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Law firm market share and securities class action litigation outcomes

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ABSTRACT

Using a large sample of securities class action lawsuits, we examine the association of law firm market share with litigation outcomes. We find lawsuits with top market share plaintiff law firms are less likely to be dismissed and take longer to be dismissed and to reach settlement. In contrast, lawsuits with top defendant law firms reach settlement faster. Top market share defendant law firms are neither associated with suit dismissal nor with speed of dismissal. Finally, neither top plaintiff nor top defendant law firms are associated with the cash and/or total settlement amount. These results suggest plaintiff and/or defendant law firm market share is an important factor in securities class action litigation outcomes. The results favor the view that plaintiff and defendant law firms with a higher market share are more reputable and better serve the interests of their respective clients in securities class action litigations.

JEL Classification: K22, K40

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1. Introduction

Securities class action lawsuits represent a form of private civil litigation brought by a class of shareholders against firms to recover losses related to securities fraud during the "class period." They have been used more in the United States than elsewhere and played an important role in the enforcement of securities laws (Arena & Ferris, 2018; Helland, 2006)[1]. There are expansive empirical studies on class action outcomes, including (1) the propensity a suit is dismissed (Bajaj, Mazumdar, & Mazumdar, 2003; Johnson, Nelson, & Pritchard, 2007; Pritchard & Sale, 2005), (2) the speed of settlement, the time from the filing of a suit until settlement (Bajaj et al., 2003; Buckberg, Miller, & Plancich, 2005), and (3) the amount of settlement (Bai, Cox, & Thomas, 2010; Cox & Thomas, 2010; Fitzpatrick, 2010). Law firms play an important role on these securities class action lawsuit outcomes. Yet, there is little research on whether the market share of plaintiff's and defendant's law firms is associated with the outcomes of securities class action suits –outcomes that affect shareholder value of firms being litigated[2].

[1] Arena and Ferris (2018) report that the percentage of class action lawsuits is 14 % of corporate lawsuits from 16 developed countries excluding the U.S. and significantly lower than that of the U.S. at 30 %. In the U.S., about 200 securities class actions were filed per year as of 2006 (Choi & Thompson, 2006). Most of these lawsuits were settled, and these settlements totaled between $7 billion and $17 billion per year (Fitzpatrick, 2010).
[2] The threat of litigation also has effect on defendant firms' investment policy and capital structure (Arena & Julio, 2015; Ligon & Malm, 2018; Malm, Adhikari, Krolikowski, & Sah, 2017).

In this paper, we provide empirical evidence to address the impact of plaintiff's and defendant's law firms in securities class action litigations. Specifically, we extend the existing literature by studying the association between the law firm market share and securities class action litigation outcomes.

Using a comprehensive sample of securities class action lawsuits from 1996 to 2009, we examine the association of law firms' market share with class action outcomes: (a) the propensity of a suit being dismissed, (b) the speed of dismissal, the time from the filing of a suit until dismissal, (c) the speed of settlement, and (d) the amount of the settlement. We find that plaintiff and defendant firms' association with top market share law firms are not random. Top plaintiff law firms are more likely to initiate and be involved in the lawsuits requiring higher merits to win. Defendant firms are more likely to hire defendant law firms with higher market share when facing more serious allegations in class action suits.

After accounting for the endogenous choice of top law firms, we find that lawsuits with top plaintiff law firms are less likely to be dismissed, take longer to be dismissed and to reach settlement, compared to suits with low market share plaintiff law firms. In contrast, lawsuits with top defendant law firms take less time to be settled than suits involving low market share defendant firms. Top market share defendant law firms are neither associated with suits being dismissed nor with time to dismissal. Considering that the more serious lawsuits are less likely and/or take longer to be dismissed and defendants facing more serious claims are more likely to hire top law firms, no impact on dismissal propensity and speed to dismissal suggests value of top defendant law firms. Finally, neither top plaintiff nor top defendant law firms are significantly associated with cash and/or total settlement amounts after controlling for other factors. Taken together, these results favor the view law firms with higher market share are more reputable. These results suggest the reputation concern dominates potential litigation agency costs for plaintiff law firms. Top market share defendant law firms are better at helping their clients in class action suits.

Our study advances the securities litigation literature by exploring law firm's effect on securities class action lawsuits for the first time. As the key player in the litigation process, whether law firms' market share reflect the reputation or agency costs become an important question for companies, their shareholders, and regulators. Our study provides evidence that (1) top plaintiff law firms reduce the propensity of dismissal and take long time to dismiss or settle a case and (2) top defendant law firms help reach settlement faster. Our evidence suggests that market share of law firms reflect their quality of service and reputation.

In the remainder of the paper: Section 2 discusses the role of law firms in securities class action litigation and hypotheses. Section 3 describes the data and sample descriptive statistics. Section 4 presents the empirical models and the results on the association of law firms' market share and securities class action litigation outcomes. Section 5 concludes the paper.

2. Background and hypotheses

2.1. Law firms in securities class action lawsuits

A class action suit is often initiated by plaintiff's attorneys because shareholders' claims are individually small, though collectively significant (Thomas & Thompson, 2012). Plaintiff's law firms tend to have a large economic interest in the suit because they often advance the costs of the litigation and take their fee as a fraction of recovery when the suit is resolved. Defendant's law firms are retained to defend their clients in the suit. They file a motion to dismiss a class action suit, help their clients to negotiate a settlement, and represent defendants in court. Federal securities class actions have a unique plaintiff selection process. The 1995 Private Securities Litigation Reform Act (PSLRA) mandates that courts apply the lead plaintiff provision in selecting the plaintiff with the largest financial interest as the lead plaintiff in these cases, effectively also selecting the plaintiffs' law firm as well. Sometimes, a group of law firms will join forces (and plaintiffs) to win this competition[3].

2.2. Hypotheses: law firm market share and litigation outcomes

The market share of a law firm in class action litigation may be associated with lawsuit outcomes in two different ways. On one hand, a law firm's higher market share may correlate with the law firm's expertise in securities class action suits and is a proxy for reputation. A large stream of finance literature provides empirical evidence that greater market share of financial institutions indicates their superior reputation and strongly influences the outcomes of transactions in different markets[4]. Few papers have used market share to rank law firms in different contexts. Beatty and Welch (1996) investigate how IPO

[3] Choi and Thompson (2006) find that top-tier law firms are more likely to asso-ciate with lower-tier law firms in the post-PSLRA period.

[4] For example, Carter, Dark, and Singh (1998); Megginson and Weiss (1991), and Beatty and Welch (1996) study the impact of underwriters' market share on initial public offerings (IPO) pricing. Calomiris and Hitscherich (2007); Golubov, Petmezas, and Travlos (2012); Rau (2000), and Bao and Edmans (2011) examine how financial advisors' market share affected deal outcomes in mergers & acquisitions (M&As).

underpricing is related to law firms' reputation, measured by their market share as legal counsel in IPOs. In mergers and acquisitions, Krishnan and Masulis (2013) find that top market share law firms for bidders are associated with higher deal completion rate, while top market share law firms for targets are correlated with a higher takeover premium, consistent with their respective clients' objectives. Krishnan, Davidoff and Thomas (2017) show that top market share defense counsels in M&A litigation negotiate cheaper and faster settlements than other defense litigation counsels. Choi and Thompson (2006) use the market share of settlement dollars of the plaintiff's law firms in securities class action litigations as a measure of expertise to study the effect of the PSLRA.

Following Choi and Thompson (2006), we posit that greater market share of plaintiff's law firms could indicate their reputation in class action lawsuits. Good plaintiff law firms have a superior ability to identify meritorious claims, successfully lead those claims through the process, and negotiate a better settlement. These attributes should typically result in a higher market share.

Hypothesis 1.a. If top market share of plaintiff law firms indicates their superior ability and reputation, we should see that class action suits with top market share plaintiff law firms (1) are less likely to be dismissed and take longer to be dismissed because these suits are more likely to be meritorious claims and top law firms are better at guiding those claims through dismissal, (2) are less likely to be settled in a hurry because these suits are unlikely to be nuisances or frivolous, and (3) have higher settlement amounts than comparable suits not represented by top market share plaintiff law firms.

In the same spirit, we hypothesize that a higher market share of defendant law firms could signal their reputation in helping their clients defend those litigations. Good defendant law firms should be better at identifying nuisance claims and guiding their clients in having these claims dismissed. They also should be better at exploring alternative resolution options, including mediation, arbitration, early neutral evaluation, summary jury trials, and settlement conferences, when these strategies can help clients achieve their objectives, reduce costs and administrative burdens, and offer creative solutions not typically offered through the courts. Therefore, good defendant law firms would be expected to have a higher market share in representing defendant firms in securities class action litigations.

Hypothesis 1.b. If top market share of defendant law firms signals their superior ability, we should see class action suits with top defendant law firms (1) are more likely to be dismissed and take less time to be dismissed because top defendant law firms are more likely to be able to identify non-meritorious suits to have them dis-missed sooner, (2) take less time to be settled to reduce costs and administrative burdens for their clients, and (3) reach lower settlement amounts than comparable suits without top market share defendant law firms.

On the other hand, greater market share of plaintiff law firms may reflect higher litigation agency costs between plaintiff law firms and the class investors. Alexander (1991) argues that securities class actions are usually without merit and exist to extract legal fees from shareholders[5]. Thomas and Thompson (2012) suggest it has often been the law firms, and not the investors, that which have the largest economic interest in securities class action suits. This is because plaintiff law firms usually bear large out-of-pocket costs to prosecute the suits and incur higher opportunity costs by devoting time to the suits rather than to other activities. This introduces potential conflicts of interest between plaintiffs and their lawyers. Plaintiff law firms may be more willing than shareholders to initiate suits, including those nuisance cases with small chances of recovery, to manage the risk of failure through a portfolio of suits (Bohn & Choi, 1996; Thomas & Thompson, 2012). Law firms that put their own interests first may acquire higher market share as plaintiff's counsel in securities class action litigations. Hence, for some cases, top market share plaintiff law firms may be against the best interests for shareholders and advocate an early and low settlement. They do not view the potential marginal benefits of pursuing a larger settlement as worth expending the additional time and cost necessary to obtain the uncertain benefits of pushing the case further (Thomas & Thompson, 2012). For defendants' law firms, they may have incentives to drag things out as defendants' law firms are usually paid by the hour. This creates litigation agency costs between defendant law firms and their clients.

Hypothesis 2a. If top market share of plaintiff law firms reflects higher agency costs, we should see that class action suits with top plaintiff law firms (1) are more likely to be dismissed and to be dismissed sooner because those law firms are likely to bring more nuisance suits and those suits are more likely to be dismissed, (2) are going to be settled sooner, and (3) settle for lower amounts than comparable suits without top market share plaintiff law firms.

[5] Helland (2006) questions the merits of the private securities class actions with the finding that directors of sued firms appear to suffer no reputational penalty.

Hypothesis 2b. If top market share of defendant law firms reflects higher agency costs, we should see that class action suits with top defendant law firms (1) need more time to be dismissed, and (2) take longer to be settled than comparable suits without top market share defendant law firms.

3. Data and descriptive statistics

3.1. Sample of securities class action lawsuits

Following Cheng et al. (2010), our sample of securities class action lawsuits was drawn from the Securities Class Action Services (SCAS) of Institutional Shareholder Services (ISS)[6]. Our sample covers securities class action litigations filed in U.S. courts from January 1996 to May 2009. We start with 1996 because the Private Securities Litigation Reform Act (PSLRA) was passed in December 1995. We restrict our sample to resolved lawsuits (either dismissed or settled) by February 9, 2010 to focus on the association between law firm market share and litigation outcomes[7]. We eliminate (1) suits dismissed because of defendant firms' bankruptcy filings, (2) cases filed against municipal bonds issued by the states or specific securities issued by investment banks, including mutual funds or mortgage backed securities, and (3) cases missing information on the lawsuit filing date. We also remove the suits filed in a state court because (1) very few state cases (outside of change of control law-suits) lead to financial settlement, especially those not involving a federal class action suit concurrently (Thompson & Sale, 2003) and (2) the Securities Litigation Uniform Standards Act (SLUSA) man-dates dismissal of all federal securities class actions filed in state courts after 1998. This procedure leads to a sample of 2309 securities class action lawsuits. Detailed information on the filing date, class period, settlement terms, nature of complaints, and the names of law firms representing plaintiffs and defendants, are from SCAS. Defendant firm financial data are from Compustat and stock returns data from CRSP.

3.2. Plaintiff and defendant law firms' market share

We compile annual league table rankings of law firms in securities class action litigations based on the number of lawsuits a law firm was involved in, relative to the total number of suits filed in the same year. We calculate the rankings for plaintiff and defendant law firms separately. We identify a plaintiff law firm as one that represents the lead plaintiff rather than all law firms filing cases initially. We give each plaintiff law firm full credit for each lawsuit in which there are multiple plaintiff law firms as we do not observe the internal allocation of the workload among these firms. We follow the same approach to allocate full credit for each defendant law firm in cases with multiple defendant law firms[8]. Similar to the ranking of bidder and target law firms in Krishnan and Masulis (2013), we create binary variables for plaintiff and defendant law firms in the top 10 annual league table rankings of a given year as Top-10 Plaintiff Law Firm and Top-10 Defendant Law Firm, to reflect the two-tiered structure of the plaintiff and defendant bar in securities class action litigations[9].

Table 1 shows the top-10 plaintiff and defendant law firms ranked by the number of appearances on the top-10 list each year from 1996 to 2009. The Stanford Law School securities class action clearinghouse suggests, "A relatively small number of law firms account for a large share of the litigation on plaintiffs' side, and an identifiable group of law firms have active defense practices."[10] Consistent with that statement, Table 1 shows the top-10 law firms are on the top-10 list during the majority of the 14 years from 1996 to 2009, indicating the market share of law firms on the top is stable over time. There is a close correspondence between our rankings and Martindale-Hubbell's top-10 law firms advising securities cases. Table 1 also indicates the separation of the plaintiff and defendant bar; there is no overlap between top-10 plaintiff and defendant law firms.

3.3. Lawsuit characteristics

We examine four aspects of the outcomes of a class action lawsuit. (1) Whether the claim survives dismissal, we use a dummy variable, Dismiss, equal to 1 if the claim is dismissed by the court and 0 otherwise. (2) The speed of lawsuit dismissal, we use Days to dismissal, the number of days from the filing of the suit until being dismissed. (3) The speed of lawsuit settlement if the claim survives the dismissal and settles, we use Days to settlement, the number of days from the filing of

[6] See Cheng et al. (2010) for the details. ISS also provides information on securities class action lawsuits through their Securities Class Action Alert (SCAA) newsletters, which have been utilized by other studies (Helland, 2006; Johnson, Nelson, & Pritchard, 2002; and others). We also crosscheck these cases with the Stanford Securities Clearing House.

[7] Security class actions rarely go to a jury trial and are invariably settled if they survive a motion to dismiss. Bernard, Cheffins, and Klausner (2006) find just one securities case that went to trial during the last ten years before their article was published.

[8] This approach is similar to the convention in the literature on mergers and acquisitions (M&As) league tables. Each investment is given full credit for each deal in which it represents a target or acquirer (See Bao & Edmans, 2011; Krishnan & Masulis, 2013; Rau, 2000).

[9] Previous studies usually rank financial advisors as top-tiers and non-top-tiers (see Fang, 2005; Golubov et al., 2012; and others).

[10] From the website: http://securities.stanford.edu/info.html, 2012.

the suit until settlement. (4) The amount of settlement, we use Total settlement, the overall dollar value of settlement including stocks and cash, and Cash settlement, the dollar value of the cash portion of the total settlement.

Table 1
Rankings of law firms by market share.

Rank	Plaintiff law firm	Number of appearances in Top-10 League Tables	Average market share per year (%)
1	Barroway Topaz Kessler Meltzer & Check	12	10.51
2	Coughlin Stoia Geller Rudman & Robbins	11	16.31
3	Bernstein Litowitz Berger & Grossmann	11	5.01
4	Milberg	10	22.79
5	Stull & Brody	9	6.93
6	Wolf Haldenstein Adler Freeman & Herz	9	6.67
7	Labaton Sucharow	9	4.19
8	Berger & Montague	9	3.63
9	Bernstein Liebhard	8	6.67
10	Weiss & Lurie	8	3.41
Rank	**Defendant law firm**	**Number of appearances in Top-10 League Tables**	**Average market share per year (%)**
1	Skadden, Arps, Slate, Meagher & Flom	14	6.61
2	Wilson Sonsini Goodrich & Rosati	12	5.45
3	Gibson Dunn & Crutcher	12	3.15
4	Latham & Watkins	11	3.44
5	Morris, Nichols, Arsht & Tunnell	9	2.56
6	Morrison & Foerster	7	2.56
7	Sidley Austin	7	2.41
8	Simpson Thacher & Bartlett	7	2.33
9	Wachtell, Lipton, Rosen & Katz	7	2.22
10	Paul, Weiss, Rifkind, Wharton & Garrison	6	2.51

This table presents top-10 law firms that have represented lead plaintiffs or advised defendants in security class action litigations. We draw our litigations sample from the Securities Class Action database of Institutional Shareholder Services (ISS) from January 1, 1996 to May 20, 2009. The annual market share of a law firm is the number of cases this law firm provided legal advice for divided by the total number of cases filed during a year. We then rank law firms based on the number of appearances in the top-10 list every year. We have two sets of rankings of law firms: one on the plaintiff side and the other on the defendant side.

We control for individual lawsuit characteristics that are related to the merits of a claim and that might influence litigation outcomes. (1) Sued before, a dummy variable that equals 1 if the firm has been sued previously, and 0 otherwise, as Gande and Lewis (2009) suggest that past litigation activity signals a pattern of fraudulent behavior. (2) IPO, a dummy variable that equals 1 if the suit is related to the firm's initial public offering (IPO) and 0 otherwise. (3) Kickback, a dummy variable that equals 1 if the allegations are related to kickbacks and 0 otherwise. (4) Merger, a dummy variable equal to 1 for breach of fiduciary duty in a merger or tender offer and 0 otherwise. (5) Insider trading, a dummy variable equal to 1 if the allegation is insider selling before stock prices fall and 0 otherwise. (6) GAAP violation, a dummy variable equal to 1 if GAPP violation is alleged and 0 otherwise. (7) Restatement, a dummy variable equal to 1 if the suit is about restating financial statement and 0 otherwise. (8) Accounting firm codefendant, a dummy variable equal to 1 if an accounting firm is named as codefendant in the suit and 0 otherwise. Bajaj et al., 2003; Palmrose, Richardson, & Scholz, 2004 find that GAPP violation, restating financial statements, and having an accounting firm as codefendant are signals of the seriousness of the allegations and lead to more negative market reaction at the lawsuit filing and a larger subsequent settlement. (9) SEC action, a dummy variable that equals 1 if there is a related SEC action against the defendant and 0 otherwise. Dechow, Sloan, and Sweeney (1996) showed that SEC involvement is a signal of the seriousness of the allegations in the lawsuit. (10) Lead institution, a dummy variable equal to 1 when an institutional investor serves as a lead plaintiff in the litigation and 0 otherwise. An institutional investor is more likely to join as a lead plaintiff in a meritorious lawsuit (Cheng, Huang, Li, & Lobo, 2010)[11]. Number of class days, the number of days of the class period, from the date of the alleged fraud to the date of the revelation event, indicating the duration of the misconduct by the defendant firm and potential damage to investors (Cheng et al., 2010)[12]. Potential loss, the difference between the highest market value during the class period and the market value on the day after the end of the class period, divided by the market value one month prior to filing the suit. This variable estimates the impact of all the information revealed during the class period (Cornerstone Research, 2012).

[11] Laddering is an illegal practice where underwriters sell IPO shares to clients at the offer price with the implicit agreement that clients buy additional shares post-IPO. In 2001, many class action lawsuits were filed against IPO firms for laddering.

[12] The market share of plaintiff law firms involved in M&A class actions may have different implication. The lead plaintiff selection process is different for cases related to M&As because of an exception to the PSLRA rule known as the Delaware Carve Out. Instead of a court selecting the lead plaintiff, each law firm that files a case fights with other law firms for control of the case. As a robustness check, we exclude 98 cases related to mergers. The results are similar.

We also include several factors reflecting the current litigation environment. Gande and Lewis (2009) show these factors are related to the propensity of a defendant firm being sued. The first factor is Litigation intensity, the number of class action lawsuits filed against other firms in the same four-digit SIC code as the defendant firm within a 6-month period prior to the lawsuit filing date (Gande & Lewis, 2009). The remaining factors are industry dummy variables for Regulated industry (SIC code between 4000 and 4999), Financial industry (SIC code between 6000 and 6999), Technology industry (SIC code between 2833–2836, 3570–3577, 3600–3674, 7371–7379, or 8731–8734), and Retail industry (SIC code between 5200 and 5961). Gande and Lewis (2009) and Field, Lowry, and Shu (2005) find that the rate of litigation tends to be high for certain industries.

3.4. Defendant firm characteristics

Extant research finds many defendant firm-specific factors could affect the probability of being sued and influence the outcomes of a securities class action lawsuit. Studies use leverage, share turnover, and past volatility as a proxy for the extent of agency costs (Cheng et al., 2010). Highly leveraged firms have an incentive to settle sooner and for larger amounts to avoid any further discovery of wrongdoing that may lead to violation of debt covenants (Cheng et al., 2010; Defond & Jiambalvo, 1994). We include Leverage, book value of debts relative to book value of total assets in the year of the lawsuit, to control for that effect. A higher level of share turnover and past volatility indicate a higher level of information asymmetry and increase the probability of shareholders purchasing based on misleading information (Gande & Lewis, 2009). Following Gande and Lewis (2009), we use Turnover, share turnover during the six months prior to the lawsuit filing date, and Standard deviation, the standard deviation of daily stock returns in the six months prior to the lawsuit filing date to proxy for information asymmetry.

Defendant firms' prior performances have also been shown to be correlated with being sued and the outcomes of a suit. Firms with better prior performance may have had higher management quality and are in a stronger position to defend the lawsuit (Pritchard & Ferris, 2001). Jones and Weingram (1996) show that firms with good stock price performance are less likely to be sued. To control for past performances, we include Prior 6-month return, the cumulative return during the six months prior to the lawsuit filing date (Gande & Lewis, 2009), ROA, operating income before depreciation divided by total assets from the fiscal year of the lawsuit filing date, and B/M, book value of equity relative to the market value of equity in the year of the lawsuit filing (Cheng et al., 2010).

Finally, larger defendant firms pay larger settlements, either because wrongdoing by larger firms causes larger damages to investors due to the larger market cap (Cheng, Huang, Li, and Lobo, 2010) or "deeper pockets" of larger firms (Gande & Lewis, 2009). We include MV, market value of equity one month prior to the lawsuit filing date, as a proxy for firm size. Appendix A lists the definitions of all variables.

3.5. Descriptive statistics

Panel A of Table 2 breaks down litigations by types of allegations. In about 40 % of litigations, defendant firms are advised by top-10 defendant law firms, except in laddering/kickback lawsuits at only 7 %.11 On the other side, top-10 plaintiff law firms dominate and represent about 70 % of all suits – but almost all laddering cases at 98 %.12 Panel B of Table 2 reports the year distribution of litigations. Lawsuit filings are spread fairly evenly across the sample years, with a surge in 2001, which may be due to the stock market collapse in 2000. The number of litigations toward the end of the sample period used in our analyses is lower because many cases filed in the later period have not been resolved. Overall, 35 % of litigations included are advised by top-10 defendant law firms, while 71 % of lawsuits are advised by top-10 plaintiff law firms. Panel C of Table 2 shows the industry distribution of litigations. Consistent with prior research (Rogers & Buskirk, 2009), our sample is concentrated in the Services sector (SIC 72–89), Finance (SIC 60–69), and Machinery (SIC 35–36). The concentration of top-10 defendant/plaintiff law firms in each industry varies.

Table 3 reports the average litigation outcomes, litigation characteristics, and defendant firm characteristics, for lawsuits with and without a top-10 plaintiff law firm (Panel A)/a top-10 defendant law firm (Panel B)[13]. In Panel A, we find there are significant differences in outcomes of lawsuits with and without top plaintiff law firms. Only 29 % of suits with top plaintiff law firms are dismissed as compared to significantly higher 41 % for lawsuits without top plaintiff law firms. When being dismissed, lawsuits with top plain-tiff law firms take 707 days to be dismissed, significantly longer than the 561 days for suits without top plaintiff law firms. Lawsuits with top plaintiff law firms take 1495 days to reach settlement, significantly longer than the 1170 days for suits without top plaintiff law firms. But there is no significant difference in total and cash settlement

[13] As the pool of defense counsel is much deeper, we also use top-20 (30) as the cut-off for top defendant law firms. The unreported results are qualitatively similar. The conclusions do not change if we use top-20 (30) as the cut-off for top plaintiff firms.

amounts. Panel A also indicates that the plaintiff and law firms pairing is not random. There are significant differences in defendant firm characteristics. Top plaintiff law firms are involved in cases with defendant firms that have higher stock return volatility and share turnover, lower stock return and accounting return, and lower leverage, as indicated by the significant differences in both means and medians. Top plaintiff law firms do not appear to pick defendants with "deeper" pockets – the defendant firms in suits with top plaintiff law firms tend to have a smaller market value.

Top plaintiff law firms are also involved in different types of litigations. Compared to low market share plaintiff law firms, top plaintiff law firms are associated with a significantly higher proportion of suits related to IPO and kickback and with a significantly lower fraction of allegations related to mergers, suits with concur-rent SEC actions, and cases where defendant firms have been sued before in securities class action litigations. Top plaintiff law firms are also associated with a significantly higher fraction of litigations with an institution investor as lead plaintiff, suggesting top plain-tiff law firms are more likely to represent meritorious suits; Cheng et al. (2010) find that institution investors are more likely to join as a lead plaintiff in meritorious lawsuits. Finally, top plaintiff law firms tend to be involved in cases when defendants are from an industry with higher litigation intensity, such as the technology industry.

In Panel B, we also find there are significant differences in outcomes of lawsuits with and without top defendant law firms. Only 26 % of suits with top defendant law firms are dismissed as compared to the significantly higher 36 % for lawsuits without top defendant law firms. When being dismissed, lawsuits with top defendant law firms take 688 days to be dismissed, not significantly different from the 640 days for suits without top plaintiff law firms. Lawsuits with top defendant law firms take 1177 days to reach settlement, significantly shorter than the 1566 days for suits without top defendant law firms. Total and cash settlement amounts with top defendant law firms are significantly higher than those without. Top defendant law firms are retained in litigations with defendant firms that have lower stock return volatility but higher share turnover and lower stock return but higher accounting return. Defendant firms with higher market value are more likely to be associated with top defendant law firms. Top defendant law firms are also retained in different types of litigations. Top defendant law firms are hired in a significantly higher proportion of suits related to insider trading, GAAP violation, financials restatement, and cases where defendant firms have been sued before in securities class action litigations and with a significantly lower fraction of allegations related to IPO and kickback.

It appears that defendant firms tend to retain top law firms when they face allegations more likely to have merit, as top defendant law firms are associated with a significantly higher fraction of litigations with an institutional investor as lead plaintiff. Finally, top defendant law firms tend to be involved in cases where defendants are from a regulated industry.

4. Empirical models and multivariate analysis

4.1. Determinants of having a top plaintiff/defendant law firm

We start our analysis by investigating the determinants of having a top plaintiff/defendant law firm in class action litigation for two reasons. First, the significant differences between suits with and without a top plaintiff/defendant law firm in litigation and firm characteristics (Table 3) suggest the presence of a top law firm on either side is not a random occurrence. Second, identifying the determinants of a top market share law firm's involvement in the litigation can help us deal with the possible endogenous relations between a top market share law firm's presence and lawsuit outcomes. We estimate the following equation to examine how the presence of a top market share law firm is determined by the defendant firm and litigation characteristics:

Topplaintiff /defendantlawfirm = f(Industrydensityof

Topplaintiff /defendantlawfirm, Firmcharacteristics,

Litigationcharacteristics, Litigationenvironments) (1)

Table 2
Distribution of securities class action litigation advised by top-10 law firms.

Panel A. Litigations by allegation type

Allegation type	Total	With a top-10 plaintiff law firm		With a top-10 defendant law firm	
		# of Litigations	% of total	# of Litigations	% of total
IPO	93	63	68 %	39	42 %
Laddering/Kickback	240	234	98 %	17	7 %
Merger	98	49	50 %	38	39 %
Insider trading	132	90	68 %	54	41 %
GAAP violation	612	443	72 %	249	41 %
Restated financials	577	423	73 %	230	40 %

Panel B. Year distribution

Filing Year	(1) All		With a top-10 plaintiff law firm		With a top-10 defendant law firm	
	# of Litigations	% of Total	# of Litigations	% of all (1)	# of Litigations	% of all (1)
1996	91	4	68	75	34	37
1997	171	7	118	69	76	44
1998	218	9	146	67	73	33
1999	206	9	129	63	77	37
2000	204	9	139	68	66	32
2001	398	17	339	85	83	21
2002	223	10	159	71	91	41
2003	185	8	139	75	75	41
2004	189	8	148	78	67	35
2005	153	7	110	72	61	40
2006	98	4	58	59	42	43
2007	113	5	65	58	46	41
2008	51	2	28	55	16	31
2009	9	0	3	33	7	78
Total	2,309	100	1,649	71	814	35

Panel C. Industry Distribution

Industry (SIC2 codes)	(1) All		With a top-10 plaintiff law firm		With a top-10 defendant law firm	
	# of Litigations	% of Total	# of Litigations	% of All (1)	# of Litigations	% of All (1)
Agriculture (01–09)	2	0	1	50	1	50
Mining (10–14)	34	1	24	71	6	18
Construction (15–19)	13	1	8	62	7	54
Food and tobacco (20–21)	37	2	22	59	11	30
Textiles and apparel (22–23)	24	1	17	71	12	50
Lumber, furniture, paper, and print (24–27)	31	1	23	74	9	29
Chemicals (28)	177	8	134	76	58	33
Petroleum, rubber, and plastics (29–30)	21	1	16	76	6	29
Leather, stone, glass (31–32)	15	1	9	60	3	20
Primary and fabricated metals (33–34)	30	1	13	43	6	20
Machinery (35–36)	366	16	268	73	140	38
Transport equipment (37)	24	1	13	54	12	50
Instruments and miscellaneous manufacturing (38–39)	109	5	76	70	37	34
Transport, communications, utilities (40–49)	212	9	153	72	94	44
Wholesale trade (50–51)	90	4	66	73	25	28
Retail trade (52–59)	126	5	94	75	49	39
Finance, insurance, real estate (60–69)	292	13	180	62	99	34
Hotels and personal services (70–71)	8	0	6	75	2	25
Services (72–89)	697	30	526	75	237	34
Public administration and others (90–99)	1	0	0	0	0	0
Total	2,309	100	1,649	71	814	35

Panel A presents the allegation types of litigations. Panel B presents the filing year distribution of securities class action litigations. Panel C presents the industry distribution according to the groupings of two-digit SIC codes of Song and Walkling (1993). We draw our sample of litigations filed from January 1, 1996 to May 20, 2009 from the Securities Class Action database of Institutional Shareholder Services (ISS).

We define Industry density of top plaintiff/defendant law firm as the fraction of securities class action lawsuits filed against firms from the same two-digit SIC industry each year with one or more top-10 plaintiff/defendant law firms. There are significant variations in industry density of top law firms in securities class action suits. This suggests either securities class action litigation in different industries has a different level of need for top law firms or top law firms have specific industry-expertise in securities class action suits, leading to variations in top law firm presence by industry. Therefore, we expect industry density of top plaintiff/defendant law firms could explain a top plaintiff/defendant law firm's presence in a lawsuit.

Table 3
Litigation firm characteristics.

Panel A. Top-10 plaintiff law firm vs. non-top-10 plaintiff law firm

	Mean			Median			Sample size
	With a top-10 plaintiff law firm	Without a top-10 plaintiff law firm	Diff p-value	With a top-10 plaintiff law firm	Without a top-10 plaintiff law firm	Diff p-value	
Firm characteristics							
Market value	4,910	6,774	0.05	355	373	0.73	1,581/579
Standard deviation	6.0%	5.7%	0.11	5.3%	4.9%	0.01	1,578/578
Prior 6-month return	−30%	−26%	0.05	−38%	−33%	0.02	1,579/579
Turnover	70%	66%	0.00	75%	68%	0.00	1,579/579
ROA	−7%	−5%	0.52	4%	4%	0.16	1,201/415
B/M	44%	−5%	0.13	49%	47%	0.43	1,207/419
Debt ratio	21%	25%	0.01	11%	20%	0.00	1,214/418
Litigation characteristics							
IPO	22%	9%	0.00	–	–	–	1,649/660
Laddering/Kickback	14%	1%	0.00	–	–	–	1,649/660
Merger	5%	10%	0.00	–	–	–	1,649/660
Insider trading	14%	13%	0.66	–	–	–	1,649/660
GAAP violation	49%	45%	0.08	–	–	–	1,649/660
Restated financials	26%	23%	0.25	–	–	–	1,649/660
SEC action	0.2%	3.8%	0.00	–	–	–	1,649/660
Lead institution	36%	27%	0.00	–	–	–	1,649/660
Number of class days	493	505	0.56	367	347	0.03	1,637/633
Sued before	36%	42%	0.01	–	–	–	1,649/660
Dismiss	29%	41%	0.00	–	–	–	1,649/660
Days to dismissal	707	561	0.00	571	469	0.00	473/272
Days to settlement	1,495	1,170	0.00	1,205	1,066	0.00	1,159/372
Total settlement amount ($m)	26.10	34.93	0.34	4.09	4.09	0.55	1,155/366
Cash settlement amount ($m)	23.44	33.84	0.25	3.88	3.86	0.66	1,155/362
Filing date effect (-1,+1)	−5%	−5%	0.61	−2%	−2%	0.47	1,508/533
Filing date effect (-10,+1)	−14%	−13%	0.63	−7%	−7%	0.74	1,514/538
Litigation environment							
Litigation intensity	4.48	2.69	0.00	1	1	0.00	1,649/660
Regulated industry	9%	9%	0.80	–	–	–	1,649/660
Financial industry	11%	17%	0.00	–	–	–	1,649/660
Technology industry	38%	29%	0.00	–	–	–	1,649/660
Retail industry	5%	4%	0.56	–	–	–	1,649/660

Panel B. Top-10 defendant law firm vs. non-top-10 defendant law firm

	Mean			Median			Sample size
	With a top-10 defendant law firm	Without a top-10 defendant law firm	Diff p-value	With a top-10 defendant law firm	Without a top-10 defendant law firm	Diff p-value	
Firm characteristics							
Market value	6,558	4,775	0.05	501	292	0.00	769/1,391
Standard deviation	5.5%	6.1%	0.00	5.0%	5.3%	0.00	768/1,388
Prior 6-month return	−31%	−28%	0.12	−36%	−37%	0.60	769/1,389
Turnover	73%	67%	0.00	78%	70%	0.00	769/1,389
ROA	−4%	−8%	0.05	5%	3%	0.12	569/1,047
B/M	44%	24%	0.50	47%	50%	0.12	573/1053
Debt ratio	23%	22%	0.33	14%	13%	0.83	577/1,055
Litigation characteristics							
IPO	12%	22%	0.00	–	–	–	814/1,495
Laddering/Kickback	2%	15%	0.00	–	–	–	814/1,495
Merger	6%	6%	0.87	–	–	–	814/1,495
Insider trading	17%	12%	0.00	–	–	–	814/1,495
GAAP violation	56%	44%	0.00	–	–	–	814/1,495
Restated financials	28%	23%	0.01	–	–	–	814/1,495
SEC action	1%	2%	0.10	–	–	–	814/1,495
Lead institution	43%	28%	0.00	–	–	–	814/1,495
Number of class days	529	478	0.01	378	358	0.04	799/1,471
Sued before	43%	35%	0.00	–	–	–	814/1,495
Dismiss	26%	36%	0.00	–	–	–	814/1,495
Days to dismissal	688	640	0.20	567	526	0.20	208/537
Days to settlement	1,177	1,566	0.00	1,022	1,271	0.00	590/941
Total settlement amount ($m)	37.26	22.51	0.07	6.88	3.01	0.00	589/932
Cash settlement amount ($m)	35.01	20.17	0.06	6.37	2.94	0.00	588/929
Filing date effect (-1,+1)	−7%	−4%	0.00	−3%	−2%	0.00	736/1,305
Filing date effect (-10,+1)	−17%	−11%	0.00	−9%	−6%	0.00	739/1,313
Litigation environment							
Litigation intensity	3.60	4.18	0.07	1	1	0.38	814/1,495
Regulated industry	12%	8%	0.00	–	–	–	814/1,495
Financial industry	12%	13%	0.61	–	–	–	814/1,495
Technology industry	36%	35%	0.74	–	–	–	814/1,495
Retail industry	5%	5%	0.70	–	–	–	814/1,495

Panel A presents the mean and median firm and litigation characteristics for suits with a top-10 plaintiff law firm and those without a top-10 plaintiff law firm. Panel B shows the mean and median firm and litigation characteristics for suits with a top-10 defendant law firm and suits without a top-10 defendant law firm. We draw our sample of litigations filed from January 1, 1996 to May 20, 2009 from the Securities Class Action7database of Institutional Shareholder Services (ISS). P-value of mean difference is for the two-tailed t-test. P-value of median difference is for the two-tailed Wilcoxon rank-sum test. The variables are defined in Appendix A.

We estimate Eq. (1) with a probit model and a linear probability model (LPM, i.e., OLS), where the dependent variable is Top plaintiff/defendant law firm, a binary variable (0, 1) indicating the presence of a top-10 plaintiff/defendant law firm in a lawsuit. We use LPM for a binary dependent variable because we use a two-stage least squares (2SLS) estimation to account for unobservable omitted variables or endogeneity in regressions for days-to-settlement and settlement amount[14]. Table 4 reports the results of the probit and LPM regression for determinants of having a top market share plaintiff (defendant) law firm in columns 1 and 2 (columns 3 and 4). The results from the probit and LPM models are consistent.

We find that securities class action litigations with higher share turnover, longer class periods, and claims related to IPO are more likely to have a top plaintiff law firm, suggesting top plaintiff law firms are more likely to initiate and be involved in the lawsuits with more merit. But the coefficient of Potential loss is not significant, indicating potential damage is not a significant determinant after controlling for other factors. This is consistent with Cornerstone Research's (2012) claim potential loss is a noisy measure of damages and it estimates the impact of all of the information revealed during the class period, including the information unrelated to the litigation. The coefficients of SEC action, Accounting firm as codefendant, and Sued before, indicators of serious allegations (Cheng et al., 2010), are negative and significant. It is possible that less prominent plaintiff law firms get involved in lawsuits with these three clear indicators because those seem to be easier cases to win. The coefficient of Lead institution is positive and significant, suggesting top plaintiff law firms are more likely to be associated with lawsuits in which an institutional investor takes the lead plaintiff position. Cheng et al. (2010) show institutional investors are more likely to serve as the lead plaintiff in lawsuits requiring a higher merit to win and a larger potential damage. Finally, consistent with our prediction, industry density of top plaintiff firms is positively and significantly associated with top plaintiff law firms' presence in lawsuits. In summary, the results suggest that top plaintiff law firms with higher market share are more likely to engage in lawsuits with higher merits, consistent with higher market share, indicating their expertise, rather than higher litigation agency costs between plaintiff law firms and the class investors.

We find that defendant firms with higher share turnover, higher market value, facing allegation of GAAP violation, having an institution investor as lead plaintiff and/or accounting firm as codefendant, and a history of being sued are more likely to retain top defendant law firms. The coefficient of Prior 6-month return is negative and significant, consistent with the hypothesis that defendant firms with better prior performance are in a stronger position to defend the lawsuit (Pritchard & Ferris, 2001) and therefore, less likely to use top law firms. These results suggest defendant firms are more likely to hire defendant law firms with higher market share when facing more serious allegations in class action suits, indicating top market share is a proxy for higher reputation. We also find, as predicted, industry density of top defendant law firms is positively and significantly associated with the top defendant law firms' presence in lawsuits.

4.2. Impact of top plaintiff/defendant law firm on litigation outcomes

We examine the impact of the presence of a top market share plaintiff/defendant law firm on class action litigation outcomes: (1) the likelihood of the lawsuit being dismissed, (2) the length of time for the lawsuit to be dismissed, (3) the length of time for the lawsuit to be settled, and (4) the amount of settlement.

4.2.1. Top plaintiff/defendant law firm and likelihood of the case dismissal

Following Cheng et al. (2010), we estimate the following probit model to examine factors associated with the likelihood of lawsuits being dismissed:

Dismiss = f(Topplaintifflawfirm, Topdefendantlawfirm,

Firmcharacteristics, Litigationcharacteristics, Litigationenvironments) (2)

We are interested in whether the presence of a top market share plaintiff and/or a top market share defendant law firm is correlated with the probability of lawsuits being dismissed, after controlling for other factors. The first column of Table 5 reports the results of the probit model. The coefficients of Top plaintiff law firm and Top defendant law firm are both negative and significant. However, these coefficient estimates are potentially biased because we find that top law firms lawsuit pairings are not random. Top plaintiff law firms are more likely to be involved in lawsuits with higher merits, and top defendant law firms are more likely to be retained when defendant firms face more serious allegations – lawsuits with higher merits. The probability of lawsuits with higher merits being dismissed should be lower.

[14] Angrist and Krueger (2001) show using LPM for the first-stage regression generates consistent second-stage estimates even with a binary endogenous variable. Angrist and Pischke (2009) argue that using a non-linear model, such as the probit model, for the first-stage in 2SLS is a forbidden regression.

To control for this potential endogeneity, we use IV-probit methodology (Wooldridge, 2002, p. 474 - 531). We use Newey's (1987) efficient two-step estimator to estimate the probit model (Eq. (2)) with two endogenous variables (Top plaintiff law firm and top defendant law firm) along with two selection equations (Eq.(1)) (Top plaintiff law firm and Top defendant law firm), respectively. Industry density of top plaintiff and top defendant law firm are two IVs in the selection equations and are excluded from the main probit model. These IVs are valid. First, they satisfy the relevance criterion; they belong in the selection equations. As we discussed in Section 4.1, we argue different industries has a different level of need for top law firms and top law firms have specific industry-expertise in securities class action suits, leading to variations in top law firm presence by industry, which explain the choice of top law firm. We find supportive empirical evidence of that in Table 4. Second, the two IVs meet the exclusion restriction; they should not belong in the main probit model. Industry density of top plaintiff/top defendant law firm is a characteristic of the legal advisory business in securities class action litigations prevalent at the time of a given lawsuit. It should not affect the outcomes of individual litigation, once we control for firm and litigation characteristics. Empirically, after controlling for other factors, neither Industry density of top plaintiff nor Industry density of top defendant law firm is significantly associated with any of the four litigation outcomes. Although this evidence is not a formal test of the exclusion restriction, it at least shows the two IVs do not violate the exclusion property of a valid IV.

The second column of Table 5 reports the results of the IV-probit model. The p-value of the endogeneity test (Wald test) is 0.08, suggesting the endogeneity of top plaintiff/top defendant law firm and lawsuit pairing does affect our analysis of the presence of top law firm and lawsuit dismissal. This implies that IV-probit should be preferred to the probit model. The coefficient of Top plaintiff law firm is significantly negative, indicating top market share plaintiff law firms have a significant effect in guiding lawsuits successfully through defendant firms' motions to dismiss, after controlling the endogeneity problem and other factors. The coefficient of Top defen-dant law firm is still negative but no longer significant in IV-probit. The difference between the coefficient of Top defendant law firm in IV-probit and that in probit is positive and significant. This implies hiring top market share law firms when facing more serious alle-gations does increase the likelihood of having lawsuits dismissed for defendant firms.

Table 4
Choice to have a top plaintiff/top defendant law firm.

	(1) With a top plaintiff law firm		(2) With a top defendant law firm	
	LPM	Probit	LPM	Probit
Industry density of top plaintiff law firm	0.905***	3.383***	−0.086**	−0.225
	(24.430)	(18.388)	(−2.086)	(−1.258)
Industry density of top defendant law firm	−0.036	−0.178	0.988***	3.577***
	(−0.988)	(−1.084)	(31.761)	(20.786)
Firm characteristics				
Ln(Market value)	0.008	0.030	0.012**	0.044**
	(1.508)	(1.597)	(2.291)	(2.369)
Standard deviation	0.174	0.590	0.008	0.222
	(0.872)	(0.794)	(0.034)	(0.271)
Prior 6-month return	0.023	0.102	−0.054***	−0.197***
	(1.267)	(1.435)	(-2.879)	(−2.698)
Turnover	0.118***	0.422***	0.112***	0.387***
	(3.289)	(3.038)	(2.914)	(2.825)
Litigation characteristics				
IPO	0.061**	0.265**	0.018	0.044
	(2.526)	(2.546)	(0.672)	(0.471)
GAAP violation	0.018	0.042	0.048**	0.134*
	(0.870)	(0.561)	(2.224)	(1.902)
SEC action	−0.362***	−1.359***	−0.118	−0.426
	(-4.475)	(-3.826)	(-1.347)	(-1.306)
Lead institution	0.048**	0.173**	0.067***	0.216***
	(2.378)	(2.246)	(3.067)	(3.055)
Accounting firm as defendant	−0.089***	−0.327***	0.109***	0.362***
	(−2.638)	(-2.810)	(3.140)	(3.234)
Ln(Number of class days)	0.029***	0.103***	−0.004	−0.012
	(4.087)	(4.343)	(-0.601)	(−0.522)
Sued before	−0.037**	−0.159**	0.057***	0.204***
	(−2.024)	(−2.261)	(2.898)	(3.051)
Potential loss	0.000	0.000	−0.000*	−0.001
	(0.603)	(0.590)	(−1.844)	(-1.163)
Litigation environment				
Litigation intensity	0.001	0.005	0.003**	0.013***
	(1.424)	(0.994)	(2.411)	(2.673)
Dummy for regulated industry	0.047	0.183	−0.001	−0.029
	(1.468)	(1.434)	(−0.037)	(-0.248)
Dummy for financial industry	−0.004	0.020	−0.015	−0.076
	(−0.128)	(0.177)	(−0.509)	(−0.696)
Dummy for technology industry	−0.008	−0.104	−0.010	−0.031
	(−0.384)	(−1.220)	(−0.426)	(−0.395)
Dummy for retail industry	−0.034	0.022	−0.058	−0.222
	(-1.045)	(0.142)	(−1.502)	(−1.386)
Constant	−0.209***	−2.686***	−0.161***	−2.370***
	(−3.344)	(−11.143)	(−2.659)	(−9.936)
Observations	2,124	2124	2,124	2124
Adjusted R2/Pseudo R2	0.222	0.212	0.235	0.215

This table presents coefficient estimates of LPM and Probit regressions for the likelihood of having a top plaintiff/top defendant law firm. We draw our sample of litigations filed from January 1, 1996 to May 20, 2009 from the Securities Class Action database of Institutional Shareholder Services (ISS). In column (1), the dependent variable is a dummy variable, top plaintiff law firm, which equals 1 if the plaintiff is advised by a top-10 law firm and 0 otherwise. The dependent variable in column (2) is a dummy variable, top defendant law firm, which equals 1 if the defendant hires a top-10 law firm and 0 otherwise. Variables are defined in Appendix A. Below each coefficient estimate, we reported heteroskedasticity adjusted standard error in parentheses. The superscripts ***, **, * denote statistical significance at 1 %, 5 %, and 10 % levels, respectively.

In summary, we find that top market share plaintiff law firms are associated with a significantly lower lawsuit dismissal rate; litigations represented by top plaintiff law firms are more likely to survive the defendant firms' motion to dismiss. This evidence favors the view top market share is likely a signal of reputation and not likely due to plaintiff law firms bringing forward lawsuits regardless of merit. Top market share defendant law firms are not significantly associated with lawsuits being dismissed after controlling for firm and litigation characteristics and selection bias. But we do find evidence defendant firms are more likely to hire top market share defendant law firms when facing more serious allegations, and this hiring does significantly increase the probability of success in a motion to dismiss. Our interpretation is that top market share for a defendant law firm is also a proxy of premier reputation and ability.

In Table 5, the estimated coefficients of other control variables indicate that claims with more merits are more likely to survive a motion to dismiss. For example, lawsuits involving GAAP violations and/or an accounting firm as a defendant are less likely to dismissed (Cheng et al., 2010; Johnson et al., 2007). The dismissal rate is lower for defendant firms with a higher standard deviation and lower prior 6-month returns, consistent with the notion that firms with high past volatility and poor prior performance are more susceptible to class action litigations (Gande & Lewis, 2009; Pritchard & Ferris, 2001).

Table 5
Regressions for likelihood of the case being dismissed.

	Case being dismissed	
	Probit	IV-probit
Top plaintiff law firm	−0.267***	−0.512***
	(−3.781)	(−2.933)
Top defendant law firm	−0.390***	−0.209
	(−5.842)	(−1.347)
Firm characteristics		
Ln(Market value)	0.056***	0.057***
	(2.856)	(3.007)
Standard deviation	−6.098***	−5.829***
	(−4.000)	(−4.649)
Prior 6-month return	0.145*	0.152**
	(1.926)	(2.420)
Turnover	0.329**	0.329**
	(2.395)	(2.329)
Litigation characteristics		
IPO	−0.662***	−0.616***
	(−6.510)	(−6.095)
GAAP violation	−0.266***	−0.271***
	(−3.856)	(−3.936)
Lead institution	−0.019	−0.017
	(-0.276)	(−0.232)
Accounting firm as defendant	−0.781***	−0.837***
	(−5.188)	(−5.651)
Ln(Number of class days)	−0.144***	−0.133***
	(−5.891)	(−5.694)
Sued before	0.032	0.005
	(0.475)	(0.066)
Potential loss	−0.001	−0.001
	(−0.668)	(−0.654)
Litigation environment		
Litigation intensity	−0.009*	−0.008
	(-1.738)	(-1.458)
Regulated industry	−0.151	−0.160
	(-1.216)	(-1.286)
Financial industry	0.200*	0.199*
	(1.896)	(1.938)
Technology industry	0.074	0.076
	(0.954)	(0.964)
Retail industry	0.045	0.052
	(0.322)	(0.355)
Constant	0.754***	0.789***
	(3.316)	(3.548)
Observations	2,124	2,124
Pseudo R2	0.162	
Endogeneity test (p-value)		0.0789

The table presents coefficient estimates of the probit and IV-probit model for the likelihood of the case being settled. We draw our sample of litigations from those filed between January 1, 1996 and May 20, 2009 from the Securities Class Action database of Institutional Shareholder Services (ISS). The variables are defined in Appendix A. Below each coefficient estimate, we report heteroskedasticity adjusted standard error in parentheses. The p−value of the endogeneity test is based on the Wald test. The superscripts ***, **, * denote statistical significance at 1 %, 5 %, and 10 % levels, respectively.

Table 6
Regressions for days to dismissal.

	Ln(Days to dismissal)	
	OLS	2SLS
Top plaintiff law firm	0.294***	0.233*
	(4.083)	(1.692)
Top defendant law firm	0.108*	0.046
	(1.654)	(0.299)
Firm characteristics		
Ln(Market value)	−0.027	−0.026
	(−1.330)	(−1.303)
Standard deviation	−0.645	−0.677
	(−0.449)	(−0.473)
Prior 6-month return	−0.054	−0.053
	(−0.866)	(−0.870)
Turnover	−0.146	−0.128
	(−1.044)	(−0.930)
Litigation characteristics		
IPO	−0.063	−0.054
	(−0.574)	(−0.497)
GAAP violation	0.049	0.051
	(0.731)	(0.770)
Lead institution	0.361***	0.373***
	(5.411)	(5.198)
Accounting firm as defendant	0.051	0.054
	(0.318)	(0.346)
Ln(Number of class days)	0.003	0.005
	(0.156)	(0.235)
Sued before	−0.065	−0.062
	(−1.110)	(−1.065)
Potential loss	0.002**	0.002**
	(2.279)	(2.372)
Litigation environment		
Litigation intensity	−0.004	−0.003
	(−0.538)	(−0.437)
Regulated industry	−0.351**	−0.354**
	(−1.991)	(−2.012)
Financial industry	0.027	0.020
	(0.288)	(0.219)
Technology industry	0.078	0.077
	(0.974)	(0.980)
Retail industry	−0.107	−0.110
	(−0.934)	(−0.947)
Constant	6.195***	6.219***
	(28.017)	(27.192)
Observations	680	680
Adjusted R-square	0.091	
Endogeneity test (p-value)		0.814

The table presents coefficient estimates of OLS and instrumental variable two-stage least squares (2SLS) regressions of the number of days for lawsuits to get to dismissal. The sample in this analysis consists of 680 lawsuits (filed from January 1, 1996 to May 20, 2009) that have been dismissed up to October 22, 2009. The variables are defined in Appendix A. Below each coefficient estimate, we report the heteroskedasticity adjusted standard error in parentheses. The p−value of the endogeneity test is based on the Durbin-Wu-Hausman test. The superscripts ***, **, * denote statistical significance at 1 %, 5 %, and 10 % levels, respectively.

4.2.2. Top plaintiff/top defendant law firm and speed of dismissal

We examine the impact of having a top plaintiff/top defendant law firm on the speed of dismissal. It is clear that defendant firms prefer to have the suit dismissed sooner rather than later. We expect that lawsuits with top market share defendant firms to be dismissed quicker if higher market share signals a defendant law firm's superior reputation and ability. For defendants' law firms, they may have incentives to drag things out as defendants' law firms are usually paid by the hour. If it takes longer to dis-miss lawsuits with top defendant law firms after controlling for other factors, this may suggest high market share of defendant law firms reflects the agency cost of law firms. For plaintiff law firms, we expect that their lawsuits would be dismissed sooner if higher market share reflects higher potential litigation agency costs, as top plaintiff law firms are more likely associated with suits with less merits. On the other hand, if higher market share signals plaintiff law firms' superior reputation and ability, lawsuits with top market share plaintiff firms would take longer to be dismissed because they are more likely to be meritorious, and plaintiff law firms will work harder to fight the motion to dismiss.

We estimate the following equation with OLS and instrumental variable 2SLS to investigate the impact of having a top plaintiff/top defendant law firm on the speed of dismissal:

Ln(Daystodismissal) = f(Topplaintifflawfirm, Topdefendantlawfirm, Firmcharacteristics,

Litigationcharacteristics, Litigationenvironments) (3)

We use two-stage least squares (2SLS) estimation to account for omitted variables or potential endogeneity. We estimate two selection equations (Eq. (1)) on Top plaintiff law firm and Top defendant law firm with LPM in the first stage. We test for exogeneity using the Durbin-Wu-Hausman test. Table 6 reports the results of OLS and the second stage of 2SLS. The results of OLS and 2SLS are largely consistent, and the p-value of endogeneity test is larger than 0.8, indicating the endogeneity of top plaintiff/top defendant law firm and lawsuit pairing doesn't affect our analysis of the presence of top law firm and time to dismissal in this context.

Table 7
Regressions for settlement amounts.

	Ln(Total settlement) amount)		Ln(Cash settlement) amount)	
	OLS	2SLS	OLS	2SLS
Top plaintiff law firm	0.105	0.107	0.092	0.067
	(0.643)	(0.230)	(0.527)	(0.144)
Top defendant law firm	0.098	0.395	0.174	0.234
	(0.773)	(1.288)	(1.264)	(0.715)
Firm characteristics				
Ln(Market value)	0.384***	0.379***	0.314***	0.313***
	(9.470)	(9.001)	(5.651)	(5.709)
Standard deviation	4.760**	4.913**	−2.042	−2.009
	(2.454)	(2.496)	(−0.440)	(−0.432)
Prior 6-month return	−0.430***	−0.420***	−0.626***	−0.624***
	(−3.582)	(−3.483)	(−2.925)	(−2.925)
Turnover	0.148	0.106	0.291	0.286
	(0.610)	(0.430)	(0.968)	(0.915)
Litigation characteristics				
IPO	0.012	0.045	0.158	0.169
	(0.086)	(0.300)	(1.065)	(1.080)
GAAP violation	0.662***	0.639***	0.597***	0.593***
	(4.309)	(4.142)	(3.690)	(3.652)
SEC action	1.030***	1.071**	1.129***	1.122**
	(2.811)	(2.270)	(3.043)	(2.372)
Lead institution	0.726***	0.696***	0.689***	0.683***
	(4.747)	(4.555)	(4.321)	(4.332)
Accounting firm as defendant	0.412***	0.391**	0.182	0.174
	(2.653)	(2.548)	(0.878)	(0.873)
Ln(Number of class days)	0.289***	0.291***	0.296***	0.297***
	(3.402)	(3.439)	(3.347)	(3.372)
Sued before	0.205*	0.191*	0.219*	0.214*
	(1.715)	(1.692)	(1.651)	(1.681)
Potential loss	0.001**	0.001**	0.001*	0.001*
	(2.137)	(2.234)	(1.905)	(1.931)
Litigation environment				
Litigation intensity	−0.004	−0.004	−0.006	−0.006
	(−0.892)	(−0.857)	(−0.945)	(−0.914)
Regulated industry	−0.041	−0.086	0.074	0.066
	(−0.179)	(−0.355)	(0.313)	(0.266)
Financial industry	−0.304	−0.303	−0.163	−0.163
	(−1.083)	(−1.082)	(−0.564)	(−0.567)
Technology industry	−0.033	−0.049	−0.031	−0.034
	(−0.283)	(−0.432)	(−0.239)	(−0.270)
Retail industry	0.093	0.064	0.228	0.223
	(0.584)	(0.398)	(1.345)	(1.296)
Constant	9.909***	9.866***	10.416***	10.417***
	(13.974)	(13.507)	(13.018)	(12.598)
Observations	1,417	1,417	1,415	1,415
Adjusted R-square	0.238		0.198	
Endogeneity test (p-value)		0.512		0.973

Table 7 presents the coefficient estimates of OLS and instrumental variable two-stage least squares (2SLS) regressions of the settlement amount. The sample in this analysis consists of 1521 lawsuits filed from January 1, 1996 to May 20, 2009 that were settled up to February 9, 2010, with information on settlement. The variables are defined in Appendix A. Below each coefficient estimate, we report the heteroskedasticity adjusted standard error in parentheses. The p−value of the endogeneity test is based on the Durbin−Wu−Hausman test. The superscripts ***, **, * denote statistical significance at 1 %, 5 %, and 10 % levels, respectively.

We find that lawsuits with institution-lead plaintiff and higher potential loss take longer to be dismissed, consistent with the notion that cases with more merit tend to survive the motion to dismiss and take longer when they are eventually dismissed. The coefficient of Top plaintiff law firm is positive and significant in OLS and 2SLS, implying lawsuits with top market share plaintiff law firms take a longer time to be dismissed. Given we find that suits with top plaintiff law firms are less likely to be

dismissed, this evidence is consistent with higher plaintiff law firm market share, signaling a better reputation rather than higher agency costs.

The coefficient of Top defendant law firm is positive and significant in OLS and still positive but no longer significant in 2SLS. The difference between the coefficient of Top defendant law firm in 2SLS and that in OLS is negative but not significant. This result indicates that suits with top defendant law firms taking longer – not significantly longer after controlling the endogeneity– to be dismissed because defendant firms are more likely to hire top market share defendant law firms when facing more serious allegations. It also provides weak evidence that hiring top market share law firms when facing more serious allegations does contribute to a faster speed of dismissal when the suits are dismissed.

4.2.3. Top plaintiff/top defendant law firm and settlement amount

We use lawsuits settled out of court after surviving the motion to dismiss to examine the impact of top market share plaintiff/top defendant law firm on the settlement amount. There are 1521 lawsuits with information on settlement amount available, out of the 1558 lawsuits settled. We estimate the following equation with OLS and instrumental variable 2SLS (similar to Section 4.2.2):

Settlement = f(Topplaintifflawfirm, Topdefendantlawfirm,

Firmcharacteristics, Litigationcharacteristics, Litigationenvironments) (4)

Settlement is defined as the logarithm of Total settlement amount or cash settlement, and we include the same set of independent variables on firm and litigation characteristics used in the estimation of lawsuit settlements (Cheng et al., 2010).

Table 7 reports the results of OLS and the second stage of 2SLS. The results on the total settlement and cash settlement are similar. The results of OLS and 2SLS are consistent, and the p-value of the endogeneity test is larger than 0.5, indicating the endogeneity of top plaintiff/top defendant law firm and lawsuit pairing does not affect our analysis of the presence of top law firm and lawsuit settlement amount.

Consistent with the literature, settlement is generally related to the variables of lawsuit merits and severity of allegations (Cheng et al., 2010). For example, we find the defendant firm's market value is positively related to the settlement amount. The coefficient of Prior 6-month return is significantly negative, suggesting that poor prior performance leads to larger settlement (Cheng et al., 2010; Ferris and Pritchard, 2001). The coefficients of GAAP, SEC action, and Sued before – the proxies for the seriousness of allegations – are significantly positive (Bajaj et al., 2003; Cheng et al., 2010; Palmrose et al., 2004). Consistent with institutional investors being more likely to take the lead plaintiff position in cases with higher merits, the coefficient of Lead Institution is positive and significant. Finally, lawsuits with longer class period and higher potential loss are settled for a higher amount, consistent with higher potential damage to investors leading to the higher settlement.

More importantly, the coefficients of Top plaintiff law firm and Top defendant law firm are insignificant, though positive, suggesting that the settlement amount is largely determined by the merits and the severity of the lawsuits, and the incremental effects of the presence of top market share plaintiff/top defendant law firms on settlement amounts are not significant after controlling for other factors.

4.2.4. Top plaintiff/defendant law firm and speed of settlement

Finally, we examine the impact of having a top market share plaintiff/top defendant law firm on the speed of lawsuit settlement. Given the empirical evidence that the presence of top plaintiff/top defendant law firms is not significantly associated with the settlement amount after controlling for other factors, we expect that lawsuits with top market share plaintiff law firms would take less time to reach settlement if higher market share reflects higher potential litigation agency costs, as plaintiff law firms may advocate an early settlement, not viewing the potential marginal benefits of pursuing a larger settlement as worth the additional time and costs necessary to obtain the uncertain benefits of pushing the case further (Thomas & Thompson, 2012). On the other hand, lawsuits with top market share plaintiff law firms are less likely to settle in a hurry if higher market share signals the law firms' ability and superior reputation. As defendant firms prefer to settle sooner without budging on settlement amount to reduce costs associated with litigation uncertainty and administrative burdens, we expect that lawsuits with top market share defendant firms to be settled quicker if higher market share signals defendant law firms' superior reputation and ability.

Table 8
Regressions for days to settlement.

	Ln(Days to settlement)	
	OLS	2SLS
Top plaintiff law firm	0.046	0.331***
	(1.261)	(2.975)
Top defendant law firm	−0.181***	−0.281***
	(−5.508)	(−3.381)
Firm characteristics		
Ln(Market value)	0.053***	0.049***
	(5.325)	(4.695)
Standard deviation	1.422*	1.335*
	(1.959)	(1.755)
Prior 6-month return	−0.057**	−0.062**
	(−2.138)	(−2.202)
Turnover	−0.028	−0.054
	(−0.460)	(−0.811)
Litigation characteristics		
IPO	0.450***	0.397***
	(10.693)	(8.647)
GAAP violation	−0.203***	−0.202***
	(−5.817)	(−5.479)
SEC action	−0.835**	−0.682*
	(−2.041)	(−1.782)
Lead institution	−0.033	−0.017
	(−1.004)	(−0.505)
Accounting firm as defendant	0.043	0.095*
	(0.918)	(1.853)
ln(Number of class days)	0.048***	0.038**
	(2.978)	(2.240)
Sued before	0.073**	0.105***
	(2.452)	(3.308)
Potential loss	0.001***	0.001***
	(2.837)	(2.681)
Litigation environment		
Litigation intensity	0.008***	0.008***
	(4.172)	(3.761)
Regulated industry	0.044	0.047
	(0.889)	(0.919)
Financial industry	−0.002	−0.002
	(-0.047)	(−0.043)
Technology industry	−0.030	−0.031
	(−0.792)	(−0.827)
Retail industry	−0.006	0.000
	(−0.091)	(0.006)
Constant	6.393***	6.306***
	(49.937)	(46.461)
Observations	1,422	1,422
Adjusted R-square	0.293	
Endogeneity test (p-value)		0.001

The table below shows the coefficient estimates of OLS and instrumental variable two-stage least squares (2SLS) regressions of the number of days to settlement. The sample in this analysis consists of 1521 lawsuits (filed from January 1, 1996 to May 20, 2009) that have settled with information on the settlement up to February 9, 2010. The variables are defined in Appendix A. Below each coefficient estimate, we report the heteroskedasticity adjusted standard error in parentheses. The p−value of the endogeneity test is based on the Durbin-Wu-Hausman test. The superscripts ***, **, * denote statistical significance at 1 %, 5 %, and 10 % levels, respectively.

We estimate the following equation with OLS and instrumental variable 2SLS (similar to Section 4.2.2):

Ln(Daystosettlement) = f(Topplaintifflawfirm,

Topdefendantlawfirm, Firmcharacteristics,

Litigationcharacteristics, Litigationenvironments (5)

Table 8 presents the results of OLS and the second stage of 2SLS. The results suggest that 2SLS should be preferred to OLS. The p-value of the endogeneity test is 0.001, suggesting selection bias does affect our analysis of the presence of top law

firm and time to settlement. We focus on the results from 2SLS. The coefficients from OLS and 2SLS of variables other than Top plaintiff/top defendant law firm are consistent. We find that lawsuits related to GAAP violations and/or SEC sanctions take a shorter time to settle. We also find that lawsuits against larger firms and with a higher potential investor loss take a longer time to settle.

The coefficient (2SLS) of Top plaintiff law firm is positive and significant, implying that lawsuits with top market share plaintiff law firms take a longer time to settle. This suggests that higher plaintiff law firm market share signals better reputation than higher agency costs, because plaintiff law firms seem to spend additional time and costs necessary to push the case further in hope of uncertain benefits for their clients.

The coefficients of Top defendant law firm are negative and significant in both OLS (−0.181) and 2SLS (−0.281). Given that lawsuits with top market share defendant law firms do not settle for less amounts and they are usually paid by the number of hours, the result suggests that lawsuits with top defendant firms take significantly less time to settle at no higher cost, consistent with the view that the higher market share of defendant firms does indicates defendant law firms' expertise to help their clients to resolve the litigation uncertainty sooner.

5. Conclusions

We examine the association of law firm market share with security class action litigation outcomes using a comprehensive sample of securities class action lawsuits from 1996 to 2009. We find that plaintiff and defendant firms' association with top market share law firms are not random. Top plaintiff law firms are more likely to be involved in lawsuits with higher merit. Defendant firms facing more serious allegations are more likely to retain top defendant law firms. After accounting for this endogeneity, we find that lawsuits with top market share plaintiff law firms are less likely to be dismissed and take longer to reach dismissal or settlement, compared to suits with low market share plaintiff law firms. In contrast, top market share defendant law firms significantly increases the probability of success in a motion to dismiss and shorten (not significantly) the time to dismissal after controlling for firm/litigation characteristics and selection bias. Lawsuits with top market share defendant law firms take less time to be settled than suits involving low market share defendant firms. But top defendant law firms are not significantly associated with lawsuits being dismissed and the speed of being dismissed. Overall, we do find evidence that defendant firms are more likely to hire top market share defendant law firms when facing more serious allegations. Finally, neither top plaintiff nor top defendant law firms are significantly associated with cash and/or total settlement amount. Taken together, these results favor the view that plaintiff and defendant law firms with a higher market share are more reputable and better serve the interests of their respective clients in securities class action litigations.

Appendix A

Table A1 - Variable definition

Panel A: Firm characteristics	
MV ($m)	Market value of equity at one month prior to the lawsuit filing date, in millions.
Standard deviation	The standard deviation of daily stock returns over 6 months prior to the lawsuit filing date.
Prior 6-month return	The cumulative return over 6 months prior to the lawsuit filing date.
Turnover	Share turnover over 6 months prior to the lawsuit filing date. $1-\prod_{t=-1}^{-126}(1-volume\ traded_t/total\ shares_t)$, t is the trading day relative to the filing date (day 0).
ROA (%)	Operating income before depreciation over total assets for the fiscal year of the lawsuit filing: (item 13/item 6).
B/M	Book value of equity over the market value for the fiscal year of the lawsuit filing: (item 60)/(item 25 * item 199)
Leverage (%)	Book value of debts over book value of total assets for the fiscal year of the lawsuit filing: (item34 + item9) / (item6).
Panel B: Litigation characteristics	
Sued before	A dummy variable that is equal to 1 for the firm that has been sued before and 0 otherwise.
IPO	A dummy variable that is equal to 1 if the suit is related an IPO and 0 otherwise.
Kickback	A dummy variable that is equal to 1 if allegations are related to kickbacks, and zero otherwise.
Merger	A dummy variable that is equal to 1 if the suit is about breach of fiduciary duty due to a transaction involving a merger or a tender offer, and zero otherwise.
Insider trading	A dummy variable that is equal to 1 if allegations are related to sales by insiders before a drop in stock price, and zero otherwise.
GAAP violation	A dummy variable that is equal to 1 if violation of GAAP is alleged and 0 otherwise.
Restatement	A dummy variable that is equal to 1 if financials are restated, and zero otherwise.
SEC action	A dummy variable that is equal to 1 if there is a related SEC action against the company, and 0 otherwise.
Lead institution	A dummy variable that is equal to 1 if an institutional investor serves as a lead plaintiff in the litigation, and 0 otherwise.
Accounting firm codefendant	A dummy variable that is equal to 1 if an accounting firm is named as a defendant in the suit, and 0 otherwise.
Days to dismissal	Number of days from a suit's filing date to its dismissal date
Days to settlement	Number of days from a suit's filing date to its settlement date
Number of class days	Length of class period.
Potential loss	The difference between the highest market value during the class period and the market value on the day after the end of the class period, divided by the market value one month prior to filing date.
Dismiss	A dummy variable that is equal to 1 if a suit is dismissed and 0 if a suit is settled.
Total settlement ($m)	The inflation-adjusted 2009 dollar value of total settlement including stock and cash, in millions.
Cash settlement ($m)	The inflation-adjusted 2009 dollar value of cash portion of the total settlement, in millions.
Panel C. Litigation environment	
Litigation intensity	Number of litigations that have been filed against other firms with the same 4-digit SIC code as the sued firm in 6-month period prior to the lawsuit filing date.
Regulated industry	A dummy variable that is equal to 1 if a firm's 4-digit SIC code is between 4000 and 4999, and 0 otherwise.
Financial industry	A dummy variable that is equal to 1 if a firm's 4-digit SIC code is between 6000 and 6999, and 0 otherwise.
Technology industry	A dummy variable that is equal to 1 if a firm's 4-digit SIC code is within 2833–2836, 3570–3577, 3600–3674, 7371–7379, or 8731–8734, and 0 otherwise.
Retail industry	A dummy variable that is equal to 1 if a firm's 4-digit SIC code is between 5200 and 5961, and 0 otherwise.

References

Alexander, J. (1991). Do the merits matter? A study of settlement in securities class action. Stanford Law Review, 43, 497–598.

Angrist, J. D., & Krueger, A. B. (2001). Instrumental variables and the search for identification: From supply and demand to natural experiments. Journal of Economic Perspectives, 15, 69–85.

Angrist, J. D., & Pischke, J.-S. (2009). Mostly harmless econometrics: An empiricist's companion. Princeton, NJ: Princeton University Press.

Arena, M. P., & Ferris, S. P. (2018). A global analysis of corporate litigation risk and costs. International Review of Law and Economics, 56, 28–41.

Arena, M. P., & Julio, B. (2015). The effects of securities class action litigation on corporate liquidity and investment policy. Journal of Financial and Quantitative Analysis, 50, 251–275.

Bai, L., Cox, J. D., & Thomas, R. S. (2010). Lying and getting caught: An empirical study of the effect of securities class action settlements on targeted firms. University of Pennsylvania Law Review, 158, 1877–1914.

Bajaj, M., Mazumdar, S. C., & Mazumdar, S. C. (2003). Securities class action settlements [empirical analysis]. Santa Clara Law Review, 43, 1001–1033.

Bao, J., & Edmans, A. (2011). Do investment banks matter for M&A returns? Review of Financial Studies, 24, 2286–2315.

Beatty, R. P., & Welch, I. (1996). Issuer expenses and legal liability in initial public offerings. Journal of Law and Economics, 39, 545–602.

Bernard, B. S., Cheffins, B. R., & Klausner, M. (2006). Outside director liability. Stanford Law Review, 58, 1055–1159.

Bohn, J., & Choi, S. (1996). Fraud in the new issue market: Empirical evidence on securities class actions. University of Pennsylvania Law Review, 14, 903–982.

Buckberg, E., Miller, R., & Plancich, S. (2005). Recent trends in shareholder class action litigation: Bear market cases bring big settlements. NERA Economics Consulting.

Calomiris, C. W., & Hitscherich, D. M. (2007). Banker fees and acquisition premia for targets in cash tender offers: Challenges to the popular wisdom on banker conflicts. Journal of Empirical Legal Studies, 4, 909–938.

Carter, R. B., Dark, F. H., & Singh, A. K. (1998). Underwriter reputation, initial returns, and the long-run performance of IPO stocks. Journal of Finance, 53, 285–311.

Cheng, A. C. S., Huang, H. H., Li, Y., & Lobo, G. (2010). Institutional monitoring through shareholder litigation. Journal of Financial Economics, 95, 356–383.
Choi, S. J., & Thompson, R. B. (2006). Securities litigation and its lawyers: Changes during the first decade after the PSLRA. Columbia Law Review, 106, 1489–1533.
Cornerstone Research. (2012). Securities class action case filings: 2011 Mid-year assessment.
Cox, J. D., & Thomas, R. S. (2010). Mapping the American shareholder litigation experience: A survey of empirical studies of the enforcement of the U.S. securities law. European Company & Financial Law Review, 6, 164–203.
Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. Contemporary Accounting Research, 13, 1–36.
Defond, M., & Jiambalvo, J. (1994). Debt covenant effects and the manipulation of accruals. Journal of Accounting and Economics, 18, 145–176.
Fang, L. H. (2005). Investment bank reputation and the price and quality of underwriting services. Journal of Finance, 60, 2729–2761.
Field, L., Lowry, M., & Shu, S. (2005). Does disclosure deter or trigger litigation? Journal of Accounting and Economics, 39, 487–507.
Fitzpatrick, B. T. (2010). An empirical study of class action settlements and their fee awards. Journal of Empirical Legal Studies, 7(4), 811–846.
Gande, A., & Lewis, C. M. (2009). Shareholder-initiated class action lawsuits: Shareholder wealth effects and industry spillovers. Journal of Financial and Quantitative Analysis, 44, 823–850.
Golubov, A., Petmezas, D., & Travlos, N. G. (2012). When it pays to pay your investment banker: New evidence on the role of financial advisors in M&As. Journal of Finance, 67, 271–311.
Helland, E. (2006). Reputational penalties and the merits of class-action securities litigation. Journal of Law and Economics, 49, 365–395.
Johnson, M., Nelson, K., & Pritchard, A. (2002). In re Silicon Graphics Inc.: Shareholder wealth effects resulting from the interpretation of the private securities litigation reform act's pleading standard. California Law Review, 73, 773–810.
Johnson, M., Nelson, K., & Pritchard, A. (2007). Do the merits matter more? The impact of the private securities litigation reform act. Journal of Law, Economics, and Organizations, 23, 627–652.
Jones, C. L., & Weingram, S. E. (1996). The effects of insider trading, seasoned equity offerings, corporate announcements, accounting restatements, and SEC enforcement actions on 10b-5 litigation risk, working paper. Stanford University.
Krishnan, C. N. V., Davidoff, S., & Thomas, R. (2017). The Impact on shareholder value of top defense counsel in mergers and acquisitions litigation. Journal of Corporate Finance, 45, 480–495.
Krishnan, C. N. V., & Masulis, R. W. (2013). Law firm expertise and mergers and acquisitions. Journal of Law and Economics, 56, 189–226.
Ligon, J. A., & Malm, J. (2018). Litigation risk, financial distress, and the use of subsidiaries. Quarterly Review of Economics and Finance, 67, 255–272.
Malm, J., Adhikari, H. P., Krolikowski, M., & Sah, N. (2017). Litigation risk and investment policy. Journal of Economics and Finance, 41, 829–840.
Megginson, W. L., & Weiss, K. A. (1991). Venture capitalist certification in initial public offerings. Journal of Finance, 46, 879–903.
Newey, K. W. (1987). Efficient estimation of limited dependent variable models with endogenous explanatory variables. Journal of Econometric, 36, 347–366.
Palmrose, Z.-V., Richardson, V. J., & Scholz, S. (2004). Determinants of market reactions to restatement announcements. Journal of Accounting and Economics, 37, 59–89.
Pritchard, A. C., & Ferris, S. P. (2001). Stock price reactions to securities fraud class actions under the private securities litigation reform act Michigan Law and Economics Research Paper No. 01-009.
Pritchard, A. C., & Sale, H. A. (2005). What counts as fraud? An empirical study of motions to dismiss under the private securities litigation reform act. Journal of Empirical Legal Studies, 2, 125–149.
Rau, P. R. (2000). Investment bank market share, contingent fee payments, and the performance of acquiring firms. Journal of Financial Economics, 56, 293–324.
Rogers, J. L., & Buskirk, A. V. (2009). Shareholder litigation and changes in disclosure behavior. Journal of Accounting and Economics, 47, 136–156.
Song, M. H., & Walkling, R. A. (1993). The impact of managerial ownership on acquisition attempts and target shareholder wealth. Journal of Financial and Quantitative Analysis, 28, 439–457.
Thomas, R. S., & Thompson, R. B. (2012). Empirical studies of representative litigation, research handbook on the economics of corporation law.
Thompson, R. B., & Sale, H. A. (2003). Securities fraud as corporate governance: Reflections upon federalism. Vanderbilt Law Review, 56, 857–910.
Wooldridge, J. (2002). Econometric analysis of cross section and panel data. Cambridge, MA: MIT Press.