The Effect of Securities Litigation Risk on Firm Value and Disclosure

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Abstract: Critics assert that securities class actions are economically burdensome and yield minimal recoveries, whereas proponents claim they deter wrongdoing. We examine key events in the recent Goldman Sachs Supreme Court case to test the net effect of securities litigation risk on shareholder value. We find that investors view securities class actions as value-increasing. However, the strength of this effect varies based on external monitoring. Investors view securities class actions as more value-enhancing when institutional ownership is low. We also use this setting to examine the effect of securities litigation risk on mandatory disclosure because the Goldman Sachs case focuses on mandatory disclosure properties. Using a difference-in-differences design, we find firm risk factor disclosures become shorter and less similar to industry peers, and they contain more uncertain and weak terms. Overall, our results show nuanced effects of securities litigation risk on shareholder value and firm disclosure.

Keywords: Securities Litigation Risk; Shareholder Value; Governance; Class Certification; Disclosure

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1. Introduction

This study uses *Goldman Sachs Group, Inc. v. Arkansas Teacher Retirement System* (141 S.Ct. 1951 (2021)) ("*Goldman*") as a plausibly exogenous shock to test how private securities litigation risk affects firm value and mandatory disclosure. *Goldman* is a 2011 securities fraud class action ruled on by the U.S. Supreme Court in June 2021. The Supreme Court ruling focuses on how courts evaluate generic statements at class certification—the process of forming a group of affected plaintiffs (i.e., "class") in a securities class action. Specifically, *Goldman* involves determining whether a statement's generic nature could rebut the presumption that an alleged misstatement affected stock prices. The statements at issue refer to language such as "Our reputation is one of our most important assets…" and "Our clients' interests always come first."

We examine the net effect of securities litigation risk on shareholder value, initially for all firms and then for those with varying levels of external monitoring. Policymakers, attorneys, managers, and academics have debated this net effect. Critics cite agency conflicts between class members and plaintiffs' lawyers, small recoveries, and deadweight losses for firms and investors as evidence of the inadequacy of securities class actions in compensating investor losses and acting as a corporate governance mechanism (e.g., Grundfest 1995; Pritchard 1999, 2002). In contrast, proponents argue the *threat* of securities class actions deters fraud and reduces agency costs, thus raising shareholder value (e.g., Cox et al. 2003; Fisch 2009; Crane and Koch 2018).

Additionally, because *Goldman* focuses on mandatory disclosure properties and extensive research examines the relation between litigation risk and disclosure (e.g, Skinner 1994, 1997; Field et al. 2005; Rogers et al. 2011), we also test the effect of *Goldman* on firm disclosures. Generic statements like those made by Goldman are common and are often targeted in litigation (Mendoza and Lubitz 2020; Blackman et al. 2021). Because of this, the main issue in *Goldman*—how courts should weigh the generic nature of alleged misrepresentations for

purposes of class certification—has significant implications for all firms (Stokes et al. 2021).

Requiring courts to evaluate statements differentially based on their specificity raises the class certification standard, making it more difficult for plaintiffs to prevail and *reducing* securities litigation risk (Cadwalader 2021). Consequently, *Goldman* should increase shareholder value if litigation costs outweigh the costs of undetected fraud. Conversely, shareholder value should decrease if the benefits of the deterrence effect exceed litigation costs.

Goldman offers three key research advantages. First, as a U.S. Supreme Court decision, it affects securities litigation risk nationally, allowing us to analyze its effect on all firms, rather than only those in specific states or circuits, which can be problematic (Houston et al. 2019). *Goldman* also received significant media attention, increasing the ability to detect short-term investor reactions and firm responses. Second, by raising the class certification standard, *Goldman* unambiguously reduced litigation risk. In contrast, legislative changes such as the Private Securities Litigation Reform Act (PSLRA) often include conflicting features that make interpreting results difficult.[1] These concerns are mitigated for *Goldman* because of the clarity of the matter litigated and the unexpected nature of the events. Third, *Goldman* provides several unexpected event dates over multiple years, enabling directional predictions and reducing the risk of confounding events. We focus on events related to the Second Circuit Court of Appeals and the Supreme Court, so they have potential to affect legal precedent for all firms.[2]

We first validate that *Goldman* was a salient event to conduct our tests on shareholder value. We examine Google Trends and find a significant increase in searches around key court

[1] For example, Johnson et al. (2000) find that shareholders react positively to the PSLRA, but Ali and Kallapur (2001) argue that these results are due to confounding events and shareholders react negatively to the reforms.
[2] The further *Goldman* advanced through the appeals process, the greater the probability it would eventually reach the Supreme Court. Thus, investors may have responded to Second Circuit rulings to price protect against their expectations of the case's eventual impact. However, given the low probability of any case reaching the Supreme Court, it is unclear whether investors would have integrated this into prices before it agreed to hear the case.

dates for “Goldman Sachs Case” and “Goldman Sachs Supreme Court.” In addition to these dates, the plaintiffs conceded a major part of the case before the Supreme Court oral arguments. Because this concession significantly reduced the likelihood that the plaintiffs could prevail, we also include the date of this concession as an event (the only non-court event date in our study).

We examine the market reaction on event dates for high and low litigation risk firms using Kim and Skinner’s (2012) ex ante litigation risk measure. If proponents of securities litigation are correct, the monitoring role is most important for high litigation risk firms, so their returns should be more negative on dates that signal a potential decrease in litigation risk. However, if critics are correct, these firms should have more positive returns because they will experience the largest cost savings. Thus, examining abnormal market reactions allows us to test whether investors view the net effect of securities litigation as value-enhancing or value-decreasing for these firms. To ensure spurious market returns are not driving results, we also employ randomization inference to compare observed returns to a simulated distribution of returns around each event date (see MacKinnon and Webb 2020; White and Webb 2021).

We find *negative* abnormal returns around multiple events that benefited the defendant, indicating reduced litigation risk, almost exclusively for high litigation risk firms. Most returns are notably more negative than those of low litigation risk firms, which often have insignificant or positive returns. On the single date benefiting plaintiffs, we find some evidence of more *positive* returns for high litigation risk firms. Results are consistent with investors viewing securities class actions as a crucial governance mechanism. Confounding events are unlikely to explain the results, given similar inferences across dates and our randomization inference tests.

We next exploit cross-sectional differences in institutional ownership *within* the high litigation risk firm subsample to examine how monitoring moderates the relation between

securities litigation risk and firm value. Firms with higher institutional ownership are more insulated from price drops because institutional investors monitor firms, likely reducing the need for litigation as a governance tool (Bushee 1998; Fich et al. 2015; McCahery et al. 2016). We orthogonalize institutional ownership to firm size to negate the relation between size and monitoring, yielding residual institutional ownership. We expect firms with high residual institutional ownership are more insulated from legal changes (Crane and Koch 2018). We segment firms into above and below median residual institutional ownership levels and find results consistent with expectations. Firms with higher (lower) residual institutional ownership have relatively less (more) negative returns to events that indicate reduced litigation risk.

We next test for changes in the properties of mandatory disclosures, focusing on risk factor disclosures (Hope et al. 2016; Cazier et al. 2021), which is where the language at issue in *Goldman* was located. Although it seems likely that *Goldman* will change firm disclosures, the nature of the changes is unclear. Firms provide similar disclosures to their peers to reduce litigation risk because of perceived safety in numbers (Tse and Tucker 2010; Beatty et al. 2019; Cazier et al. 2021). Thus, the reduced litigation risk from *Goldman* may make disclosures less similar (i.e., more distinct) to other firms. Firms may also increase the use of generic statements because *Goldman* reduced the risk from these statements. Specifically, *Goldman* minimizes the risk of litigation if disclosures are couched in generic terms (National Law Review 2021a), so firms may also increase their use of uncertain and weak terminology (i.e., less specific words).

We find that disclosures by high litigation risk firms become relatively shorter and more distinct from others. Thus, firms respond to *Goldman* by decreasing some of the boilerplate information that the SEC and others criticize (SEC 2016). Firms also increase the use of uncertain and weak words, making the disclosures appear more generic. Thus, litigation risk has

a nuanced effect on the information content and nature of mandatory disclosures.

This study makes three primary contributions. First, we focus on the *net* benefits to investors from securities litigation risk and find that investors view private securities litigation as a net benefit in the current legal environment. Second, we provide insight into the effectiveness of external monitors in limiting firm exposure to changes in litigation risk. Crane and Koch (2018) examine the opposite—how changes in the litigation environment affect ownership. Our results indicate that, absent the ability to hold firms with lower external monitoring accountable, investors in high litigation risk firms will price-protect, raising firms' cost of equity capital. Thus, we also contribute to research on the effect of ownership structure on economic outcomes. Finally, we build on recent research that examines mandatory risk factor disclosures (e.g., Hope et al. 2016; Cazier et al. 2021). We show that the relation between litigation risk and disclosure is more nuanced than previously known. Overall, we provide timely insights into the effectiveness of securities class actions and the role of market participants as governance mechanisms.

2. Literature Review

2.1. Overview of U.S. private securities litigation

U.S. capital markets are governed by securities laws that are enforceable by both public and private actors. Private enforcement of securities laws often occurs through securities class actions. These cases are filed by investors who traded in a company's securities and suffered economic harm from alleged violations of securities laws. After the filing, courts must determine whether the group (i.e., "class") of harmed plaintiffs should be certified, called the "class certification" stage. Failure at this stage usually means that plaintiffs will no longer pursue the claim, whereas success poses the threat of obtaining a substantial judgment, which often causes defendants to settle (Serajeddini 2009). For corporate disclosure cases, plaintiffs must typically show that the allegedly misleading disclosure affected the security price, which is generally done

by showing that a later disclosure resulted in a price correction, known as "loss causation."

Cases are initially heard in federal district courts, and decisions may be appealed to the Court of Appeals in their circuit. Decisions by the circuit court can be appealed to the Supreme Court, but the Supreme Court rarely hears securities class action cases. However, when it does, its rulings can significantly affect future securities class actions (Saltzstein et al. 2021).

Breakdowns in securities law enforcement harm economic efficiency and financial market development (Jackson and Roe 2009). However, litigation also imposes numerous direct and indirect costs on firms (Kim and Skinner 2012). The debate over whether securities class actions are a net benefit to shareholders has intensified due to a dramatic rise in litigation frequency and cost—filings increased 45% from 2011 to 2019, and median settlements are at the highest level in a decade (McIntosh and Starykh 2021).[3] These trends have spurred calls for aggressive reforms to alleviate litigation burdens (Harvard Law Review 2019).

The PSLRA was designed to limit nonmeritorious litigation and is generally regarded to have increased case merits (e.g., Johnson et al. 2007; Choi et al. 2009). However, the securities litigation landscape has evolved substantially since the passage of the PSLRA (Eisenberg 2020). More recently, plaintiffs' lawyers have begun using major firm events (e.g., oil spills and data privacy breaches) as a basis for filing class actions (Mendoza and Lubitz 2020). This event-driven litigation has increased rapidly, and many firms are reconsidering how disclosures can affect their susceptibility to this type of litigation (Dailey and Marder 2018). Consequently, *Goldman* is "the most closely watched securities case in recent years" (Sullivan & Cromwell 2023) and is a plausibly exogenous shock to expected litigation risk for all firms. Thus, it provides timely insights into how the market views the net value of securities litigation in the

[3] Although small on a per case basis, aggregate recoveries are economically meaningful. Total securities class action settlements doubled from $2.1 to $4.2 billion from 2019 to 2020 (Cornerstone Research 2021).

modern litigation environment.[4] Further, it is a powerful setting to examine how changes in securities litigation risk affect disclosure properties, which is challenging because of the endogenous nature of litigation (Field et al. 2005; Houston et al. 2019; Donelson et al. 2022b).

2.2. Importance of external monitoring

Just as litigation can be an external governance mechanism (Donelson and Yust 2014), so is monitoring by sophisticated market participants. Such monitoring constrains managers from engaging in value-destroying activities. For example, Cornett et al. (2008) find higher institutional ownership deters earnings management, and McCahery et al. (2016) find that institutional investors are effective monitors.[5] Thus, because firms choose an optimal level of governance (see Gillan et al. 2011; Larcker et al. 2011), shareholders' assessment of the net costs or benefits of securities class actions likely varies based on the extent of external monitoring.

2.3. Litigation and disclosure

Many researchers have examined the relation between litigation and voluntary disclosure. Skinner (1994) argues that litigation risk may motivate managers to disclose bad news early to reduce litigation risk. Consistent with this prediction, Houston et al. (2019) show that there is a positive relation between litigation risk and voluntary disclosure, and Field et al. (2005) and Donelson et al. (2012) find that timely disclosure deters future litigation. However, voluntary disclosure of bad news may also attract plaintiffs' lawyers (e.g., Kartapanis and Yust 2023), so

[4] Notable securities cases decided by the Supreme Court over the past two decades are Halliburton Co. v. Erica P. John Fund, Inc., 573 U.S. 258 (2014) ("*Halliburton"*) and Tellabs, Inc. v. Makor Issues & Rights, Ltd., 551 U.S. 308 (2007) ("*Tellabs"*). We focus on *Goldman* because of the clarity of the issue litigated and its clear adverse effect on plaintiffs (Baker Botts 2021; Skadden 2021). *Halliburton* held that defendants could use price impact evidence to rebut the presumption of reliance in securities class actions, representing no significant change to securities laws (Pritchard 2015). *Tellabs* changed the pleading standard for securities fraud in some circuits, but the new standard is still generous to plaintiffs, so its effect was muted (Choi and Pritchard 2012). Finally, prior cases were argued before the spike in event-driven litigation, limiting their generalizability.

[5] Institutional investors also play a distinct, ex post role in securities litigation, often serving as lead plaintiffs after the PSLRA (e.g., Cheng et al. 2010). Recoveries are higher when institutions act as lead plaintiffs, implying they reduce agency costs (Perino 2003). However, this evidence does not speak to their ex ante monitoring role.

Rogers and Van Buskirk (2009) find that managers reduce voluntary disclosure after being sued.

Few researchers have examined the relation between litigation and mandatory disclosure properties. Donelson et al. (2022b) find that firms increase the readability of their 10-Ks after industry peers are sued. Beatty et al. (2019) show that firms disclose more immaterial risk factors in the hope that such disclosures will protect them from litigation. Similarly, Nelson and Pritchard (2016) find that high litigation risk firms disclose more risk factors and use more readable language than low litigation risk firms. Consistent with these litigation concerns, Cazier et al. (2021) find that mandatory risk factor disclosures are more likely to be considered adequate under judicial and regulatory review when they are longer and more boilerplate.

3. *Goldman* Case Timeline

In 2010, the SEC announced an enforcement action against Goldman, alleging it did not disclose third-party involvement in asset selection for collateralized debt obligations (CDOs) in 2006–07. Goldman's stock price dropped, and a securities class action was filed in 2011. The case alleged Goldman misrepresented conflicts of interest in the marketing and sale of CDOs.[6] However, Goldman argued its statements were generic and similar to those of other CDO issuers. Changes in how generic statements are litigated have significant implications for securities class actions because the recent surge in event-driven litigation is largely based on generic corporate statements. For example, a group of law professors and former SEC officials noted in an amicus curiae brief (i.e., a brief from an individual or organization that is not a party to the legal case) supporting Goldman's appeal that generic "aspirational statements about best practices amid a fast-moving global pandemic can be weaponized by plaintiffs and turned into a predicate for a

[6] For example, the lawsuit alleged that Goldman made a number of material misstatements such as, "We have extensive procedures and controls that are designed to…address conflicts of interest." *In re Goldman Grp., Inc. Sec. Litig.*, No. 10 Civ. 3461 (PAC), 2015 WL 5613150, at *1 (S.D.N.Y. Sept. 24, 2015).

securities fraud class action" (Seal 2020). Thus, in the current environment, litigation critics have asserted that "Everything, everywhere is securities fraud" (Frankel 2021a).

Class certification was initially granted to the plaintiffs by the Southern District Court of New York as expected. However, on appeal, the Second Circuit vacated the District Court's order on January 12, 2018, citing a failure to apply the preponderance-of-the-evidence standard and assess whether the disclosures had a price impact (i.e., the evidence indicates it is more likely than not that the disclosure caused the investor damage).[7] The Second Circuit's decision to vacate marks the first significant event date in *Goldman* for two reasons. First, vacating cases in securities class actions is relatively uncommon and signals disagreement between district and circuit courts (Goodhue 2006). Second, the decision to remand (i.e., send it back to the District Court) increased the likelihood that the Supreme Court would eventually hear the case (Bruhl 2020). Because Supreme Court rulings can significantly change legal precedent, this raises the probability that the case could dramatically affect future securities class actions.

On remand, Goldman argued generic statements do not affect stock market prices. The District Court again ruled against Goldman, sending the case back to the Second Circuit. In a split decision on April 7, 2020, the Second Circuit rejected Goldman's argument that the alleged misstatements were too generic to affect prices. In response, Goldman filed an appeal (formally, a petition for a writ of certiorari) with the Supreme Court. The Supreme Court announced on December 11, 2020, that it would hear the case. This decision to hear the case indicated that it was more likely than not to reverse the lower court decision (Katz et al. 2017; BallotPedia 2023).

When the Supreme Court decides to hear a case, parties to the case and experts in the area

[7] Defendants presented evidence arguing that the market learned of Goldman's conflicts of interests concerning the CDOs on 34 occasions from 2007 to 2009, without any occasion leading to a subsequent decline in the price of Goldman stock, to argue that the statements did not affect Goldman's share price, presumably due to their generic nature. (Ark. Teachers Ret. Sys. v. Goldman Sachs Group, Inc. (ATRS I), 879 F.3d 474, 484–85 (2d Cir. 2018)).

file briefs, so the legal arguments often evolve after the Supreme Court decides to hear the case. Thus, brief filings and oral arguments inform investors of the evolving arguments. On February 24, 2021, the plaintiffs filed a brief to concede an important issue—that the generic nature of a statement *could* be considered in the class certification stage. This concession was significant because the plaintiffs had previously argued the opposite based on existing legal precedent. Specifically, it was widely believed that *any* disclosure, regardless of how generic or aspirational, could be used to assert investor harm when stock price drops occurred (Strauss 2022). As a result, the concession made it more likely that the Supreme Court would rule in favor of Goldman and state that courts should consider the generic nature of a statement in class certification. Such a ruling would make it more difficult for future securities class actions relying on generic misstatements to receive class certification.

The Supreme Court heard oral arguments on March 29, 2021. Although it did not release its ruling on this date, the arguments were open to the public to indicate where the Justices may stand. The arguments focused on technical questions about evidentiary standards and burdens of proof since the plaintiff's brief conceded a key point and narrowed the case's scope. While there was no consensus on how the Supreme Court would rule (SCOTUSblog 2021), they highlighted that the plaintiffs' concession on generic statements was critical (Bravis 2021; Supreme Court 2021). The arguments attracted significant attention, given the ability of the Supreme Court to enact significant legal changes. As the National Law Review (2021b) noted, "It would be difficult to overstate the importance of these issues" as ruling completely for the plaintiff or defendant "may prove outcome-determinative in many future Section 10(b) class actions."

On June 21, 2021, the Supreme Court ruled in favor of Goldman, remanding the case to the District Court. Although it rejected Goldman's attempt to shift the burden of proof in class

action cases onto plaintiffs, the ruling was deemed a clear win for defendants (Frankel 2021b).

Finally, on December 8, 2021, the District Court ruled the class should still be certified. This final event date marks the only ruling in favor of the plaintiffs in our sample. Although the ruling does not change the new Supreme Court precedent (Bennett 2021), it may be viewed as increasing securities litigation risk. As Goldman noted in its appeal of the ruling, if other courts follow the approach this District Court used to apply the Supreme Court's guidance, it undermines the practical effect of the case on securities litigation risk (Frankel 2022b).[8]

4. Hypotheses Development

4.1. The effect of litigation risk on shareholder value

There is conflicting evidence on the *net* valuation effects of securities class actions. For example, Spiess and Tkac (1997) and Johnson et al. (2000) find that the PSLRA increases shareholder value, whereas Ali and Kallapur (2001) find the opposite. Regardless, the litigation environment has radically changed since 1995, so timely evidence is needed (Eisenberg 2020).

Critics assert that securities class actions impose significant costs on firms (e.g., Pritchard 1999, 2002; Coffee 2006; Bratton and Wachter 2011). For example, the costs of securities litigation are cited as one of the primary factors deterring foreign companies from accessing U.S. markets (Financial Services Forum 2007). Firms also take actions to minimize litigation costs, such as changes to voluntary disclosure (e.g., Skinner 1997). Many critics cite the large number of nonmeritorious cases, which impose deadweight costs on firms, as evidence that securities litigation is a net cost (Grundfest 1995).

In contrast, proponents of securities class actions assert that they reduce agency costs and

[8] Consistent with Goldman's arguments, the Second Circuit unanimously decertified the class on August 10, 2023. Thus, plaintiffs were expected to drop the case (Frankel 2023), which formally occurred on November 16, 2023 (Corso 2023). However, these dates are too recent to include in our sample. Similar to the District Court decision after the Supreme Court's remand, these decisions also likely have limited precedential value.

help deter fraud. Cox et al. (2003) find that securities class actions are critical in providing remedies to injured investors. Hopkins (2018) finds that firms subject to less litigation risk are more likely to have restatements. Many other researchers find ex post adverse market consequences to sued firms, implying that the threat of litigation creates ex ante incentives to reduce fraud and other misreporting (e.g., Choi and Pritchard 2016; Donelson et al. 2021).

Notably, the net benefit of securities litigation may differ for investors and managers. Managers incur unique litigation costs, such as reputation damage (Aharony et al. 2015). Further, the benefits largely accrue to investors, as litigation deters managers from extracting rents and pursuing strategies that harm shareholders (Donelson and Yust 2014). Our hypotheses focus on the investor perspective since we examine the net effect of securities litigation risk on firm value.

If investors react negatively to *Goldman* events implying heightened class certification (i.e., shareholder value decreases), it would be consistent with the belief that the benefits of securities class actions (e.g., constraining managerial behavior) outweigh the costs for investors in equilibrium in the pre-*Goldman* litigation environment. However, if investors react positively (i.e., shareholder value increases) to these events, their costs outweigh the benefits.

Overall, we believe the weight of the arguments supports the view that investors value the deterrent effect of securities litigation. Thus, we predict investors will respond negatively (positively) to event dates when it appears that future litigation risk will be lowered (raised).[9] However, the competing arguments suggest that empirical evidence is needed. Because the benefits and costs of securities litigation disproportionately affect shareholders in high litigation risk firms, we separately estimate the effect of *Goldman* on high and low litigation risk firms.

[9] However, we would expect the opposite for investors in Goldman itself because their cost-benefit consideration includes *actual* alleged damages of over $13 billion, rather than just hypothetical future litigation costs. Consistent with this, Goldman has positive returns around many event dates (see Table A1 of the Online Appendix).

We expect relatively larger effects for high litigation risk firms. We test the following hypothesis, stated in the alternative form:

> H_1: Investors view securities litigation risk as relatively more positively related to shareholder value for high litigation risk firms.

4.2. Predictions for specific event dates for high litigation risk firms under H1

There are several legally relevant dates when the market likely impounded the effects of *Goldman* for future securities class actions. We focus on the key dates that may change investor perceptions regarding new precedent, rather than every potential date, since most dates provide no value relevant information to the market (e.g., amicus briefs and administrative tasks).[10] These dates fall into four groups: (1) Second Circuit Court rulings; (2) the most significant brief filing before the Supreme Court oral arguments, in which the plaintiffs conceded a key issue; (3) Supreme Court events, including the decision to hear the case, oral arguments, and ruling; and (4) key post-Supreme Court events.[11] We depict the key dates in Figure 1, describe them in Table 1, and summarize their importance and expected effect on litigation risk below.[12]

The first event date in our study is the Second Circuit's decision to remand the case on January 12, 2018. This ruling is the first event that signals Goldman may prevail in the case and implies a possible heightened class certification standard. Because heightened standards limit

[10] For example, judges have criticized amicus briefs for largely duplicating litigants' briefs and not assisting judges (Kearney and Merrill 2000; Shapiro 2021). We identify five additional possible events for filings by Goldman or the plaintiff. These events seem unlikely to be value relevant and we find no significant difference between the market reactions for high and low litigation firms (Table A11 in the Online Appendix).

[11] The sole noteworthy date excluded is the ruling by the Second Circuit on April 7, 2020. We cannot interpret returns around this date, given the then-COVID-19-related recovery and response to the Federal Reserve's corporate bond purchases (Ma et al. 2021; O'Hara et al. 2021). To highlight the abnormality of this month's returns, the S&P 500 increased nearly 13% in April, representing "the best month in decades" (McCabe et al. 2020). Existing methods to estimate the "expected" return on this event appear poorly-specified (untabulated).

[12] Similar to Nelson et al. (2008), we identify concurrent events that may affect returns but are unrelated to *Goldman* in Table A2 of the Online Appendix. However, none of these events would be expected to differentially affect firms based on their litigation risk or external monitoring. We also obtain similar results in Tables A12–A15 of the Online Appendix if we omit firms with earnings announcements or media coverage on or near the event dates, which may also result in a market response that confounds our analyses (see Drake et al. 2017).

investors' ability to pursue securities class actions successfully, this ruling should lead to relatively more negative abnormal returns for high litigation risk firms, even though it only directly applies to firms in the Second Circuit.

The second event date is the Supreme Court's decision to hear Goldman's appeal (grant of certiorari) on December 11, 2020. As noted, its decision to hear a case often implies it may change existing legal precedent (BallotPedia 2023). Such a change indicates a reduced likelihood of successful future securities class actions, so we again predict relatively more negative abnormal returns for firms with high litigation risk. We expect particularly robust results on this date because of its high-profile nature and potential application to all firms.

The third event date is February 24, 2021, when the plaintiffs filed a brief conceding that the generic nature of a statement can be used to determine price impact. As discussed above and acknowledged by the Justices during oral arguments, this brief conceded one of the main legal arguments the plaintiffs had previously relied on. As a result, we again predict relatively more negative abnormal returns for firms with high litigation risk.

The fourth event date is March 29, 2021, when the Supreme Court heard oral arguments. This date is more ambiguous because there was no public consensus on how the Justices would rule (SCOTUSblog 2021). Nonetheless, the arguments attracted significant interest and highlighted that the plaintiffs had already conceded significant issues with their February brief. Such rebroadcasted information can still affect prices (see Huberman and Regev 2001). Also, the arguments highlighted that the Justices could rule to further restrict securities class actions by, for example, changing the party with the legal burden of proof. We thus continue to predict that firms with high litigation risk will have relatively more negative abnormal returns.

The fifth event date is the Supreme Court's June 21, 2021 ruling. The ruling is a clear

win for future defendants by resolving all ambiguity regarding future securities litigation risk. Specifically, the ruling gives courts more guidance in interpreting generic statements defendants have made to meet the class certification burden, increasing their ability to reject certification. We predict that firms with high litigation risk will have relatively more negative abnormal returns on this date. We expect particularly robust results on this date for these reasons.

Finally, the sixth event date is the District Court's ruling in favor of the plaintiffs on December 8, 2021. This event is the first legal application of the Supreme Court's ruling and could be insightful for how other courts will interpret it. Although the decision itself was not that surprising—the same District Court had granted class certification on two prior occasions (Bennett 2021)—the U.S. Chamber of Commerce and legal experts criticized the judge's ruling for misapplying the Supreme Court's "mismatch" test, rendering the Supreme Court's opinion from having much practical effect (Frankel 2022a, 2022b). Thus, we predict that high litigation risk firms may have moderately more *positive* returns on this date based on expectations that future courts may similarly minimize the effect of legal changes from *Goldman*.

4.3. The moderating effect of external monitoring

Firms choose between internal and external governance mechanisms (Gillan et al. 2011; Larcker et al. 2011; Donelson and Yust 2014). Because the governance role of litigation risk is less critical for firms with substitute monitoring mechanisms, investors' view of the net benefit of securities class actions may vary with monitoring levels. Thus, monitoring may moderate the relation between litigation risk and firm value for high litigation risk firms. We focus on institutional ownership to proxy for external governance because litigation shocks have less effect on firms with higher institutional ownership (Crane and Koch 2018).

Importantly, our setting is focused on the ability of institutional owners to monitor firms *before* litigation has been filed, which differs from their role during ongoing litigation (see

Cheng et al. 2010). Because monitoring by sophisticated investors is considered a primary internal governance mechanism (e.g., Cremers and Nair 2005; Crane and Koch 2018), we hypothesize that firms with higher institutional ownership will be less affected by the *Goldman* changes in the ability to use securities class actions as a governance mechanism. We test the following hypothesis, stated in the alternative form:

> H_2: Investors view securities litigation risk as relatively less value-increasing for high litigation risk firms with high external monitoring.

4.4. The effect of litigation risk on mandatory disclosures

Securities litigation risk has myriad effects on firm disclosure strategies, and *Goldman* focused on how courts should regard firm disclosure characteristics. However, it is unclear how the case will change firm disclosures. Firms often respond to litigation risk by disclosing more and similar information to their peers (Tse and Tucker 2010; Beatty et al. 2019; Cazier et al. 2021). As *Goldman* reduced the risk of future securities class actions, risk factor disclosures (the disclosures at issue in *Goldman*) may become shorter and more distinct across firms.

At the same time, because generic statements are more likely to be disregarded post-*Goldman* at the class certification stage, firms may disclose new, relatively generic information or increase the uncertainty of previously disclosed information. For example, lawyers suggest that, "a future defendant is more likely to defeat class certification based on a generic statement like 'We are committed to sustainability,' than a specific statement like 'We will achieve net-zero carbon emissions by 2025'" (National Law Review 2021a). Similarly, firms may increase their use of uncertain terms and language with a weak modality (e.g., "believe," "could," "may," "possible"; see Loughran and McDonald 2011). However, if firms make their disclosures more generic, they may make their disclosures more similar to their peers.

Collectively, *Goldman* has significant implications for any qualitative disclosure, but it is

an empirical question as to how firms will respond to it. Thus, we test the following hypothesis, stated in the alternative form:

H_3: Securities litigation risk changes are associated with firm risk factor disclosures.

5. Research Design and Empirical Results

5.1. Litigation risk measure and classification

We examine differences in returns and disclosures between firms that face a substantive threat of private securities litigation risk and those that do not. To identify firms with substantive securities litigation risk, we use Kim and Skinner's (2012) ex ante litigation risk model. This model uses industry membership and other firm characteristics such as size, growth, stock performance, and volatility to measure firms' securities litigation risk.[13] We classify high litigation risk firms as those in the top litigation risk tercile. We validate this design choice by comparing securities litigation rates across litigation risk terciles.

We obtain securities class action filing data from the Stanford Securities Class Action Clearing House and restrict our validation sample to 2016–2020. We use these years for two reasons. First, they capture current litigation trends, increasing the external validity of our litigation risk classification. Second, this period is after Kim and Skinner's (2012) sample period (1996–2010), thus representing an out-of-sample test of their classification.

We start with 1,798 class actions filed between 2016 and 2020. We remove IPO cases and class actions filed against defendants not listed on the NYSE, NASDAQ, or AMEX. We also remove cases targeting firms we cannot match to Compustat/CRSP or with missing data needed to calculate litigation risk. Our final sample comprises 734 class actions (Table 2, Panel A).

[13] We use the intercept and predicted coefficients of the ex ante litigation risk model displayed in Model 3 of Table 7. The model is as follows: -7.883 + .566(*FPS*) + .518($LNASSETS_{t-1}$) + .982($SALES\ GROWTH_{t-1}$) + .379($RETURN_{t-1}$) - .108($RETURN\ SKEWNESS_{t-1}$) + 25.635($RETURN\ STD\ DEV_{t-1}$) + .00007($TURNOVER_{t-1}$).

We match filed securities class actions with firms, calculate firms' ex ante litigation risk, and separate firms into litigation risk terciles. Table 2, Panel B displays the results. Firms in the top tercile are subject to 56% of the filed cases, which is consistent with securities class actions disproportionately targeting firms in the top tercile of litigation risk.[14] These firms should be the most sensitive to changes in legal standards, so they are the most powerful firms to examine the effects of securities class actions. Thus, we classify high (low) litigation risk firms as those in the top tercile (bottom two terciles) of litigation risk. Our approach of ranking firms based on litigation risk and classifying firms in the top tercile as high litigation risk is similar to prior research (Donelson et al. 2022b; Freund et al. 2023).[15]

5.2. Other data and descriptive statistics

We obtain return data from CRSP, financial statement data from Compustat, institutional ownership data from Thomson/Refinitiv, and analyst data from IBES. We obtain disclosure text by downloading *Item 1A, Risk Factors* from 10-Ks issued from 2018 through March 31, 2023, using SEC API by Data2Value. We eliminate observations missing data required to calculate ex ante litigation risk following Kim and Skinner (2012) and require observations in the market reaction sample to trade on the examined dates. Our market reaction sample comprises 25,300 firm-date observations, and our disclosure sample comprises 14,355 firm-year observations.

We present descriptive statistics for high and low litigation risk firms for our market reaction sample in Table 3, Panel A. Panel B provides descriptive statistics for our residual institutional ownership sample analysis. We use residual ownership to control for the influence

[14] Inferences are similar if we extend our period in this validation test to 2010 through 2020. The number of suits filed against firms in the top tercile of litigation risk remains above 50% (untabulated). We do not use earlier years to avoid confounding events from the financial crisis.

[15] Results are generally robust to using quartiles, a continuous litigation risk measure, and other specifications (Tables A4–A8 and A16–A19 of the Online Appendix).

of firm size on institutional ownership, where the residual comes from regressing institutional ownership on size (see Hong et al. 2000). We restrict this sample to *only* high litigation risk firms (i.e., the 8,341 observations) to focus on the most powerful setting for our tests, which we split into subsamples based on whether they have high (above median) or low (below median) residual institutional ownership. Validating that these firms have significantly different levels of external monitoring ($p < 0.01$, untabulated), the high residual ownership sample has mean (median) institutional ownership of 74% (82%), whereas the low has ownership of 28% (22%).

5.3. Media attention

To confirm the salience of *Goldman*, we use Google Trends to test how search interest changes around each event date. Google Trends shows how often a search term is used relative to the volume of searches occurring on the site over a given period and is a proxy for investor information demand (Drake et al. 2012). Thus, searches should increase around each event.

We examine search interest for the two weeks around each event date.[16] Figure 2 displays search results, with results largely consistent with expectations. For example, on the first event date of January 12, 2018, we see significant spikes in searches for the case. The largest spike occurs after the Supreme Court agreed to hear the appeal (December 11, 2020), consistent with our contention that this decision is important for the markets. We find no evidence of increased searches after the plaintiffs' brief on February 24, 2021, so we omit this date from Figure 2 for brevity. However, a lack of widespread searches does not preclude a market reaction because sophisticated investors monitor legal matters closely. We thus retain this date for return analyses. We also see a spike in searches after oral arguments (March 29, 2021) and the Supreme Court's

[16] We use the search term, "Goldman Sachs Case," for the initial event date, and "Goldman Sachs Supreme Court" for each event date thereafter. In addition, because Google Trends uses a random sample of searches to calculate search interest metrics (Google 2020), we collect Google Trends results on ten separate days for each event date and present averages to mitigate the risk of a single sample of searches driving our results (Donelson et al. 2022a).

ruling (June 21, 2021). Overall, the results largely validate the salience of our event dates.

5.4. Market reactions based on litigation risk

We first test market reactions to the key *Goldman* event dates. We estimate the association between firm litigation risk and abnormal returns on each event date using the following ordinary least squares (OLS) regression:

$$AbRet_i = \alpha_1 HighLitRisk_i + \alpha_2 LowLitRisk_i + \varepsilon_i \quad (1)$$

where *AbRet* is excess market returns, which is calculated around each date from a time-series three-factor model (Fama and French 1993).[17] To limit the effect of outliers, we winsorize returns at the 1st and 99th percentiles.[18] *HighLitRisk* (*LowLitRisk*) is an indicator variable equal to one if a firm is in the top tercile (bottom two terciles) of litigation risk, and zero otherwise. We examine three return windows—[0,0], [0,1], and [0,2]—because of uncertainty about the speed with which this information is impounded into prices. The shorter windows limit the effect of confounding events, while longer windows allow for wider information dissemination and time to assess any effect on valuation (Nelson et al. 2008; Baukloh et al. 2021).

Table 4 presents the results from estimating equation (1) for each event date and return window. The first event date we examine is the Second Circuit's ruling in favor of Goldman on January 12, 2018. The ruling signals potentially reduced litigation risk by changing how courts consider generic statements, so investors could view it as limiting their ability to hold firms accountable for misreporting, leading to lower abnormal returns for high litigation risk firms. Consistent with H_1, we find that the coefficient on *HighLitRisk* is statistically significant and

[17] We suppress the intercept to increase interpretability. This allows us to directly estimate the main effect for both low and high litigation risk firms, rather than adding the effects for low litigation risk firms and the intercept. This yields identical results and *p*-values compared to excluding the *LowLitRisk* indicator variable and including the intercept (Eisenhauer 2003). We find similar inferences when including firm-specific control variables, which can affect returns (Daniel and Titman 1997), as shown in Tables A9–A10 in the Online Appendix.

[18] We obtain similar inferences when removing observations with absolute studentized residuals greater than two (Jiang et al. 2015, untabulated).

negative for two of the three windows ($p < 0.01$). Over the three-day window, high litigation risk firms experience abnormal returns 0.89% below low litigation risk firms ($p < 0.01$).

We next examine returns for high litigation risk firms around the Supreme Court's decision to hear the appeal (grant certiorari) on December 11, 2020, further supporting beliefs that the Supreme Court may restrict securities litigation. High litigation risk firms continue to have strong negative returns for all three windows. Also, the returns of high litigation risk firms are significantly lower than those of low litigation risk firms for all three windows, with returns of high litigation risk firms being 1.07% lower than those of low litigation risk firms over the three-day window ($p < 0.01$). Thus, returns are again consistent with investors viewing the potential reduction in litigation risk as value decreasing for high risk firms.

We find similar returns on February 24, 2021, when the plaintiffs' brief conceded that the generic nature of a statement *could* be considered in the class certification stage, increasing the likelihood that future litigation will be unable to succeed. That is, high litigation risk firms experience negative abnormal returns for two of the windows ($p < 0.01$), and returns for high litigation risk firms are significantly below low litigation risk firms for all three windows ($p < 0.05$). Thus, despite not observing significant Google search interest around this date, results are consistent with sophisticated investors being aware of the brief filing and its importance.

We next turn to returns around the oral arguments heard by the Supreme Court on March 29, 2021. Despite a lack of consensus on how it would rule, returns for high litigation risk firms may be negative due to (1) investors price protecting against the uncertainty, given that Goldman was likely to win after the plaintiffs' concessions and (2) the media coverage informing some investors for the first time about the plaintiffs' concessions. We find significant negative abnormal returns for high litigation risk firms for all three event windows ($p < 0.10$), which are

significantly more negative than for low litigation risk firms for two of the windows ($p < 0.01$).

The Supreme Court's ruling on June 21, 2021, is also associated with high litigation risk firms facing significant negative abnormal returns for the three return windows ($p < 0.01$). High litigation risk firms have lower returns than low litigation risk firms for all three windows ($p < 0.01$). The strong investor reaction indicates recognition of the rulings' effect on future litigation.

Finally, on December 8, 2021, the District Court ruled against Goldman. This is the sole event date in our study that favors the plaintiffs, so we expect abnormal returns in the opposite direction of prior dates. We find positive returns for high litigation risk firms for the [0,1] and [0,2] windows, where returns are 0.32% higher for high litigation risk firms than low litigation risk firms ($p < 0.05$). Thus, there is some evidence that investors view the District Court's ruling as value-enhancing, likely due to perceptions that the legal changes from *Goldman* may have less practical effect than expected. However, the limited differential reaction to this event likely indicates that investors believe the District Court ruling may have a limited future effect.

5.5. Market reactions based on residual institutional ownership

We next examine how residual institutional ownership moderates the market's reaction for high litigation risk firms. We report results for residual institutional ownership but find similar results using raw institutional ownership (untabulated). We examine only firms in the top tercile of litigation risk to focus on those with the highest expected litigation rates as the most powerful setting to examine whether institutional ownership acts as a substitute monitor to insulate firms from changes in the legal environment. We estimate the following OLS regression:

$$AbRet_i = \alpha_1 HighResInstOwn_i + \alpha_2 LowResInstOwn_i + \varepsilon_i \quad (2)$$

where *AbRet* is as previously defined. *HighResInstOwn* (*LowResInstOwn*) equals one if a firm is above (below) the median of residual institutional ownership and zero otherwise.

Table 5 presents the results. We find institutional ownership differentially affects the returns for high litigation risk firms around all events other than the District Court's final ruling. Returns for low residual institutional ownership firms are significantly lower for 9 out of the 15 event windows across these five dates ($p < 0.10$) and for all 6 event windows for the two event dates with the strongest predictions ($p < 0.05$). These findings are largely consistent with H_2. Firms with low residual institutional ownership have a negative and significant abnormal return for 13 out of the 15 windows ($p < 0.05$) across these dates, indicating that a lack of external monitoring heightens market reactions to changes in the litigation environment.

Overall, consistent with H_2, institutional ownership helps protect firms from perceived legal changes, leading to relatively higher returns.[19] However, litigation risk remains an important governance mechanism that generally increases shareholder value for the average firm.

5.6. Randomization inference tests

To mitigate concerns that other market events drive returns or that our event selection process induces spurious associations, we compare event date abnormal returns to simulated abnormal returns generated from randomly selected dates using randomization inference (see Bind and Rubin 2019; MacKinnon and Webb 2020; White and Webb 2021).[20] For our analysis, we randomly select a date for each firm within the 60-day window around the event date and re-estimate Model (1) to generate a simulated event return. We conduct 500 randomizations for each event date and return window to generate a distribution of potential event-date abnormal returns. We then compare the differences between the *HighLitRisk* and *LowLitRisk* coefficients

[19] To alleviate concerns that these results arise from non-monitoring features of institutional ownership, we repeat the analyses with residual analyst coverage in the Online Appendix (Table A3). Analysts also monitor firms (Lang et al. 2004; Ayers et al. 2019). For example, analysts deter earnings management (Yu 2008) and are primary monitors in uncovering frauds that result in meritorious litigation (Dyck et al. 2010). We find similar results.
[20] The Supreme Court return dates occur amid the broader COVID-19 rebound, although not during the sharpest moment of the rebound in early April, as discussed in Section 3.

for each simulation to the true difference in the coefficients in Table 2.

For the first five event dates, the number of simulation differences that are *more negative* than our true difference is divided by the total number of simulations to create Fisher *p*-values, which represent the chance that a randomly chosen combination of dates within the 60-day window would generate a difference as extreme as observed in the actual data (White and Webb 2021). Because of the prediction being in the opposite direction for our final event date (12/8/2021), we report Fisher *p*-values by taking the number of simulated differences that are *more positive* than our true difference and dividing by the total number of simulations.

Table 6, Panel A presents the Fisher p-values for our tests of market reactions based on litigation risk. These results corroborate H_1, that the key *Goldman* dates are largely value decreasing for high litigation risk firms.[21] Abnormal returns for high litigation risk firms are significantly lower for 11 of the 15 windows across the six event dates (Fisher $p < 0.10$).

We follow a similar procedure for the market reaction tests based on residual institutional ownership and report results in Table 6, Panel B. For the first five event dates (final event), Fisher *p*-values are calculated by dividing the number of simulated differences between *HighResInstOwn* and *LowResInstOwn* coefficients that are more *positive* (*negative*) than the difference of our true *HighResInstOwn* and *LowResInstOwn* coefficients by 500.

For 10 of the return windows, our simulation tests indicate that firms with high residual institutional ownership have abnormal returns significantly different from firms with low residual institutional ownership (Fisher $p < 0.10$). Thus, for most of the event windows across the six event dates, there are few (and sometimes no) instances in which the difference between *HighResInstOwn* and *LowResInstOwn* coefficients generated from 500 randomized simulations

[21] We obtain similar inferences when running placebo tests for dates two weeks prior to each event date.

is greater than the true difference of our coefficients in Table 5.

Collectively, our randomization inference tests mitigate concerns related to potential concurrent events driving market reactions. Across most event-date windows, the observed difference between subgroups is rarely smaller than a randomly simulated difference.

5.7. Descriptive statistics for disclosure sample

We next turn to whether *Goldman's* effect on securities litigation risk changes firms' risk factor disclosures. We focus on the *Item 1A, Risk Factors* disclosure, to be consistent with prior related research (e.g., Cazier et al. 2021) and because this was the location of the disclosure at issue in *Goldman*. Moreover, regulators and practitioners have highlighted lengthy and generic risk factor disclosures as impediments to effective disclosure (SEC 2016; Berkman 2018). Because our prior analyses show that *Goldman* events updated market participants' expectations for firms based on litigation risk, a natural follow-up question is whether the same events affected managerial disclosure decisions, especially concerning risk factors.

We first test for changes in the similarity of risk factor disclosures to other firms and their length from 10-Ks filed in calendar years 2018 through 2022. We require at least 50 words per risk factor disclosure and at least four observations per industry-year. We pre-process the text by removing numbers, white space, page breaks, and stop words. A feature of "boilerplate" disclosures is the repetition or similarity of n-grams across or within documents (e.g., Lang and Stice-Lawrence 2015; Cazier et al. 2021). We thus convert risk factor disclosures into trigram representation (i.e., units of three ordered terms) to compare trigrams across documents.

We then compare each risk factor disclosure *i* to every other risk factor disclosure *j* in its industry-year (two-digit SIC code and calendar year) using the cosine similarity measure.[22] This

[22] We use calendar years for our disclosure analysis because we expect any managerial reactions to *Goldman* decisions to happen in real time, rather than according to fiscal year-end conventions.

"raw" cosine similarity score ranges from 0 to 1, where a score of 0 for an *i-j* document pair indicates the two documents share no common trigrams, and a score of 1 indicates *i* and *j* are identical. Following prior research (e.g., Brown and Tucker 2011; Lee 2016; Monsen 2022), we length-adjust cosine similarity by regressing the raw score on the length of disclosure *i*, including squared and cubed terms, rank the regression residual into deciles by industry-year, and divide by 10 for a length-adjusted similarity score. For each firm-year document *i*, our *Similarity* measure is the median cosine similarity score for document *i* across all *i-j* industry-year comparisons. We measure document length (*LN Wordcount*) as the natural logarithm of a count of the total words in *Item 1A* (Miller 2010; Campbell et al. 2014; Cazier et al. 2021).

We use the Loughran and McDonald (2011) uncertainty and weak modality dictionaries to examine vague and generic language. *UncertaintyWords* and *WeakModalityWords* are calculated as the proportion of words in each risk factor disclosure that appear in the uncertainty and weak modality dictionaries, respectively, multiplied by 100 for percentage interpretation.

We present descriptive statistics for the disclosure sample in Table 7, Panel A, partitioned by high and low litigation risk. *Raw Cosine Sim Score* is greater for firms with higher litigation risk, but this could be a function of longer document length for *HighLitRisk* firms, as indicated by lower values for the length-adjusted *Similarity* in the *HighLitRisk* subsample. *LN Wordcount* is higher for firms with higher litigation risk, consistent with the variation in firm size. *UncertaintyWords* and *WeakModalityWords* are both greater for *LowLitRisk* firms. Variables used to calculate *Litigation Risk* exhibit similar patterns to the market reaction sample, except the disclosure sample contains larger firms and firms with lower share turnover.

5.8. Disclosure changes in response to Goldman

Panel B of Table 7 presents univariate comparisons of the textual features of risk factor disclosures before and after the Supreme Court ruling on June 21, 2021, which is the date that

resolves all ambiguity regarding the change in litigation risk. However, we find similar inferences using other *Goldman* dates in 2020 and 2021 (untabulated). *Raw Cosine Sim Score* decreased from before to after the ruling for both the high and low litigation risk firms in the disclosure sample ($p < 0.01$). However, there is a univariate increase in disclosure length for both subsamples ($p < 0.01$), suggesting differing document length could be driving decreased observed document similarity (Brown and Tucker 2011) and a need to examine the length-adjusted *Similarity* across subsamples. Mean *Similarity* decreases for high litigation risk firms from pre-ruling to post-ruling ($p < 0.01$) but increases for low-litigation risk firms ($p < 0.01$). This finding provides initial evidence that the firms most affected by *Goldman* tend to use more distinct (i.e., more firm-specific) language in their risk factor disclosures after the Supreme Court ruling, likely because of the reduced need for boilerplate language as a shield from litigation.

The increase in *LN Wordcount* for high litigation risk firms is less than that for low-litigation risk firms ($p < 0.05$, untabulated), which is also consistent with high litigation risk firms reducing disclosure in response to perceived lower litigation risk. Mean *UncertaintyWords* increases from pre-ruling to post-ruling for both high ($p < 0.01$) and low ($p < 0.01$) litigation risk firms. This same pattern holds for *WeakModalityWords*, which suggests that firms, in general, use more words that are generic in their risk factor disclosures after *Goldman*. Observing an increase for both types of firms and across both word count variables suggests a difference-in-difference test is required to analyze the differential effect on high or low litigation risk firms.

The univariate evidence in Table 7 is consistent with firms facing higher ex ante litigation risk reacting to the change in securities litigation risk from *Goldman*. To bolster these analyses, we perform multivariate difference-in-differences analyses. Selecting the precise date managers would likely change 10-K risk factor disclosures is challenging. Six important dates in Goldman

are associated with potential or actual changes in future litigation risk, and investors reacted to each. However, given the costs associated with changing disclosures (Verrecchia 1983; Dye 1983), it seems inevitable that most managers will be more cautious and wait until it is near certain that the Supreme Court will change litigation risk. However, because four of the six dates we test for market reactions are within seven months of one another (December 11, 2020 to June 21, 2021), including all dates that involve the Supreme Court, it seems clear that managers will make any changes to their annual risk factor disclosures within this window.

To operationalize these tests, we must identify the date that managers will most clearly believe to represent a credible and lasting shift in litigation risk. Similar to the logic in Section 4, we use the Supreme Court's decision to hear the case (December 11, 2020) and its ruling (June 21, 2021) to examine our tests using the following OLS framework:[23]

$$TextProxy = \beta_0 + \beta_1 HighLitRisk_i + \beta_2 Post_t + \beta_3 HighLitRisk \times Post_{it} + \mathbf{B} Controls_{it} + \varepsilon_1 \quad (3)$$

where *TextProxy* is defined as *Similarity*, *LN Wordcount*, *UncertaintyWords*, or *WeakModalityWords*, depending on the specification.

Similar to our market reaction tests, treatment firms are those in the top tercile of litigation risk (i.e., where *HighLitRisk* equals one), which are the firms most likely to adjust their disclosure strategies in response to changes in litigation risk. *Post* is an indicator variable equal to one if firm *i*'s 10-K is issued after the treatment date, and zero otherwise. Control variables are the components of *Litigation Risk* (Kim and Skinner 2012).[24] We use firm and industry-year fixed effects and cluster standard errors by firm. We also require at least one observation per firm in the pre and post-periods to ensure sample composition changes do not affect the results.

Table 8 presents results for disclosure characteristics. Columns (1) and (2) present results

[23] However, untabulated results are similar if we define the post-treatment period with the other 2020 or 2021 dates.
[24] We implicitly control for document length because *Similarity* is length-adjusted, as discussed in Section 5.7.

with *Similarity* as the dependent variable, and Columns (3) and (4) present results with *LN Wordcount* as the dependent variable. The results confirm the inferences from univariate analyses—high litigation risk firms have less similar and shorter risk factor disclosures after *Goldman* than low litigation risk firms. The β_3 coefficients with *Similarity* as the dependent variable are -0.087 and -0.075, depending on the Supreme Court date ($p < 0.01$). Relative to mean *Similarity* of 0.521 for high litigation risk firms in the pre-period, the coefficients imply that risk factor disclosures are about 14.3% less similar to peer disclosures after *Goldman*. The β_3 coefficients with *LN Wordcount* as the dependent variable indicate that high litigation risk firms have 2.4% to 3.2% shorter risk factor disclosures after *Goldman* ($p < 0.01$).[25]

Table 9 presents results on disclosure language. Columns (1) and (2) present results with *UncertaintyWords* as the dependent variable. Columns (3) and (4) present results with *WeakModalityWords* as the dependent variable. Results show that high litigation risk firms use a greater proportion of uncertainty and weak modality words post-*Goldman* than pre-*Goldman* and compared to low-litigation risk firms. The β_3 coefficients with *UncertaintyWords* as the dependent variable are 0.025 and 0.018 ($p < 0.05$). Relative to mean *UncertaintyWords* of 3.043 for high litigation risk firms in the pre-*Goldman* period, these coefficients imply that risk factor disclosures contain around a 0.59% greater proportion of uncertainty words after *Goldman*. The significant β_3 coefficients with *WeakModalityWords* as the dependent variable indicate high litigation risk firms use around 0.67% more weak modality words after *Goldman* ($p < 0.05$).[26]

We examine the parallel trend assumption around the Supreme Court ruling by estimating Model (4) after removing *Post* and interacting *HighLitRisk* with an indicator variable for each

[25] (exp(-0.024) – 1) = -0.024 and (exp(-0.033) – 1) = -0.032

[26] In untabulated tests, we examine disclosure characteristic differences across partitions based on institutional ownership. We do not find that results vary systematically across partitions, suggesting that monitoring factors more into market participants' investment decisions than managers' disclosure decisions.

year in the sample, with year *t*-1 (2020) as the base year. We present results in Figures 4–7, where a blue dot represents the coefficient estimate and vertical lines denote the coefficient's 95 percent confidence interval. Results are generally consistent with the parallel trend assumption. There are no clear pre-treatment trends, and *Similarity* and *LN Wordcount* (*UncertaintyWords*) are only significantly negative (positive) after *Goldman*. Further, most differential changes in high litigation risk firm disclosures occur after the major Supreme Court *Goldman* dates.

6. Conclusion

Our findings indicate that investors perceive securities litigation as a net positive for high litigation risk firms, inconsistent with the arguments by securities litigation critics. However, the strength of this relation varies depending on the level of external monitoring. Investors view litigation as most value-enhancing when firms have low levels of external monitoring and must rely on securities litigation as a constraining governance mechanism. However, reductions to securities litigation risk are generally a net negative even for firms with adequate external monitoring. Validating that *Goldman* substantively changed securities litigation risk, we also find significant changes to firm disclosures. High litigation risk firm disclosures are less generic, shorter, and contain relatively more uncertainty and weak modality words.

Thus, policymakers, investors, and others should be cautious about reforms or restrictions on the ability to file securities class actions, as they can have far-reaching effects. For example, some firms and policymakers have recently supported corporate charter amendments that would force all shareholder suits into arbitration (Graziano and Trisotto 2019; Frankel 2020; Kedem 2020). However, investors have argued that such amendments would reduce the deterrence effect of securities litigation (Fleming 2018; Frankel 2018). Politicians have also proposed other reforms on the ability to bring securities class actions (Trew 2017). Our findings suggest that these changes may harm shareholder value and have significant effects on firm disclosures.

Appendix—- Variable Definitions

Variable	Description
AbRet	*AbRet* is measured as a function of excess market returns, a high-minus-low market-to-book ratio factor, and a small-minus-big market capitalization factor based off of the time-series model presented in Fama and French (1993).
FPS	Indicator variable equal to one if the firm is in the biotech (SIC codes 2833 – 2836), computer (3570 – 3577 and 7370 – 7374), electronics (3600 – 3674), or retail industry (5200 – 5961), and zero otherwise.
HighResInstOwn	Indicator variable equal to one if a firm is above the median level of residual institutional ownership, and zero otherwise, for firms in the top tercile of litigation risk.
HighLitRisk	Indicator variable equal to one if the firm is in the top tercile of litigation risk, and zero otherwise.
Inst. Ownership (%)	Firm raw institutional ownership measured by aggregating 13F filings from Thomson/Refinitiv. Missing values are set equal to zero.
Litigation Risk	The Kim and Skinner (2012) litigation risk measure calculated using their Table 7 Model 3 estimated coefficients.
LN Assets	Natural log of total assets at the end of year *t*-1 in millions.
LN Wordcount	Natural log of the number of words in Item 1a of the firm's 10-K.
LowResInstOwn	Indicator variable equal to one if a firm is below the median level of residual institutional ownership, and zero otherwise in the subsample of firms in the top tercile of litigation risk.
LowLitRisk	Indicator variable equal to one if a firm is in the second or third tercile of litigation risk, and zero otherwise.
Post	Indicator variable equal to one if firm i's 10-K is issued after either December 11, 2020 or June 21, 2021, as indicated in the table, and zero otherwise.
Raw Cosine Sim Score	The raw cosine similarity score for firm *i*'s risk factor disclosure in year *t*'s 10-K, calculated as follows. We first extract Item 1A from each 10-K filed on EDGAR during the sample period and remove all numbers, white spaces, page breaks, and stop words. We then convert the remaining text into trigram representation. Next, we compare each Item 1A "*i*" to all other Item 1As "*j*" in its comparison group, where the comparison group *j* consists of all other 10-Ks filed in firm *i*'s industry-year (two-digit SIC and calendar year) and at least five observations per industry-year are required in order to form a comparison group. Finally, for each Item 1A *i*, *Raw Cosine Sim Score* is the median *i-j* similarity score for the comparison group.
Return	Market adjusted 12-month stock return for year *t*-1.
Return Skewness	Skewness of firm's 12-month stock return for year *t*-1.
Return Std Dev	Standard deviation of the firm's 12-month return for year *t*-1.
Sales Growth	Year *t*-1 sales less year *t*-2 sales, scaled by beginning of year total assets.
Similarity	Length-adjusted *Raw Cosine Sim Score*, calculated by regressing *Raw Cosine Sim Score* on Item 1A word count, as well as squared and cubed Item 1A word count, then ranking the residual into deciles and dividing by 10, following the approach in Brown and Tucker (2011), Lee (2016), and Monsen (2022).
Turnover	Trading volume over the 12-month period ending with year *t*-1 fiscal year-end month scaled by beginning of year shares outstanding.
UncertaintyWords	The proportion of the words in Item 1A that are in Loughran and McDonald's (2011) *Uncertainty* word list.
WeakModalityWords	The proportion of the words in Item 1A that are in Loughran and McDonald's (2011) *Weak Modal* word list.

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Figure 1 – Timeline of *Goldman Sachs Group, Inc. v. Arkansas Teacher Retirement System*

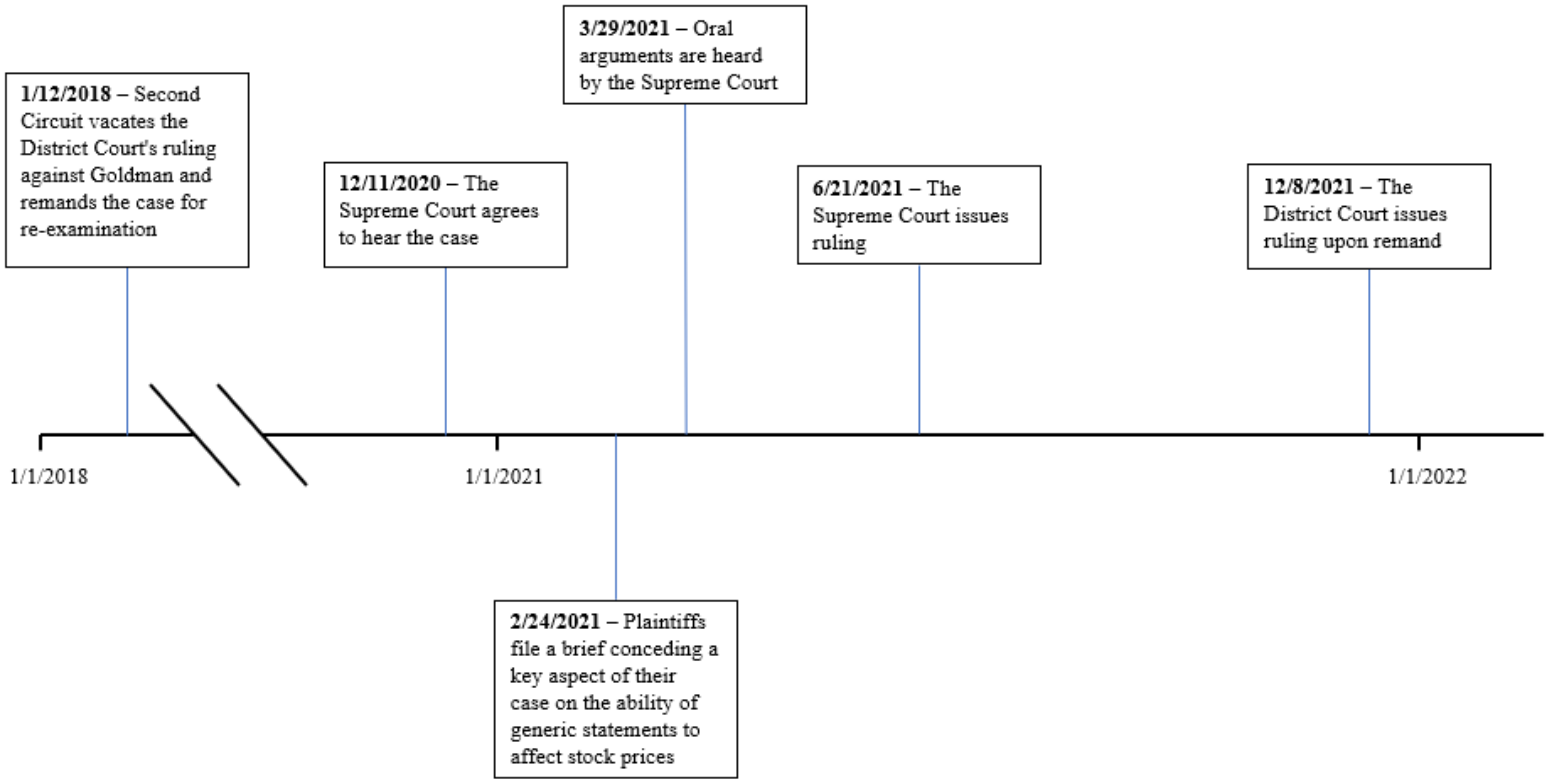

Figure 1 displays the timeline for *Goldman*. The dates included in our timeline represent the significant rulings and brief filings corresponding to the case. Descriptions for each event date can be found in Section 3.

Figure 2 – Google Search Trends

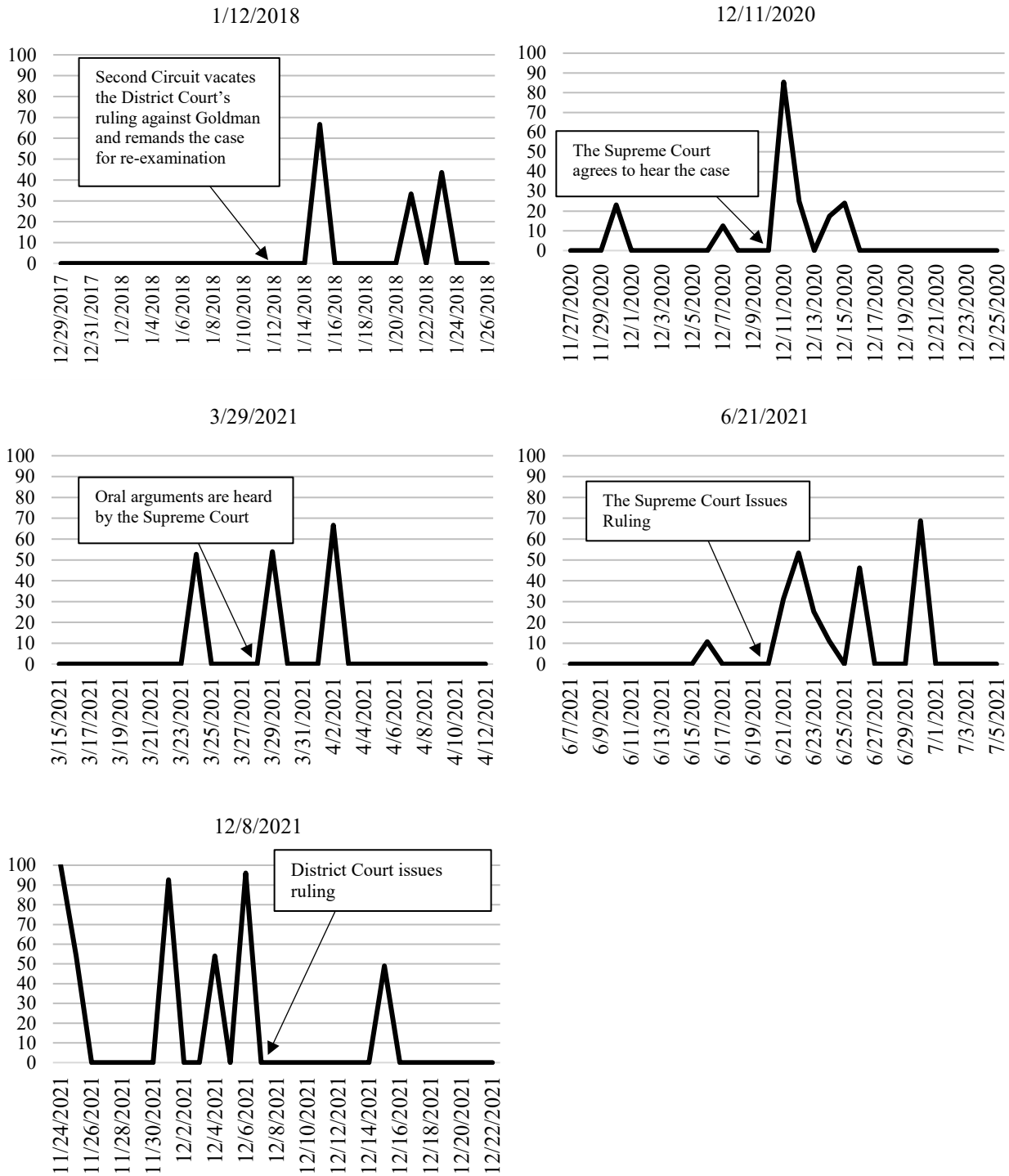

Figure 2 presents Google Trends results for the event date associated with the Second Circuit Court of Appeals ruling, the granting of the writ of certiorari, the oral arguments heard before the Supreme Court, the Supreme Court's ruling, and the District Court's ruling. The search term "Goldman Sachs Case" is used for the event date before the grant of certiorari and for the District Court's ruling. All other event dates use the term: "Goldman Sachs Supreme Court". We exclude 2/24/2021 from this analysis for the reasons discussed in Section 5.3.

Figure 3 – Parallel Trends for *Similarity*

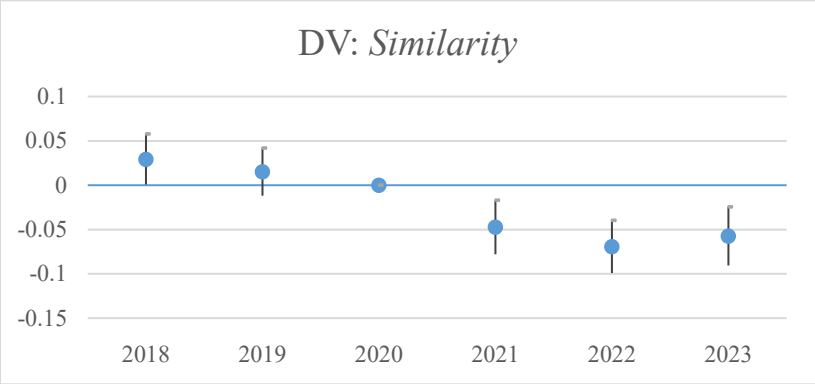

Figure 3 presents coefficient estimates for a version of Model (4) with *Similarity* as the dependent variable and that replaces *Post* with an indicator variable for each year in the sample, with year *t*-1 (2020) as the base year. A blue dot represents the coefficient estimate for each year and vertical lines denote the coefficient's 95 percent confidence interval.

Figure 4 – Parallel Trends for *LN Wordcount*

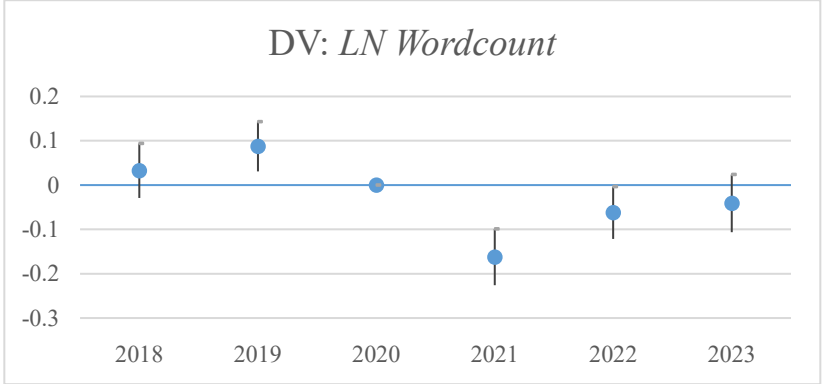

Figure 4 presents coefficient estimates for a version of Model (4) with *LN Wordcount* as the dependent variable and that replaces *Post* with an indicator variable for each year in the sample, with year *t*-1 (2020) as the base year. A blue dot represents the coefficient estimate for each year and vertical lines denote the coefficient's 95 percent confidence interval.

Figure 5 – Parallel Trends for *UncertaintyWords*

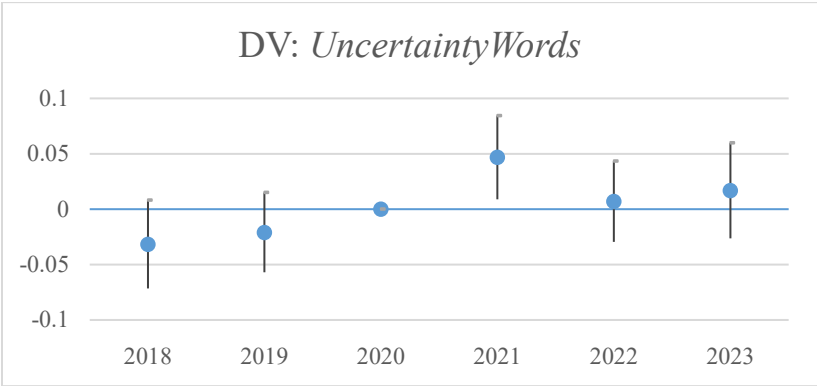

Figure 5 presents coefficient estimates for a version of Model (4) with *UncertaintyWords* as the dependent variable and that replaces *Post* with an indicator variable for each year in the sample, with year *t*-1 (2020) as the base year. A blue dot represents the coefficient estimate for each year and vertical lines denote the coefficient's 95 percent confidence interval.

Figure 6 – Parallel Trends for *WeakModalityWords*

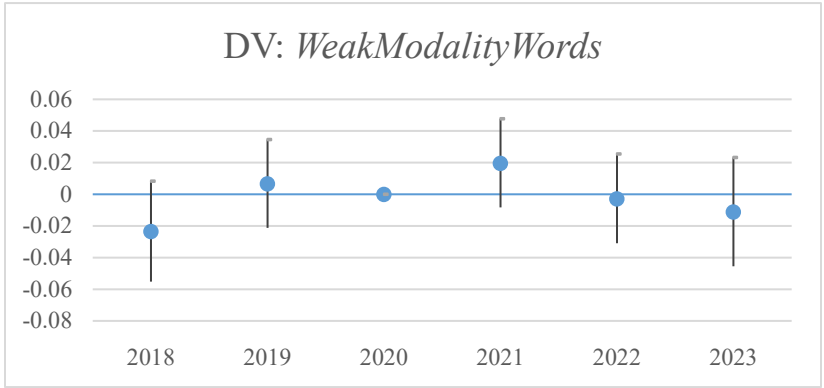

Figure 6 presents coefficient estimates for a version of Model (4) with *WeakModalityWords* as the dependent variable and that replaces *Post* with an indicator variable for each year in the sample, with year *t*-1 (2020) as the base year. A blue dot represents the coefficient estimate for each year and vertical lines denote the coefficient's 95 percent confidence interval.

Table 1 – Significant Event Date Descriptions and Predictions

Date	Event	Description	Market Prediction
01/12/2018	Second Circuit vacates and remands	The Second Circuit's decision to remand the case signals an increased likelihood that the case could make it to the Supreme Court, resulting in a heightened class certification standard for all firms. This would limit investors' ability to form securities class action lawsuits.	(-)
12/11/2020	Supreme Court grants writ of certiorari‡	The Supreme Court's decision to grant writ of certiorari (i.e., hear the case) increases the likelihood of the case changing legal precedents pertaining to class certification. Thus, this event further reduces investors' ability to form securities class actions.	(-)
02/24/2021	Plaintiffs file brief conceding key legal argument	The Plaintiffs brief filing conceded that the generic nature of a statement *can* be used in determining price impact. This filing is the first by the plaintiffs to imply that Courts can and should consider whether a statement is too generic for investors to have relied upon. Thus, because Courts will place greater scrutiny on the generic nature statements used as the basis for class certification, likely rejecting class certification in some cases, this event reduces investors' ability to form securities class actions.	(-)
03/29/2021	Oral arguments heard by the Supreme Court	During the oral arguments before the Supreme Court, the Justices highlighted that the issues of the case had narrowed as it bounced through the court system (e.g., the plaintiff's concession on 2/24/2021). Thus, the impact the case could have for future private securities litigation was unclear. However, the oral arguments were associated with high publicity and uncertainty about the case, potentially leading investors to price protect.	(-)
06/21/2021	Supreme Court issues ruling‡	The Supreme Court issues its ruling, remanding the case back to the Second Circuit. The decision adds constraints to plaintiffs' ability to use generic statements as basis for class certification in future cases.	(-)
12/08/2021	District Court issues ruling	The District Court's ruling against Goldman Sachs is the first legal application of the Supreme Court's ruling and could be indicative of how other Courts will interpret the Supreme Court's ruling.	(+)

Table 1 presents the key dates discussed in our study relating to *Goldman*. We include all dates of the rulings by the Second Circuit Court of appeals (besides 04/07/2020 as discussed in Section 3), the date of the most significant brief filing, and the dates of the oral arguments ruling from the Supreme Court, and the District Court's ruling upon remand. We include descriptions describing the significance of each event date. Based off these descriptions and their perceived effect on investors' ability to form future securities class actions, we provide predictions for how the market will react if investors believe that securities class actions provide a net benefit. ‡ indicates the events for which we expect the strongest and most robust results.

Table 2 – Litigation Risk Concentration

Panel A: Sample Selection

Lawsuit filings spanning 2016 – 2020 from Securities Class Action Clearinghouse	1798
Less: Private company filings or firms not listed on the NYSE, NASDAQ, or AMEX	(115)
Less: IPO cases	(79)
Less: Unable to match to Compustat/CRSP	(825)
Less: Missing variables required to calculate litigation risk	(45)
Total securities class action lawsuits	734

Panel B: Percentage of Securities Class Action Filings by Litigation Risk Tercile

Litigation Risk Tercile	Percentage of Securities Class Actions
1	14%
2	32%
3	56%
Total	100%

Table 2 provides details regarding the concentration of securities class actions across litigation risk terciles. Panel A presents the sample construction for the securities class action lawsuits from 2016 to 2020 used to assess litigation concentration. Lawsuit filings are gathered from the Securities Class Action Clearinghouse. Panel B presents the percentage of securities class action lawsuits filed for each tercile of litigation risk. We measure litigation risk using the model presented in Kim and Skinner (2012) and restrict our sample to firms with non-missing data for calculation of each variable included in the litigation risk model.

Table 3 – Market Reaction Descriptive Statistics

Panel A: Litigation risk analysis sample

	***HighLitRisk* (*N* = 8,431)**			***LowLitRisk* (*N* = 16,869)**		
Variable	**Mean**	**Median**	**Std. Dev**	**Mean**	**Median**	**Std. Dev**
FPS	0.22	0.00	0.41	0.14	0.00	0.35
LN Assets$_{t-1}$	7.13	7.05	2.56	7.10	7.29	2.18
Sales Growth$_{t-1}$	0.03	0.00	0.30	0.01	0.00	0.19
Return$_{t-1}$	0.42	0.22	0.90	-0.09	-0.09	0.37
Return Skewness$_{t-1}$	0.50	0.43	1.08	0.06	0.05	0.84
Return Std Dev$_{t-1}$	0.28	0.26	0.16	0.12	0.11	0.05
Turnover$_{t-1}$	10.58	3.54	23.59	3.21	1.63	10.87
Litigation Risk	3.37	2.38	3.75	-1.07	-1.07	1.28

Panel B: Residual institutional ownership analysis sample

	***HighResInstOwn* (*N* = 4,207)**			***LowResInstOwn* (*N* = 4,224)**		
Variable	**Mean**	**Median**	**Std. Dev**	**Mean**	**Median**	**Std. Dev**
FPS	0.25	0.00	0.43	0.19	0.00	0.39
LN Assets$_{t-1}$	7.12	7.05	2.61	7.13	7.05	2.50
Sales Growth$_{t-1}$	0.03	0.00	0.28	0.04	0.00	0.31
Return$_{t-1}$	0.43	0.23	0.85	0.41	0.21	0.95
Return Skewness$_{t-1}$	0.40	0.32	1.05	0.61	0.54	1.10
Return Std Dev$_{t-1}$	0.27	0.24	0.15	0.30	0.27	0.17
Turnover$_{t-1}$	7.43	3.38	16.14	13.73	3.82	28.85
Litigation Risk	3.01	2.20	3.41	3.73	2.61	4.03
Inst. Ownership (%)	0.74	0.82	0.27	0.28	0.22	0.26

Table 3 provides descriptive statistics for our main analyses. Panel A partitions firms into those with (*HighLitRisk*) and without (*LowLitRisk*) substantive ex ante litigation risk. We define high (low) litigation firms as those in the top tercile (bottom two terciles) of litigation risk (see Table 2 for the justification). Panel B partitions firms based on the level of residual institutional ownership. *HighResInstOwn* (*LowResInstOwn*) represents firms above (below) the median level of residual institutional ownership, and zero otherwise. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.

Table 4 – Market Reaction based on Litigation Risk

	[0,0]	[0,1]	[0,2]
Panel A: 01/12/2018 (N = 4,038) – Second Circuit vacates and remands			
HighLitRisk	-0.00	-0.52***	-0.81***
	(-0.03)	(-3.38)	(-4.89)
LowLitRisk	-0.01	0.26***	0.09
	(-0.29)	(3.47)	(1.11)
Difference	0.01	-0.78***	-0.89***
	(0.11)	(-4.55)	(-4.89)
Panel B: 12/11/2020 (N = 4,220) – Supreme Court grants writ of certiorari‡			
HighLitRisk	-0.23*	-0.54***	-1.14***
	(-1.90)	(-2.97)	(-5.37)
LowLitRisk	0.26***	0.29***	-0.07
	(4.43)	(3.23)	(-0.57)
Difference	-0.49***	-0.83***	-1.07***
	(-3.68)	(-4.10)	(-4.34)
Panel C: 02/24/2021 (N = 4,222) – Plaintiffs file brief conceding key legal argument			
HighLitRisk	0.15	-0.82***	-1.56***
	(1.01)	(-4.48)	(-6.61)
LowLitRisk	-0.21***	-0.08	-0.94***
	(-3.04)	(-0.86)	(-8.83)
Difference	0.36**	-0.74***	-0.62**
	(2.24)	(-3.58)	(-2.40)
Panel D: 03/29/2021 (N = 4,256) – Oral arguments heard by the Supreme Court			
HighLitRisk	-0.41***	-0.90***	-0.33*
	(-3.34)	(-6.05)	(-1.94)
LowLitRisk	0.13*	-0.30***	-0.24***
	(1.83)	(-3.80)	(-2.84)
Difference	-0.54***	-0.60***	-0.08
	(-3.81)	(-3.56)	(-0.44)
Panel E: 06/21/2021 (N = 4,271) – Supreme Court issues ruling‡			
HighLitRisk	-1.26***	-1.85***	-1.24***
	(-12.76)	(-15.05)	(-8.58)
LowLitRisk	-0.50***	-0.87***	-0.71***
	(-9.46)	(-13.49)	(-9.68)
Difference	-0.77***	-0.98***	-0.52***
	(-6.85)	(-7.04)	(-3.24)
Panel F: 12/08/2021 (N = 4,293) – District Court issues ruling			
HighLitRisk	0.40***	0.57***	-0.17
	(4.09)	(4.18)	(-1.04)
LowLitRisk	0.40***	0.25***	-0.08
	(7.01)	(3.17)	(-0.78)
Difference	-0.01	0.32**	-0.09
	(-0.05)	(2.05)	(-0.48)

Table 4 presents the results from estimating equation (1) to examine how ex ante litigation risk affects the market's reaction to the key *Goldman* event dates. We predict relatively negative returns for high litigation risk firms. The dependent variable is abnormal returns. *HighLitRisk* (*LowLitRisk*) is an indicator variable equal to one if a firm is in the top tercile (bottom two terciles) of litigation risk following Kim and Skinner (2012), and zero otherwise. Descriptive statistics for the sample are displayed in Table 1, Panel A. *, **, and *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. *t*-statistics are shown in parenthesis. ‡ indicates the events for which we expect the strongest and most robust results. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.

Table 5 – Market Reaction based on Residual Institutional Ownership

	[0,0]	[0,1]	[0,2]
Panel A: 01/12/2018 (N = 1,346) – Second Circuit vacates and remands			
HighResInstOwn	0.15	-0.35*	-0.40*
	(1.16)	(-1.67)	(-1.77)
LowResInstOwn	-0.16	-0.69***	-1.21***
	(-1.11)	(-3.04)	(-5.03)
Difference	0.31	0.34	0.82**
	(1.60)	(1.12)	(2.48)
Panel B: 12/11/2020 (N = 1,406) – Supreme Court grants writ of certiorari‡			
HighResInstOwn	0.08	0.23	-0.47
	(0.50)	(0.89)	(-1.60)
LowResInstOwn	-0.52***	-1.29***	-1.80***
	(-2.86)	(-5.08)	(-5.96)
Difference	0.60**	1.52***	1.33***
	(2.53)	(4.24)	(3.14)
Panel C: 02/24/2021 (N = 1,407) – Plaintiffs file brief conceding key legal argument			
HighResInstOwn	-0.14	-0.56**	-0.53
	(-0.63)	(-2.08)	(-1.45)
LowResInstOwn	0.43**	-1.07***	-2.58***
	(2.23)	(-4.38)	(-8.77)
Difference	-0.56*	0.51	2.06***
	(-1.95)	(1.40)	(4.39)
Panel D: 03/29/2021 (N = 1,418) – Oral arguments heard by the Supreme Court			
HighResInstOwn	-0.45***	-0.77***	-0.02
	(-2.75)	(-3.86)	(-0.08)
LowResInstOwn	-0.37**	-1.03***	-0.64**
	(-2.02)	(-4.67)	(-2.50)
Difference	-0.09	0.26	0.62*
	(-0.36)	(0.87)	(1.83)
Panel E: 06/21/2021 (N = 1,423) – Supreme Court issues ruling‡			
HighResInstOwn	-0.84***	-1.48***	-0.93***
	(-6.24)	(-8.96)	(-4.53)
LowResInstOwn	-1.69***	-2.22***	-1.54***
	(-11.73)	(-12.24)	(-7.64)
Difference	0.85***	0.75***	0.61**
	(4.30)	(3.04)	(2.12)
Panel F: 12/08/2021 (N = 1,431) – District Court issues ruling			
HighResInstOwn	0.39***	0.51***	-0.22
	(2.66)	(2.87)	(-1.12)
LowResInstOwn	0.40***	0.63***	-0.11
	(3.18)	(3.05)	(-0.44)
Difference	-0.01	-0.12	-0.11
	(-0.05)	(-0.43)	(-0.35)

Table 5 presents the results from estimating equation (2) to examine how residual institutional ownership moderates the market's reaction to the key *Goldman* event dates for firms with high ex ante litigation risk. We predict more negative returns for firms with low (high) levels of residual institutional ownership. The dependent variable is abnormal returns. *HighResInstOwn* (*LowResInstOwn*) is an indicator variable equal to one if a firm is above (below) the median level of residual institutional ownership. Our sample is restricted to only firms with necessary data that are in the top tercile of litigation risk following Kim and Skinner (2012). Descriptive statistics for the sample are displayed in Table 1, Panel B. *, **, and *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. *t*-statistics are shown in parenthesis. ‡ indicates the events for which we expect the strongest and most robust results. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.

Table 6 – Randomization Inference Tests

	[0,0]	[0,1]	[0,2]
Panel A: Market Reaction based on Litigation Risk			
01/18/2018	0.14	< 0.01***	< 0.01***
12/11/2020‡	< 0.01***	< 0.01***	< 0.01***
02/24/2021	0.97	0.06*	0.39
03/29/2021	0.03**	0.34	0.99
06/21/2021‡	< 0.01***	< 0.01***	0.33
12/08/2021	0.14	< 0.01***	0.04**
Panel B: Market Reaction based on Residual Institutional Ownership			
01/18/2018	0.09*	0.24	0.03**
12/11/2020‡	< 0.01***	< 0.01***	< 0.01***
02/24/2021	0.88	0.10	< 0.01***
03/29/2021	0.81	0.48	0.29
06/21/2021‡	0.00***	< 0.01***	0.04**
12/08/2021	0.32	0.11	0.08*

Table 6 presents the results for our randomization inference tests. In Panel A, we report Fisher *p*-values for our tests examining market reactions based on litigation risk. These values are calculated by dividing the number of simulated differences between *HighLitRisk and LowLitRisk* coefficients that are more negative than the difference of our true *HighLitRisk* and *LowLitRisk* coefficients by 500. For the final event date (12/08/2021), Fisher *p*-values are calculated by dividing the number of simulated differences between *HighLitRisk* and *LowLitRisk* coefficients by 500 to account for the opposite sign of the prediction. In Panel B, we report Fisher *p*-values for our tests examining market reactions based on residual institutional ownership. For the first five event dates, Fisher *p*-values are calculated by dividing the number of simulated differences between *HighResInstOwn* and *LowResInstOwn* coefficients that are more *positive* than the difference of our true *HighResInstOwn* and *LowResInstOwn* coefficients by 500. For the final event date (12/08/2021), Fisher *p*-values are calculated by dividing the number of simulated differences between *HighResInstOwn* and *LowResInstOwn* coefficients that are more *negative* than the difference of our true *HighResInstOwn* and *LowResInstOwn* coefficients by 500 to account for the opposite sign of the prediction. Descriptive statistics for the sample are displayed in Table 3. *, **, and *** indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. ‡ indicates the events for which we expect the strongest and most robust results.

Table 7 – Descriptive Statistics for Disclosure Sample

Panel A: Disclosure analysis sample

	HighLitRisk **(N = 4,656)**			***LowLitRisk*** **(N = 9,699)**		
Variable	**Mean**	**Median**	**Std. Dev**	**Mean**	**Median**	**Std. Dev**
Raw Cosine Sim Score	0.182	0.138	0.128	0.157	0.130	0.101
Similarity	0.508	0.500	0.289	0.555	0.600	0.285
LN Wordcount	8.921	8.921	0.594	8.668	8.677	0.637
UncertaintyWords	3.065	3.046	0.383	3.162	3.151	0.406
WeakModalityWords	2.262	2.276	0.296	2.301	2.308	0.307
FPS	0.235	0.000	0.424	0.112	0.000	0.315
$LN\ Assets_{t-1}$	8.148	8.115	2.208	7.715	7.768	1.677
$Sales\ Growth_{t-1}$	0.111	0.039	0.258	0.052	0.020	0.145
$Return_{t-1}$	0.109	-0.030	0.682	-0.038	-0.053	0.340
$Return\ Skewness_{t-1}$	0.300	0.247	0.908	0.113	0.107	0.753
$Return\ Std\ Dev_{t-1}$	0.184	0.165	0.097	0.091	0.084	0.039
$Turnover_{t-1}$	4.220	2.831	4.361	1.906	1.564	1.818

Panel B: Before and after Supreme Court ruling (June 21, 2021)

	HighLitRisk **(N = 4,656)**						***LowLitRisk*** **(N = 9,699)**					
	Pre (N = 3,206)			**Post (N = 1,450)**			**Pre (N = 6,291)**			**Post (N = 3,408)**		
Variable	**Mean**	**Median**	**Std.**	**Mean**	**Median**	**Std.**	**Mean**	**Median**	**Std.**	**Mean**	**Median**	**Std.**
Raw Cosine Sim	0.211***	0.172***	0.141	0.118***	0.108***	0.057	0.179***	0.160***	0.113	0.116***	0.107***	0.055
Similarity	0.521***	0.500***	0.288	0.477***	0.400***	0.289	0.548***	0.600	0.287	0.569***	0.600	0.282
LN Wordcount	8.899***	8.914	0.602	8.969***	8.931	0.573	8.623***	8.641***	0.649	8.751***	8.732***	0.605
UncertaintyWords	3.043***	3.026***	0.379	3.115***	3.089***	0.388	3.143***	3.127***	0.417	3.196***	3.189***	0.381
WeakModalityWords	2.255**	2.272	0.294	2.277**	2.286	0.301	2.289***	2.299***	0.312	2.323***	2.332***	0.298

Table 7 presents descriptive statistics for the disclosure sample. Panel A presents descriptive statistics for textual characteristics of *Item 1A, Risk Factor* disclosures and for variables used to compute *Litigation risk* (Kim and Skinner 2012) for high litigation risk and low litigation risk firms. Panel B divides the textual characteristic variables into pre- and post-Supreme Court ruling (June 21, 2021) periods within each litigation risk subsample. *, **, and *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively, using a t-test for means and a nonparametric equality-of-medians test for medians. Statistical tests are performed across time periods within litigation risk subsamples. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.

Table 8 – Change in Disclosure Characteristics after *Goldman*

Treatment Date:	(1) *Certiorari (Dec. 11, 2020)*	(2) *Ruling (June 21, 2021)*	(3) *Certiorari (Dec. 11, 2020)*	(4) *Ruling (June 21, 2021)*
Dependent Variable:	***Similarity***		***LN Wordcount***	
HighLitRisk	0.061***	0.050***	0.031***	0.025***
	(6.639)	(5.993)	(4.602)	(3.978)
Post	-0.068	0.022^	0.033**	0.021*
	(-1.214)	(1.422)	(2.395)	(1.786)
HighLitRisk X *Post*	-0.087***	-0.075***	-0.033***	-0.024***
	(-7.451)	(-7.044)	(-3.750)	(-2.657)
FPS	0.037*	0.041**	-0.026*	-0.023*
	(1.792)	(2.078)	(-1.821)	(-1.651)
LN Assets$_{t-1}$	-0.043***	-0.043***	0.050***	0.048***
	(-4.024)	(-4.023)	(4.923)	(4.713)
Sales Growth$_{t-1}$	0.011	0.015	0.021*	0.019*
	(0.863)	(1.171)	(1.761)	(1.656)
Return$_{t-1}$	0.006^	0.005	-0.010***	-0.009***
	(1.429)	(1.209)	(-3.083)	(-2.838)
Return Skewness$_{t-1}$	0.006**	0.007***	-0.000	0.000
	(2.373)	(2.610)	(-0.136)	(0.007)
Return Std Dev$_{t-1}$	-0.173***	-0.271***	0.052	0.010
	(-2.975)	(-4.597)	(1.205)	(0.223)
Turnover$_{t-1}$	0.001	0.002	0.002**	0.002**
	(0.826)	(0.985)	(2.256)	(1.992)
Constant	0.913***	0.880***	8.315***	8.354***
	(10.416)	(10.508)	(103.919)	(103.101)
Observations	14,311	14,355	14,311	14,355
Adjusted R-squared	0.494	0.497	0.928	0.930
Firm FE	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes

Table 8 presents results from estimating Model (4) in the disclosure sample to test the effect of *Goldman* decisions on firm disclosures. Columns (1) and (2) have *Similarity* as the dependent variable, and Columns (3) and (4) have *LN Wordcount* as the dependent variable. Columns (1) and (3) use the date of the Supreme Court granting certiorari (December 11, 2020) as the treatment date, and Columns (2) and (4) use the Supreme Court ruling date (June 21, 2021) as the treatment date. There are slight differences in the number of observations using these different treatment dates because of our requirement for at least one pre and post-observation for each firm around the treatment date. Heteroskedasticity-consistent standard errors, clustered by firm, are presented below coefficient estimates. *, **, and *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. ^ indicates statistical significance (one-tailed) at 0.10. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.

Table 9 – Change in Disclosure Language after *Goldman*

Treatment Date:	(1) *Certiorari (Dec. 11, 2020)*	(2) *Ruling (June 21, 2021)*	(3) *Certiorari (Dec. 11, 2020)*	(4) *Ruling (June 21, 2021)*
Dependent Variable:	***UncertaintyWords***		***WeakModalityWords***	
HighLitRisk	-0.014**	-0.009^	-0.012**	-0.008*
	(-2.294)	(-1.617)	(-2.519)	(-1.784)
Post	-0.011	-0.014	-0.062**	0.004
	(-0.242)	(-1.175)	(-2.173)	(0.506)
HighLitRisk X *Post*	0.025***	0.018**	0.022***	0.015**
	(2.894)	(2.008)	(2.958)	(1.997)
FPS	0.004	0.002	0.000	-0.002
	(0.360)	(0.203)	(0.016)	(-0.188)
LN Assets$_{t-1}$	-0.008	-0.008	-0.009	-0.009
	(-0.913)	(-0.906)	(-1.133)	(-1.107)
Sales Growth$_{t-1}$	-0.003	-0.004	0.004	0.002
	(-0.235)	(-0.306)	(0.402)	(0.214)
Return$_{t-1}$	0.009***	0.008**	0.010***	0.009***
	(2.953)	(2.519)	(4.282)	(3.866)
Return Skewness$_{t-1}$	0.001	0.001	0.002^	0.001
	(0.604)	(0.566)	(1.283)	(0.924)
Return Std Dev$_{t-1}$	-0.077*	-0.039	-0.084**	-0.041
	(-1.735)	(-0.907)	(-2.425)	(-1.236)
Turnover$_{t-1}$	-0.001	-0.001	-0.001	-0.001
	(-0.928)	(-0.987)	(-1.011)	(-1.163)
Constant	3.211***	3.208***	2.399***	2.364***
	(43.126)	(44.708)	(37.255)	(37.515)
Observations	14,311	14,355	14,311	14,355
Adjusted R-squared	0.828	0.829	0.824	0.826
Firm FE	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes

Table 9 presents results from estimating Model (4) in the disclosure sample to test the effect of *Goldman* decisions on firm disclosures. Columns (1) and (2) have *UncertaintyWords* as the dependent variable, and Columns (3) and (4) have *WeakModalityWords* as the dependent variable. Columns (1) and (3) use the date of the Supreme Court granting certiorari (December 11, 2020) as the treatment date, and Columns (2) and (4) use the Supreme Court ruling date (June 21, 2021) as the treatment date. Heteroskedasticity-consistent standard errors, clustered by firm, are presented below coefficient estimates. *, **, and *** indicate statistical significance (two-tailed) at the 0.10, 0.05, and 0.01 levels, respectively. ^ indicates statistical significance (one-tailed) at 0.10. We winsorize continuous variables at the 1st and 99th percentiles. Variables are as defined in the Appendix.