. (2020) examine whether a stock price spillover from a sued to a non-sued firm occurs through the country of origin, but they also analyze the method of cross-listing as an additional transmission channel. Using a sample of fraud allegations against Chinese companies that became public through reverse mergers (RMs), the study finds find that the country of origin plays a more prominent role than the method of listing (RM vs. IPO) in the negative spillover effects it documents.

In light of evidence of litigation spillover effects in the stock market presented above and strong CDS market adjustments to revelations of fraud and rapid lawsuit filings reported in previous sections, our goal in this section is to establish whether litigation contagion is also present in credit markets. To address this issue, we follow Gande and Lewis (2009) and define the sued firm's peers as the U.S. public companies with the same four-digit SIC code. For each sued firm we keep only peers that have continuous CDS data for the window [-5,+5] around both events (fraud revelation and lawsuit filing). A previously litigated firm can be a peer of a newly sued one if the fraud revelation and lawsuit filing of the former are at least six months apart from those of the latter. Imposing these filters results in a sample of 157 lawsuits that have complete CDS data coverage for peers around each event. For each of these lawsuits we then calculate the average cumulative adjusted CDS spread change of the sued firm's peers over the same windows as in Panel B of Tables 3 and 4. The results for the fraud revelation date are reported in Table 10 and those for the claim filing date are reported in Table 11. In each table we summarize the

means and medians for the sued firms and their rivals in the first four columns, and the difference between the two groups in the last two columns.

When the entire sample of 157 lawsuits is utilized, as expected, the average and median changes in credit risk of the litigated firms around the fraud disclosure date (Panel A of Table 10) are both economically and statistically significant, and consistent with those obtained in Table 3. The peers exhibit similarly marked increases in CDS spreads around this event, of 1.80 bps, 2.64 bps, and 3.34 bps in windows [-1,+1], [-2,+2], and [-5,+5], respectively. Although significantly smaller than the changes of their sued counterparts' (by 19.85 bps for window [-1,+1] or by 40.11 bps for window [-5,+5], both with p-value=0.000), these findings are suggestive of the spread of litigation effects to the sued firm's peers. However, they could also be caused by confounding events experienced by peers that may overlap with fraud revelation dates. To eliminate this possibility, we remove all sued and non-sued firms with rating changes and earnings announcements within 10 days from the fraud disclosure date. The results summarized in Panel B continue to support evidence of contagion, albeit with a lower significance, confirming that corporate misconduct generates a negative spillover within the industry caused by the anticipation of additional revelations of fraud and the resulting risk mitigating measures taken by CDS market players.

< Insert Table 10 about here >

In Table 11 we present the results of spillover tests around the filing date and find no evidence of contagion when the entire sample of the 157 lawsuits is used (Panel A). Consistent with our findings reported in Table 4, Panel B, the CDS spreads of sued firms anticipate and react to lawsuit filings, but this behavior does not spill over to their peers, which experience no noticeable change in credit risk before, around or after the suit filing. Cognizant that the CDS

market reaction to sued firms around filing dates is confined primarily to lawsuits with rapid filings (Table 4), in Panel B we run the tests only on this subsample and uncover significant changes in peer firms' CDS spreads in all three windows bracketing the filing date: of 2.96 bps over window [-1,+1], 4.75 bps over window [-2,+2], and 7.81 bps over window [-5,+5]. To ensure that these findings are not driven by confounding events, we eliminate all sued and non-sued firms with rating changes and earnings announcements within 10 days from the filing date of a rapid lawsuit and redo the tests on the ensuing subsample of 34 lawsuits. The results, reported in Panel C, confirm the strength of the spillover effects generated by rapid filings. Similar negative spillover effects are also present around lawsuit filing dates in the stock market (Gande and Lewis, 2009; Bonini and Boraschi, 2010; Lieser and Kolaric, 2016), but to the best of our knowledge no other study has investigated them in credit markets nor identified rapid suits as a source of contagion. The hard evidence of fraud presumed in lawsuits with rapid filings increases the CDS market sensitivity to litigation risk that spills over to other firms in the industry.

< Insert Table 11 about here >

In summary, the results of this section show that the effects of fraud discovery and rapid lawsuit filings against wrongdoing firms are contagious. They may be attributed to the "guilt by association" hypothesis, which suggests that corporate misconduct spills over to the fraudulent firm's innocent peers just because they belong to the same industry or offer similar products (Palkar, 2022). Often, stakeholders lack access to information or financial resources to differentiate between the actions of the litigated firm and those of its peers, and judge firms with common characteristics as sharing a common fate (Barnett and King, 2008). Negative spillover effects may also emerge from common business practices shared by firms in selected industries

(Gleason et al., 2008; Gande and Lewis, 2009). Both hypotheses indicate that corporate scandals may be industry-wide events, which prompt credit markets to adjust CDS premiums across an entire industry to mitigate the heightened litigation risk following a lawsuit in that industry.

5. Concluding remarks

The litigation risk and its effects on the stock market have received considerable scholarly and regulatory attention. Its impact on credit markets has evaded their consideration yet. The aim of our paper is to fill this void. Using a sample of 207 lawsuits against 162 U.S. public firms between January 2001 and April 2016, we analyze the consequences of two securities class action events, the corrective disclosure and the lawsuit filing, on the credit risk of sued firms during the three-day event window, [-1,+1]. The credit risk is measured by the rating-adjusted CDS spread.

First, we find that 70% of the fraud announcements in our sample result in an increase in the litigated firm's CDS spread, which on average goes up by 24.10 bps in the three-day period bracketing the event. Similar results, albeit smaller in magnitude, are obtained for the filing date, but they are entirely driven by lawsuits with rapid filings. In univariate tests, the factors responsible for the increase in credit risk around the fraud disclosure date are the market value loss during the class action period and the sued firm's low MTB ratio. In multivariate tests, the MTB ratio loses its significance, leaving the market value loss, informed trading, and firm size the primary determinants of the change in the sued firm's CDS spread around the corrective disclosure date. The change in credit risk around the fraud revelation date is the only factor that explains the three-day CDS spread change around the filing date.

Second, we investigate the predictive power of the three-day CDS spread change around each litigation event for the lawsuit outcome (settled vs. dismissed) and find that a large change

in credit risk around the corrective disclosure date increases the likelihood of settlement. In contrast, a change in credit risk around the filing date has no impact on the likelihood of settlement for the entire sample or the rapid filings subsample but decreases the probability of a settled lawsuit considerably if the filing is delayed. The sued firm size and the number of plaintiffs identified in the claim are the other predictors of lawsuit settlements.

Finally, we test the contagion effects of securities litigation and show that corporate scandals spill over within their industries. The disclosure of a firm's wrongdoing and the rapid filing of a lawsuit heighten the litigation risk of other firms in the same industry. In response, credit markets react by rapidly adjusting the CDS premiums not only of the sued firms but also of their peers that are likely to be sued.

Appendix

Table A1. Variable definitions

Credit Rating	S&P long-term rating at the time of the event. A firm is considered investment grade if its rating is BBB- and above, and sub-investment grade otherwise.
Depth	Average number of primary dealer banks providing CDS spread quotes for the sued firm over the event's three-day window.
EA	Dummy variable equal to one if the sued firm had an earnings announcement within 10 days from the event.
HY	Dummy variable equal to 1 if the sued firm had a sub-investment grade rating at the time of the event.
LEV	Leverage of the sued firm, defined as the ratio of the book value of long-term debt over the market value of equity plus the book value of long-term debt at the end of the quarter preceding the event.
Loss	Percent change in the market value of equity from the beginning to the end of the class period multiplied by -1.
LossMax	Maximum loss of market value over the class action period. It is defined similarly to *Loss* where the market value at the beginning of the class period is replaced by the maximum market value over the class period.
MTB	The market value of equity divided by the book value of equity at the end of the quarter preceding the event.
N_Plaintiffs	Number of plaintiffs named in the lawsuit filing.
PriorLawsuit	Dummy variable equal to 1 if the sued firm had a prior lawsuit.
RapidFiling	Dummy variable equal to 1 if the lawsuit is filed within 5 days from the end of the class action period.
RatingChange	Dummy variable equal to 1 if the sued firm had a credit rating change within 10 days from the event.
Size	The natural log of assets at the end of the quarter preceding the event.
VOL	The annual equity return volatility during the 252 days prior to the event.

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Table 1. Number of class action lawsuits per firm, year, and sector.

This table reports the number of class action lawsuits in our sample per firm (Panel A), by year (Panel B), and by sector (Panel C). The sample period is from January 2001 to April 2016.

Panel A. Distribution of lawsuits per firm

# firms with 1 lawsuit	# firms with 2 lawsuits	# firms with 3 lawsuits	Total firms	Total lawsuits
125 (77%)	29 (18%)	8 (5%)	162	207

Panel B. Distribution of lawsuits across years

Year	Number of Lawsuits
2001	3
2002	29
2003	12
2004	20
2005	23
2006	15
2007	19
2008	19
2009	12
2010	12
2011	12
2012	7
2013	9
2014	4
2015	7
2016	4
Total	207

Panel C. Distribution of lawsuits across sectors

Sector	SIC code	Number of Lawsuits
Agriculture	100-999	1
Mining	1000-1499	7
Construction	1500-1799	4
Manufacturing	2000-3999	70
Utilities	4000-4999	33
Wholesale Trade	5000-5199	4
Retail Trade	5200-5999	20
Finance	6000-6999	46
Services	7000-8999	22
Total		207

Table 2. Descriptive statistics for sued firm and lawsuit characteristics.

This table reports descriptive statistics of selected sued firm and lawsuit characteristics in our sample of 207 securities class action. *Assets* and *Leverage* are the book value of total assets and, respectively, leverage ratio at the end of the quarter preceding the lawsuit filing. The leverage ratio is defined as the book value of long-term debt divided by the sum of the book value of long-term debt and the market value of equity. *Market-to-Book* is the market value of equity divided by the book value of equity at the end of the quarter preceding the lawsuit filing. *Equity volatility* is the annual standard deviation of the stock returns for the 252 business days preceding the filing. *Rating* is the Standard and Poor's credit rating at the time of the lawsuit filing, based on a numeric scale ranging from 21 for AAA to 1 for C. *CDS spread* is the CDS spread at the time of the lawsuit filing. *Depth* is the number of primary dealer banks providing CDS spread quotes on the sued firm at the time of the lawsuit filing. *Change in market value is* the percentage change in the market value of equity over the class action period. *Length of class period* is the number of days between the start and the end of the class action period. *Time to filing* is the number of days from the end of the class period until the lawsuit filing date. *Number of plaintiffs* is the number of plaintiffs named in the lawsuit.

	Mean	STD	25th percentile	Median	75th percentile
Assets ($M)	73,586	173,711	7,157	15,024	45,589
Leverage (%)	33.35	24.92	12.41	28.11	47.65
Market-to-Book	3.23	7.21	1.32	2.17	3.64
Equity volatility (%)	42.36	23.51	26.28	37.10	50.24
Rating	13.35	3.48	11	14	16
CDS spread (bps)	284.81	370.69	51	137.75	367.90
Depth	8	5	4	6	11
Change in market value (%)	-18.09	42.25	-44.54	-14.74	0.81
Length of class period (days)	519	506	175	342	645
Time to filing (days)	124	192	6	28	141
Number of plaintiffs	4	3	2	3	5

Table 3. The effect of the fraud disclosure on the sued firm's adjusted CDS spread change.

This table reports sued firms' daily adjusted CDS spread changes in basis points (Panel A) and cumulative adjusted CDS spread changes in basis points over selected windows (Panel B) around the class action period end (CPE). The sample period spans from January 2001 to April 2016. The end of the class period is considered day zero. Confounding events are the sued firm's credit rating changes and earnings announcements during the window [-10,+10] around the CPE. Delayed filings are lawsuits that are filed 10 days or more after the CPE. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. The significance level of the median is based on a Wilcoxon signed-rank test. The "% (>0)" column reports the percentage of observations with positive cumulative adjusted CDS spread changes. The significance of the proportion of positive CDS spread changes is based on the chi-square test for equal proportions. P-values are reported in parentheses. N is the number of lawsuits in the sample. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

Panel A. Daily adjusted CDS spread changes (in bps) around the corrective disclosure day

	Entire sample (N = 207)			Entire sample excluding firms with confounding events (N = 115)			Delayed filings (N = 136)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Day	Mean	Median	% (>0)	Mean	Median	% (>0)	Mean	Median	% (>0)
-5	2.29**	0.05	50.24	1.53	-0.04	47.83	1.79	-0.05	47.79
	(0.045)	(0.593)	(0.945)	(0.242)	(0.419)	(0.641)	(0.191)	(0.585)	(0.607)
-4	1.30	0.02	50.24	0.01	0.06	51.30	0.08	-0.01	49.26
	(0.318)	(0.522)	(0.945)	(0.996)	(0.631)	(0.780)	(0.951)	(0.931)	(0.864)
-3	2.56**	0.09	52.17	1.18	0.08	50.43	1.30	0.12	52.94
	(0.029)	(0.352)	(0.532)	(0.367)	(0.890)	(0.926)	(0.122)	(0.280)	(0.493)
-2	0.62	0.14	53.62	1.59	0.24	55.65	0.47	0.06	52.21
	(0.510)	(0.474)	(0.297)	(0.157)	(0263)	(0.225)	(0.716)	(0.967)	(0.607)
-1	4.09***	0.10**	53.14	1.55	0.01	50.43	3.49**	0.06	51.47
	(0.004)	(0.024)	(0.366)	(0.229)	(0.400)	(0.926)	(0.029)	(1.77)	(0.732)
0	7.47***	0.27***	56.04*	4.93**	0.18	54.78	7.32***	0.32***	58.82**
	(0.000)	(0.001)	(0.082)	(0.045)	(0.277)	(0.305)	(0.002)	(0.007)	(0.040)
1	12.54***	1.53***	66.18***	11.03***	1.22***	67.83***	14.60***	1.68***	67.65***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
2	6.73***	0.77***	64.25***	4.25**	0.67***	64.35***	6.61***	0.84***	62.50***
	(0.000)	(0.000)	(0.000)	(0.013)	(0.004)	(0.002)	(0.006)	(0.001)	(0.004)
3	1.39	0.23*	60.87***	1.26	0.28**	65.22***	2.05	0.27**	62.50***
	(0.226)	(0.054)	(0.002)	(0.101)	(0.036)	(0.001)	(0.199)	(0.043)	(0.004)
4	1.95	0.22	57.49**	0.92	0.16	59.13*	1.04	0.22*	58.82**
	(0.195)	(0.137)	(0.031)	(0.445)	(0.242)	(0.050)	(0.545)	(0.096)	(0.040)
5	0.75	0.13	52.66	-0.25	0.08	52.17	0.15	0.07	50.74
	(0.603)	(0.495)	(0.445)	(0.806)	(0.727)	(0.641)	(0.926)	(0.744)	(0.864)

Panel B. Cumulative adjusted CDS spread changes (in bps) over selected windows around the corrective disclosure day

	Entire sample (N = 207)			Entire sample excluding firms with confounding events (N = 115)			Delayed filings (N = 136)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Window	Mean	Median	% (>0)	Mean	Median	% (>0)	Mean	Median	% (>0)
[-5, -2]	6.78***	0.48*	55.56	4.31	0.62	54.78	3.64	0.05	51.47
	(0.008)	(0.053)	(0.110)	(0.133)	(0.359)	(0.305)	(0.206)	(0.618)	(0.732)
[-1, +1]	24.10***	4.22***	70.05***	17.50***	2.71***	66.96***	25.41***	3.68***	71.32***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
[-2, +2]	31.45***	7.13***	75.85***	23.34***	6.83***	73.91***	32.49***	5.06***	75.00***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
[-5, +5]	41.68***	9.54***	73.43***	27.98***	8.33***	73.04***	38.90***	7.67***	73.53***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
[+2, +5]	10.81***	2.24***	63.77***	6.17**	1.80***	66.09***	9.84**	2.13***	64.71***
	(0.002)	(0.000)	(0.000)	(0.034)	(0.001)	(0.001)	(0.020)	(0.000)	(0.000)

Table 4. The effect of the lawsuit filing on the sued firm's adjusted CDS spread change.

This table reports sued firms' daily adjusted CDS spread changes in basis points (Panel A) and cumulative adjusted CDS spread changes in basis points over selected windows (Panel B) around the lawsuit filing date. The sample period spans from January 2001 to April 2016. The date of the lawsuit filing is considered day zero. Confounding events are the sued firm's credit rating changes and earnings announcements during the window [-10,+10] around the lawsuit filing date. Delayed filings are lawsuits that are filed 10 days or more after the end of the class period. Rapid filings are lawsuits that are filed within five days of the end of the class period. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. The significance level of the median is based on a Wilcoxon signed-rank test. P-values are reported in parentheses. N is the number of lawsuits in the sample. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

Panel A. Daily adjusted CDS spread changes (in bps) around the lawsuit filing day

	Entire sample (N = 207)		Entire sample excluding firms with confounding events (N = 145)		Delayed filings (N = 136)		Rapid filings (N = 46)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Day	Mean	Median	Mean	Median	Mean	Median	Mean	Median
-5	1.29	-0.04	1.03	-0.15	-1.07	-0.16	5.58	-0.02
	(0.228)	(0.454)	(0.313)	(0.206)	(0.132)	(0.107)	(0.167)	(0.751)
-4	2.50**	0.09	2.90**	0.24	0.77	-0.08	6.06*	0.29**
	(0.034)	(0.231)	(0.035)	(0.183)	(0.518)	(0.914)	(0.068)	(0.029)
-3	2.22*	-0.01	1.59	-0.01	-0.76	-0.13	6.27	0.79*
	(0.099)	(0.365)	(0.218)	(0.443)	(0.515)	(0.454)	(0.101)	(0.059)
-2	1.09	0.01	0.92	0.02	-0.63	-0.08	2.39	0.14
	(0.428)	(0.754)	(0.477)	(0.700)	(0.599)	(0.385)	(0.589)	(0.842)
-1	3.62**	0.15	3.58**	0.22*	1.28	-0.04	12.63***	0.85**
	(0.017)	(0.186)	(0.029)	(0.052)	(0.427)	(0.873)	(0.008)	(0.034)
0	2.23	-0.00	3.25**	0.11	3.04*	0.11	-3.37	-0.12
	(0.129)	(0.698)	(0.036)	(0.666)	(0.056)	(0.986)	(0.337)	(0.282)
1	1.44	-0.18	1.71	-0.19	-0.27	-0.59**	3.10	0.20
	(0.261)	(0.482)	(0.171)	(0.542)	(0.829)	(0.049)	(0.387)	(0.529)
2	-2.48**	-0.30**	-1.54	-0.15	-3.85***	-0.58***	0.34	0.44
	(0.029)	(0.049)	(0.201)	(0.378)	(0.008)	(0.004)	(0.902)	(0.223)
3	2.44**	0.16	2.29**	0.25*	1.67	0.12	4.42	0.18
	(0.027)	(0.160)	(0.029)	(0.052)	(0.149)	(0.346)	(0.170)	(0.671)
4	1.58	-0.18	0.43	-0.14	0.92	-0.21	2.08	0.19
	(0.236)	(0.435)	(0.702)	(0.704)	(0.511)	(0.274)	(0.493)	(0.826)
5	-0.40	0.02	0.10	0.06	0.60	0.14	-0.77	-0.09
	(0.711)	(0.992)	(0.923)	(0.442)	(0.640)	(0.367)	(0.769)	(0.859)

Panel B. Cumulative adjusted CDS spread changes (in bps) over selected windows around the lawsuit filing day

	Entire sample (N = 207)		Entire sample excluding firms with confounding events (N = 145)		Delayed filings (N = 136)		Rapid filings (N = 46)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Window	Mean	Median	Mean	Median	Mean	Median	Mean	Median
[-5, -2]	7.10**	0.62*	6.44**	0.54	-1.67	-0.45	20.30**	3.20***
	(0.019)	(0.068)	(0.042)	(0.211)	(0.490)	(0.228)	(0.024)	(0.007)
[-1, +1]	7.30***	0.40	8.54***	0.55*	4.06	0.31	12.36*	0.27
	(0.009)	(0.283)	(0.009)	(0.077)	(0.182)	(0.739)	(0.081)	(0.617)
[-2, +2]	5.91*	1.00	7.92**	1.33	-0.41	0.18	15.09*	3.12
	(0.084)	(0.267)	(0.049)	(0.112)	(0.904)	(0.580)	(0.088)	(0.115)
[-5, +5]	15.54***	2.72**	16.25***	3.61***	1.74	-0.45	38.72**	5.44**
	(0.004)	(0.021)	(0.003)	(0.005)	(0.695)	(0.921)	(0.011)	(0.010)
[+2, +5]	1.14	-0.34	1.28	-0.00	-0.65	-0.80	6.07	0.35
	(0.694)	(0.828)	(0.635)	(0.503)	(0.856)	(0.258)	(0.405)	(0.494)

Table 5. Three-day adjusted CDS spread changes around the fraud disclosure day. Partitions by loss, depth, and firm risk characteristics.

This table reports sued firms' cumulative adjusted CDS spread changes (in bps) in the [-1,+1] daily interval around the end of the class action period (the event) for different partitions. Day 0 refers to the date of the event. All partition variables are defined in Table A1 of the Appendix. In Panels A, B, D, and E the sample is divided into quintiles by *Loss*, *Depth*, *Size*, and *MTB*; Q1 is the quintile with the highest values and Q5 is the quintile with the lowest values. The significance level of the median is based on a Wilcoxon signed-rank test. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. P-values are reported in parentheses. N is the number of lawsuits in the partition. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Three-day adjusted CDS spread changes around the fraud disclosure day		
	N	Mean	Median
Panel A. Sample partitioned by Loss			
High (Q1 and Q2)	83	45.32***	13.28***
		(0.000)	(0.000)
Low (Q4 and Q5)	82	4.08**	1.72***
		(0.028)	(0.000)
Difference		41.24***	11.56***
		(0.000)	(0.000)
Panel B. Sample partitioned by Depth			
High (Q1 and Q2)	87	28.94***	5.29***
		(0.000)	(0.000)
Low (Q4 and Q5)	77	19.00***	2.12***
		(0.002)	(0.001)
Difference		9.94	3.17*
		(0.257)	(0.059)
Panel C. Sample partitioned by Credit Rating			
Sub-investment grade	51	31.37***	5.79**
		(0.002)	(0.011)
Investment grade	156	21.72***	4.06***
		(0.000)	(0.000)
Difference		9.65	1.73
		(0.366)	(0.707)
Panel D. Sample partitioned by Size			
Small (Q4 and Q5)	82	29.19***	5.69***
		(0.000)	(0.000)
Big (Q1 and Q2)	83	18.86***	3.15***
		(0.002)	(0.000)

Difference		10.33	2.54
		(0.251)	(0.347)
Panel E. Sample partitioned by MTB			
Low (Q4 and Q5)	82	37.90***	7.95***
		(0.000)	(0.000)
High (Q1 and Q2)	83	12.24***	2.36***
		(0.007)	(0.000)
Difference		25.66***	5.59**
		(0.007)	(0.030)

Table 6. Three-day adjusted CDS spread changes around the lawsuit filing day. Partitions by loss, depth, and firm risk characteristics.

This table reports sued firms' cumulative adjusted CDS spread changes (in bps) in the [-1,+1] daily interval around the lawsuit filing day (the event) for different partitions. Day 0 refers to the date of the event. All partition variables are defined in Table A1 of the Appendix. In Panels A, B, D, and E the sample is divided into quintiles by *Loss*, *Depth*, *Size*, and *MTB*; Q1 is the quintile with the highest values and Q5 is the quintile with the lowest values. Delayed filings are lawsuits that are filed 10 days or more after the end of the class period. Rapid filings are lawsuits that are filed within five days of the end of the class period. The significance level of the median is based on a Wilcoxon signed-rank test. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. P-values are reported in parentheses. N is the number of lawsuits in the partition. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Three-day adjusted CDS spread changes around the lawsuit filing day								
	Full sample (N = 207)			Delayed filings (N = 136)			Rapid filings (N = 46)		
	N	Mean	Median	N	Mean	Median	N	Mean	Median
Panel A. Sample partitioned by Loss									
High (Q1 and Q2)	83	16.34**	1.58	55	9.56	0.95	16	30.94*	3.48
		(0.014)	(0.175)		(0.194)	(0.497)		(0.094)	(0.404)
Low (Q4 and Q5)	82	0.88	0.39	50	-0.61	0.39	24	2.45	-0.79
		(0.633)	(0.642)		(0.510)	(0.658)		(0.676)	(0.740)
Difference		15.46**	1.19		10.18	0.56		28.49	4.27
		(0.025)	(0.269)		(0.171)	(0.512)		(0.139)	(0.556)
Panel B. Sample partitioned by Depth									
High (Q1 and Q2)	89	5.03	0.33	58	1.29	0.15	20	9.68	0.75
		(0.199)	(0.716)		(0.779)	(0.558)		(0.263)	(0.571)
Low (Q4 and Q5)	72	7.84	0.50	46	5.88	0.50	18	15.24	0.38
		(0.121)	(0.426)		(0.344)	(0.663)		(0.237)	(0.640)
Difference		-2.82	-0.17		-4.59	-0.35		-5.56	0.37
		(0.652)	(0.665)		(0.542)	(0.377)		(0.708)	(1.00)
Panel C. Sample partitioned by Credit Rating									
Sub-investment grade	56	13.23*	1.76	35	11.69	3.80	13	-0.35	-2.31
		(0.073)	(0.463)		(0.197)	(0.489)		(0.971)	(0.414)
Investment grade	151	5.10*	0.33	101	1.42	0.23	33	17.36*	0.65
		(0.059)	(0.465)		(0.596)	(0.730)		(0.058)	(0.279)
Difference		8.13	1.43		10.27	3.57		-17.71	-2.96
		(0.297)	(0.605)		(0.275)	(0.256)		(0.253)	(0.194)
Panel D. Sample partitioned by Size									
Small (Q4 and Q5)	82	14.09***	2.23***	55	11.59*	2.26**	13	14.45	2.20
		(0.009)	(0.006)		(0.058)	(0.039)		(0.260)	(0.168)

Big (Q1 and Q2)	83	1.68	0.01	54	-3.74	0.20	23	12.59	-1.06
		(0.639)	(0.441)		(0.158)	(0.421)		(0.263)	(0.814)
Difference		12.40*	2.22***		15.33**	2.06**		1.86	3.26
		(0.054)	(0.006)		(0.023)	(0.013)		(0.915)	(0.257)
Panel E. Sample partitioned by MTB									
Low (Q4 and Q5)	82	13.58**	0.46	53	11.17	0.97	18	9.18	-1.57
		(0.029)	(0.338)		(0.144)	(0.379)		(0.421)	(0.610)
High (Q1 and Q2)	83	1.61	0.34	59	-0.90	0.18	18	10.95	1.87
		(0.475)	(0.780)		(0.270)	(0.783)		(0.274)	(0.580)
Difference		11.96*	0.12		12.07	0.79		-1.7658	-3.44
		(0.069)	(0.634)		(0.117)	(0.362)		(0.906)	(0.444)

Table 7. Cross-sectional analysis of three-day adjusted CDS spread changes around the fraud disclosure day.

This table reports the results of cross-sectional regressions of sued firms' three-day adjusted CDS spread changes around the end of the class action period on *Loss*, *Depth*, and firm risk characteristics. All variable definitions are presented in Table A1 of the Appendix. Industry fixed effects based on the industries identified in Table 1 and year fixed effects are included in all models. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percent levels. *T*-statistics, reported in parentheses, are based on standard errors clustered by firm. N is the number of observations (lawsuits). Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Dependent Variable: Three-day adjusted CDS spread change around the fraud disclosure day						
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
HY	0.68	-0.77	-3.12	9.67	7.57	9.79	6.21
	(0.04)	(-0.05)	(-0.20)	(0.59)	(0.48)	(0.62)	(0.41)
Size	-6.43**	-6.15**	-6.66**	-10.59***	-9.98***	-9.74***	-9.78***
	(-1.98)	(-2.04)	(-2.25)	(-3.04)	(-3.04)	(-3.05)	(-3.11)
MTB	-0.43	-0.43	-0.47	-0.44	-0.44	-0.31	-0.33
	(-0.73)	(-0.83)	(-0.91)	(-0.73)	(-0.85)	(-0.55)	(-0.64)
Loss		33.72**			30.46**	27.81**	
		(2.57)			(-2.58)	(2.51)	
LossMax			96.97***				82.74***
			(3.55)				(3.28)
Depth				3.29***	3.00***	3.00**	2.63***
				(4.09)	(3.87)	(3.91)	(3.63)
RatingChange						22.32	24.67
						(1.01)	(1.16)
EA						8.80	8.85
						(1.15)	(1.14)
RapidFiling						-8.51	-4.26
						(-0.85)	(-0.44)
LEV	10.96	8.80	10.70	-0.02	-1.00	3.36	6.26
	(0.32)	(0.27)	(0.35)	(-0.00)	(-0.03)	(0.12)	(0.23)
VOL	11.80	-15.56	-52.36	7.24	-17.07	-25.09	-56.74*
	(0.45)	(-0.55)	(-1.58)	(0.27)	(-0.60)	(-0.87)	(-1.67)
PriorLawsuit	9.61	10.25	14.58	4.48	5.51	5.67	9.51
	(0.89)	(0.96)	(1.36)	(0.43)	(0.53)	(0.57)	(0.96)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	207	207	207	207	207	207	207
Adj R^2 (%)	7.36	11.65	15.74	12.06	15.48	15.94	18.99

Table 8. Cross-sectional analysis of three-day adjusted CDS spread changes around the lawsuit filing day.

This table reports the results of cross-sectional regressions of sued firms' three-day adjusted CDS spread changes around the lawsuit filing day on *Loss*, *Depth*, and firm risk characteristics. *CASC_CPE* is the cumulative adjusted CDS spread change for the sued firm in the [-1,+1] daily interval around the end of the class action period. All other variable definitions are presented in Table A1 of the Appendix. Delayed filings are lawsuits that are filed 10 days or more after the end of the class period. Rapid filings are lawsuits that are filed within five days of the end of the class period. Industry fixed effects based on the industries identified in Table 1 and year fixed effects are included in all models. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percent levels. *T*-statistics, reported in parentheses, are based on standard errors clustered by firm. N is the number of observations (lawsuits). Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Dependent Variable: Three-day adjusted CDS spread change around the lawsuit filing day									
	Entire sample (N = 207)						Delayed filings (N = 136)		Rapid filings (N = 46)	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
HY	5.84	5.56	5.09	6.51	4.23	4.54	6.11	6.57	-47.50	4.77
	(0.63)	(0.60)	(0.59)	(0.69)	(0.47)	(0.49)	(0.54)	(0.58)	(-1.51)	(0.18)
Size	-5.41**	-5.45**	-5.09	-4.56**	-5.17	-3.65	-4.91	-4.78	-7.76	-1.53
	(-2.32)	(-2.33)	(-1.64)	(-2.20)	(-1.64)	(-1.30)	(-1.10)	(-1.12)	(-0.79)	(-0.30)
MTB	-0.16	-0.17	-0.16	-0.13	-0.18	-0.12	-0.15	-0.13	2.75	0.60
	(-0.90)	(-0.99)	(-0.91)	(-0.88)	(-1.02)	(-0.77)	(-0.68)	(-0.62)	(1.31)	(0.37)
Loss		13.21*	13.39*	8.64	12.59*		8.00		50.22	
		(1.71)	(1.75)	(1.25)	(1.66)		(0.90)		(1.28)	
Depth			-0.26		-0.20	-0.60	0.05	0.00	-3.56	-3.83
			(-0.32)		(-0.24)	(-0.78)	(0.04)	(0.00)	(-1.01)	(-1.31)
CASC_CPE				0.17*		0.19**		0.03		0.79***
				(1.86)		(2.04)		(0.43)		(5.23)
RatingChange					2.71	1.31	-10.03	-9.09	0.18	-2.09
					(0.18)	(0.10)	(-0.79)	(-0.72)	(0.00)	(-0.04)
EA					-6.86	-5.55	-7.51	-7.35	3.40	6.24
					(-0.96)	(-0.80)	(-0.87)	(-0.86)	(0.10)	(0.27)
RapidFiling					3.70	5.36				
					(0.54)	(0.80)				
PriorLawsuit	9.34*	9.77*	10.05*	7.93*	9.63*	7.55	9.51	9.10	11.79	1.39
	(1.79)	(1.91)	(1.93)	(1.66)	(1.82)	(1.50)	(1.41)	(1.34)	(0.40)	(0.09)
LEV	-14.68	-14.68	-14.33	-13.26	-15.44	-13.16	7.73	7.03	-33.11	-38.57
	(1.12)	(-1.10)	(-1.06)	(-0.89)	(-1.12)	(-0.86)	(0.51)	(0.45)	(-0.38)	(-0.39)
VOL	2.32	-10.80	-10.52	-18.86	-7.12	-7.38	-5.85	-0.26	-86.44	-80.24
	(0.11)	(-0.48)	(-0.47)	(-0.87)	(-0.32)	(-0.36)	(-0.24)	(-0.01)	(-1.04)	(-0.93)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2 (%)	3.90	4.81	4.34	9.67	3.47	8.64	-3.82	-4.26	-32.84	16.73

Table 9. Logistic regressions for the propensity of a lawsuit settlement.

This table reports the results of logistic regressions for the propensity of a lawsuit settlement. The dependent variable is equal to 1 if a lawsuit is settled, and 0 if it is dismissed. *CASC_CPE* and *CASC_FD* are the three-day adjusted CDS spread changes for the sued firm around the class period end and, respectively, around the lawsuit filing date. *Size* is from the end of the quarter preceding the lawsuit filing date. All other variable definitions are presented in Table A1 of the Appendix. Delayed filings are lawsuits that are filed 10 days or more after the end of the class period. Rapid filings are lawsuits that are filed within five days of the end of the class period. Industry fixed effects based on the industries identified in Table 1 and year fixed effects are used in all models. *T*-statistics, reported in parentheses, are based on standard errors clustered by firm. N is the number of observations (lawsuits). Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Entire sample (N = 206)					Delayed filings (N = 136)		Rapid filings (N = 46)	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CASC_CPE	0.01**				0.01**	0.01*		0.03**	
	(2.30)				(2.38)	(1.95)		(2.16)	
CASC_FD		-0.01					-0.02**		0.01
		(-1.32)					(-2.05)		(1.00)
Loss			0.35						
			(0.69)						
LossMax				1.46*					
				(1.93)					
Size	0.42***	0.32**	0.37**	0.41***	0.42***	0.34*	0.18	1.17	1.08
	(2.69)	(2.15)	(2.50)	(2.66)	(2.67)	(1.71)	(0.95)	(1.49)	(1.54)
PriorLawsuit	-0.95**	-0.84*	-0.86*	-0.84*	-0.98**	-0.61	-0.38	-1.05	-0.60
	(-2.05)	(-1.80)	(-1.88)	(-1.79)	(-2.11)	(-0.93)	(-0.60)	(-0.82)	(-0.53)
N_Plaintiffs	0.13**	0.16**	0.14**	0.12**	0.13**	0.07	0.06	0.26*	0.25*
	(2.37)	(2.50)	(2.32)	(1.98)	(2.20)	(0.84)	(0.60)	(1.71)	(1.74)
RapidFiling					0.22				
					(0.49)				
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2 (%)	15.98	14.58	14.09	15.37	16.08	18.09	18.71	38.05	28.14

Table 10. Spillover effects of the fraud disclosure on the sued firms' peers.

This table reports cumulative adjusted CDS spread changes (in bps) of the sued firms and their peers over selected windows around the end of the class action period. Panel A presents the results for the entire sample of lawsuits with continuous CDS data coverage for peers around both fraud revelation dates and lawsuit filings. Panel B summarizes them for the subsample free of confounding events. Confounding events are credit rating changes and earnings announcements within 10 days from the class period end. A peer is a U.S. public company with the same four-digit SIC code as the sued firm. The end of the class period is considered day zero. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. P-values are reported in parentheses. The significance level of the median is based on a Wilcoxon signed-rank test. N is the number of lawsuits in the sample. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Sued firms		Sued firms' peers			
Window	Mean	Median	Mean	Median	ΔMean	ΔMedian
Panel A. All fraud revelations with CDS data available for competitors (N = 157)						
[-5, -2]	6.90***	0.59**	1.29	0.39	5.61**	0.20
	(0.003)	(0.022)	(0.243)	(0.326)	(0.028)	(0.302)
[-1, +1]	21.65***	3.90***	1.80**	0.41	19.85***	3.49***
	(0.000)	(0.000)	(0.025)	(0.119)	(0.000)	(0.000)
[-2, +2]	29.77***	6.93***	2.64**	0.85**	27.13***	6.08***
	(0.000)	(0.000)	(0.022)	(0.043)	(0.000)	(0.000)
[-5, +5]	43.45***	9.62***	3.34*	1.08*	40.11***	8.54***
	(0.000)	(0.000)	(0.092)	(0.090)	(0.000)	(0.000)
[+2, +5]	14.89***	1.83	0.26	0.26	14.63***	1.57***
	(0.000)	(0.000)	(0.793)	(0.544)	(0.001)	(0.007)
Panel B. Excludes sued firms and peers with confounding events (N = 122)						
[-5, -2]	7.37***	0.39*	1.16	0.35	6.21**	0.04
	(0.005)	(0.085)	(0.393)	(0.370)	(0.035)	(0.518)
[-1, +1]	21.38***	3.80***	1.55*	0.38	19.83***	3.42***
	(0.000)	(0.000)	(0.096)	(0.254)	(0.000)	(0.000)
[-2, +2]	28.68***	6.88***	2.29*	1.01*	26.39***	5.87***
	(0.000)	(0.000)	(0.085)	(0.081)	(0.000)	(0.000)
[-5, +5]	43.44***	9.58***	3.56	1.01*	39.88***	8.57***
	(0.000)	(0.000)	(0.115)	(0.044)	(0.000)	(0.000)
[+2, +5]	14.69***	2.13***	0.86	0.20	13.83***	1.93***
	(0.001)	(0.000)	(0.419)	(0.627)	(0.002)	(0.009)

Table 11. Spillover effects of the lawsuit filing on the sued firms' peers.

This table reports cumulative adjusted CDS spread changes (in bps) of sued firms and their peers over selected windows around the lawsuit filing date. Panel A presents the results for the entire sample of lawsuits with continuous CDS data coverage for peers around both fraud revelation dates and lawsuit filings. Panels B and C summarize them for the subsample of rapid filings (lawsuits filed within five days from the fraud revelation date) with and, respectively, without confounding events (credit rating changes and earnings announcements within 10 days from the claim filing). A peer is a U.S. public company with the same four-digit SIC code as the sued firm. Daily adjusted CDS spread changes are winsorized at their 1st and 99th percentile values. P-values are reported in parentheses. The significance level of the median is based on a Wilcoxon signed-rank test. N is the number of lawsuit filings. Significance at 1, 5, and 10% levels is denoted by ***, **, and *, respectively.

	Sued firms		Sued firms' peers			
Window	Mean	Median	Mean	Median	ΔMean	ΔMedian
Panel A. All lawsuits (N = 157)						
[-5, -2]	7.73**	0.67	1.32	-0.00	6.41*	0.67
	(0.023)	(0.106)	(0.261)	(0.742)	(0.074)	(0.340)
[-1, +1]	10.62***	0.52*	1.28	-0.16	9.33**	0.68
	(0.003)	(0.091)	(0.172)	(0.588)	(0.11)	(0.384)
[-2, +2]	11.14***	1.14	0.43	-0.48	10.71**	1.62
	(0.006)	(0.112)	(0.733)	(0.935)	(0.011)	(0.221)
[-5, +5]	20.74**	3.27**	1.51	0.16	19.23***	3.11
	(0.001)	(0.013)	(0.468)	(0.512)	(0.004)	(0.118)
[+2, +5]	2.40	-0.77	-1.09	-0.03	3.49	-0.74
	(0.474)	(0.737)	(0.407)	(0.401)	(0.332)	(0.908)
Panel B. Rapid filings (N = 39)						
[-5, -2]	17.53**	2.54***	4.16**	0.50	13.37	2.04
	(0.033)	(0.003)	(0.025)	(0.208)	(0.107)	(0.178)
[-1, +1]	18.73**	1.76*	2.96*	0.59	15.77*	1.17
	(0.019)	(0.086)	(0.054)	(0.189)	(0.051)	(0.551)
[-2, +2]	24.20***	5.37**	4.75**	2.61**	19.45**	2.76
	(0.007)	(0.011)	(0.024)	(0.028)	(0.032)	(0.432)
[-5, +5]	44.52**	5.85***	7.81**	1.77*	36.71**	4.08
	(0.010)	(0.002)	(0.044)	(0.089)	(0.035)	(0.135)
[+2, +5]	8.25	0.86	0.68	-0.03	7.57	0.89
	(0.322)	(0.276)	(0.706)	(0.805)	(0.374)	(0.382)
Panel C. Rapid filings free of confounding events for sued firms and peers (N = 34)						
[-5, -2]	19.41**	4.39***	4.33*	0.39	15.08	4.00
	(0.038)	(0.003)	(0.056)	(0.142)	(0.113)	(0.172)
[-1, +1]	19.41**	2.02**	3.57**	1.04*	15.84*	0.98

	(0.022)	(0.031)	(0.037)	(0.093)	(0.063)	(0.439)
[-2, +2]	25.10***	5.72***	5.45**	3.55**	19.65**	2.17
	(0.007)	(0.002)	(0.018)	(0.017)	(0.035)	(0.327)
[-5, +5]	51.14***	10.43***	8.46**	2.69*	42.68**	7.74*
	(0.007)	(0.000)	(0.026)	(0.055)	(0.026)	(0.099)
[+2, +5]	12.32	1.79*	0.56	-0.21	11.76	2.00
	(0.181)	(0.079)	(0.766)	(0.682)	(0.211)	(0.117)

Figure 1a. Average cumulative CDS spread change around the fraud disclosure date

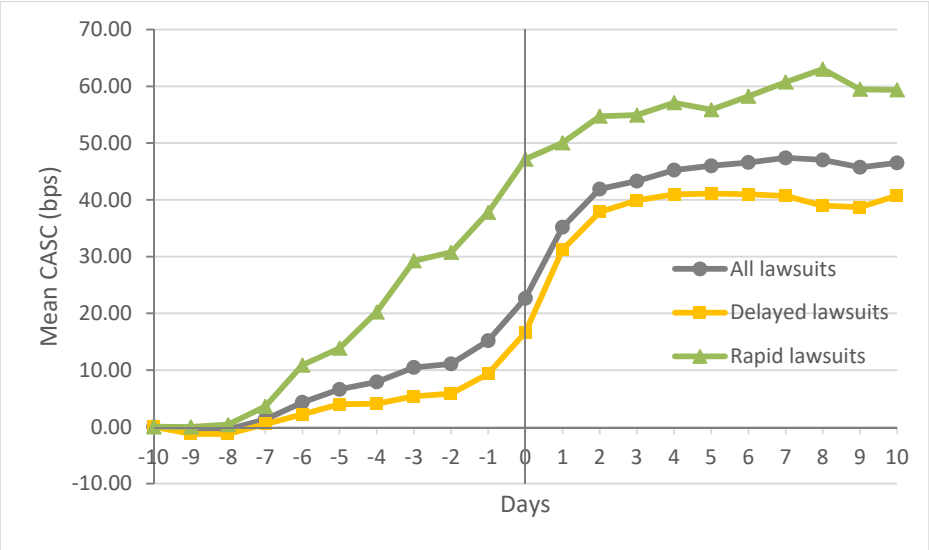

Figure 1b. Average cumulative CDS spread change around the lawsuit filing date