DOES MANAGERIAL ABILITY MITIGATE LITIGAITON RELATED TO FINANCIAL REPORTING?

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Abstract

This study examines whether managerial ability is associated with litigation risk related to financial reporting incremental to the commonly used industry-based proxy and firm-level characteristics. Using Demerjian et al. (2012)'s measure of managerial ability, we find that a firm's litigation risk is negatively related to managerial ability. Further, the negative relation between managerial ability and the likelihood of being sued is more pronounced for firms with higher *ex ante* litigation risk. Additional results from path analysis indicate that managerial ability has an indirect as well as a direct link to litigation risk. The contribution of our study is to explicitly offer a managerial human capital perspective in explaining variations in litigation risk related to financial reporting.

Key words: *Litigation; Managerial ability; Class action; Information risk; Financial reporting.*

I. INTRODUCTION

The objective of this study is to provide empirical evidence on the relation between likelihood of litigation and managerial characteristics. More specifically, we examine whether managerial ability explains variation in litigation risk related to financial reporting *incremental* to firm-, industry- or market-level characteristics examined in prior research (Francis et al. 1994 and Kim and Skinner 2012).

Managerial ability (described in detail in section III) refers to the ability of managers relative to their industry peers in maximizing revenues from a given set of inputs (Demerjian et al. 2012). Our study is motivated by the growing literature on manager fixed effects (discussed in the next section) which finds that managers' experiences, values, styles, and traits have significant influence on corporate policies and organizational outcomes (Hambrick and Mason 1984; Bertrand and Schoar 2003; Graham et al. 2013). More specifically, prior research finds that senior managers exercise significant influence over financial reporting and are involved in accounting fraud (Beasley et al. 2000 and Feng et al. 2011). We focus on litigation related to financial reporting since those litigations have adverse consequences for the firm, managers, and investors (Palmrose and Scholz 2004 and Karpoff et al. 2008). Thus, empirical evidence on factors that exacerbate or mitigate litigation related to financial reporting is of fundamental interest to managers, investors, board of directors, and others.

Ex ante, the relation between managerial ability and litigation risk arising from financial reporting is unclear. On one hand, prior research suggests that managerial ability is inversely related to the likelihood of a firm's failure and perceived audit risk and positively associated with earnings quality (Leverty and Grace 2012; Demerjian et al. 2013; Krishnan and Wang 2015). Bonsall et al. (2016) find that higher managerial ability is associated with lower variability in

future earnings and stock returns and lower credit risk. Similarly, Cornaggia et al. (2016) find that higher-ability managers obtain more favorable credit ratings. Further, Baik et al. (2011) find that higher-ability managers are more likely to provide more accurate earnings forecasts relative to low-ability managers, suggesting lower information risk. Thus, the above discussion suggests a negative relation between managerial ability and litigation related to financial reporting. On the other hand, concurrent research finds that high-ability managers are more likely to engage in *intentional* smoothing of earnings, a type of earnings management proscribed by the SEC (Demerjian et al. 2017).[1] Further, Koester et al. (2016) provide evidence that higher-ability managers engage in more tax avoidance activities, including actions that shift income to foreign tax havens. Such actions also suggest aggressive financial reporting (Frank et al. 2009) and are known to result in scrutiny by the IRS (Mills 1998) and may increase a firm's litigation risk. Finally, prior research on the relation between CEO characteristics and litigation is mixed (Denis et al. 2006 and McTier and Wald 2011). Thus, the net effect of the relation between managerial ability and litigation risk related to financial reporting is an unresolved empirical issue. Also, it is unclear whether the linkage between managerial ability and litigation is direct or indirect, i.e., whether managerial ability moderates the relation between factors that are associated with litigation risk, such as firm size, growth, and insider sales. We shed light on this important issue by conducting path analysis to explore the causal relation between managerial ability and litigation risk.

[1] In December 1998, the SEC sued WR Grace and seven of its former executives with various counts of financial fraud and reporting violations under the Securities Exchange Act of 1934. The SEC alleged that the managers illegally diverted revenue from a subsidiary to reserve accounts when the subsidiary's profits were above expectations in 1991 and 1992 and then used those profits to bolster WR Grace and the subsidiary in later years when revenues were short of expectations (Kamalick 1998).

To test the relation between managerial ability and litigation risk, we rely on a quantitative measure of managerial ability developed by Demerjian et al. (2012) (described in detail in section III). Building on prior research, we estimate a logit model of likelihood of litigation related to financial reporting on managerial ability and lagged values of several firm-level attributes identified in prior research. Francis et al. (1994) find that firms in the biotechnology, computers, electronics, and retail industries are subject to higher incidence of litigation. Kim and Skinner (2012) indicate that firm size, sales growth, and stock return characteristics (large and sudden declines in stock price and stock return volatility) predict litigation. In addition, Donelson et al. (2012) document that firms with higher market-to-book ratio and more abnormal insider trading are associated with higher litigation risk. We also control for accounting quality. Our sample consists of 294 firm-year observations representing first-time litigation related to financial reporting during the years 2003 through 2011 and more than 23,000 observations not subject to such litigations.

We document several key findings. First, we find that discretionary (abnormal) revenues, a measure of earnings management, are decreasing in managerial ability, suggesting earnings quality is increasing in managerial ability. Second, after controlling for the commonly used industry-based proxy for litigation risk and firm-level characteristics, the coefficient on managerial ability is negative and significant at the 0.01 level. This indicates that financial reporting related litigation risk is decreasing in managerial ability. The marginal effect of managerial ability is -2.2 percent and this effect appears to be economically significant. In contrast, about 1.23 percent of our sample is subject to a class action suit related to financial reporting issues. Third, the negative relation between managerial ability and the likelihood of being sued is more pronounced for firms with higher ex ante litigation risk. On average, managerial ability decreases the probability of

financial reporting litigation by about 3.7 percent for firms with high ex ante litigation risk relative to firms with low ex ante litigation risk (about 0.3 percent). To address endogeneity concern that firms with high ex ante litigation risk may endogenously hire more able managers to mitigate potential litigation, we employ a sample of sued firms and non-used firms matched on propensity to litigation and re-estimate our model. We continue to find a significant negative relation between litigation and managerial ability. Finally, we conduct path analysis and find that managerial ability has both a direct and an indirect impact on litigation.

We make two contributions. First, we extend Demerjian et al. (2013) by documenting that earnings management via manipulation of revenues is decreasing in managerial ability. This is new to the literature. This finding is important because while Demerjian et al. (2012) present evidence that high-ability managers produce more revenue relative to low-ability managers, they do not examine revenue quality. Our findings support the notion that revenue quality is increasing in managerial ability. Second, we contribute to the growing literature that finds managerial attributes have significant influence on corporate policies, organizational outcomes, audit risk, and credit risk. We add to this literature by providing empirical evidence that managerial ability is a distinct litigation risk factor, incremental to the commonly used industry-based proxy (Francis et al. 1994) and firm-level characteristics documented by Kim and Skinner (2012) and Donelson et al. (2012). More importantly, we provide empirical evidence indicating a direct negative relation between managerial ability and litigation risk, consistent with the notion that high-ability managers have market-based incentives to protect their reputation by undertaking actions that mitigate litigation risk. We also provide evidence that managerial ability moderates the relation between firm-specific factors and litigation risk.

The rest of this paper is organized as follows. Section II summarizes related research and develops our hypothesis. Section III describes our proxy for managerial ability and the empirical model. Section IV describes the sample selection procedure and descriptive statistics. Section V presents the findings followed by conclusion.

II. HYPOTHESIS DEVELOPMENT

Prior Research on Managerial Ability

Hambrick and Mason (1984) proposed that organizational outcomes, including strategic choices and performance levels, are influenced by managerial characteristics (known as the "upper echelons perspective").[2] Building on Hambrick and Mason (1984), a growing stream of research finds that manager fixed effects explain variation in corporate investment, financial, and accounting policies as well as performance. Bertrand and Schoar (2003) find that manager fixed effects are significant determinants of a wide range of corporate decisions, such as acquisition, dividend policy, interest coverage, and cost-cutting policy. Chemmanur and Paeglis (2005) find that higher management quality is associated with several aspects of initial public offerings (IPO), such as lower underpricing, greater institutional interest, more reputable underwriters, smaller underwriting expenses, and stronger post-IPO operating performance. Demerjian et al. (2012) document that managerial ability mitigates the negative market reaction to seasonal equity offerings, suggesting that more able managers can use the equity financing more effectively.

There is also evidence that managerial ability is associated with firm value. Hayes and Schaefer (1999) find that the loss of an able manager is associated with negative abnormal stock returns. Similarly, Demerjian et al. (2012) show that managerial ability is associated with both the

[2] This contrasts with Hannan and Freeman (1977)'s view that top managers have little effect because large organizations are inertial and swept along by external forces.

stock price reactions to CEO turnover announcements and changes in future firm performance following new CEO appointments.

With regard to firm performance, Andreou et al. (2015) find that managerial ability reduces underinvestment, improves profitability, reduces information asymmetry and enhances firm performance. Similarly, focusing on the CEO, Quigley and Hambrick (2015) conclude that the proportion of variance in firm performance attributable to the CEO has considerably increased over time.

Recent research finds that managerial ability also mitigates firm risk. Leverty and Grace (2012) examine a sample of property-liability insurance firms and provide evidence that managerial ability is inversely related to the amount of time a firm spends in distress-- superior managers are able to remove their firms from regulatory scrutiny sooner than relatively inferior managers, the likelihood of a firm's failure, and the cost of failure. Bonsall et al. (2016) find that higher managerial ability is associated with lower variability in future earnings and stock returns. Cornaggia et al. (2016) find that higher-ability managers obtain more favorable credit ratings, indicating that managerial ability matters to credit rating analysts. In addition, Baik et al. (2011) find that the likelihood and frequency of management earnings forecast issuance increase with CEO ability, and firms with high ability CEOs issue more accurate forecasts relative to firms with low ability CEOs.

Relation between Managerial Ability and Litigation Related to Financial Reporting

Poor financial reporting quality evidenced by announcement of accounting restatements is one of the triggers of litigation against the firm (Palmrose and Scholz 2004 and Hennes et al. 2008). DuCharme et al. (2004) find that poor accrual quality around stock offers are positively related to lawsuits and lawsuit settlement amounts. Demerjian et al. (2013) posit that high-ability managers

are expected to more accurately estimate accruals due to their superior knowledge of their business relative to low-ability managers. Consistent with this notion, they find that earnings quality, including accrual quality and lower risk of restatement of financial statements is increasing in managerial ability. Finally, Krishnan and Wang (2015) find that on average, audit fees are decreasing in managerial ability. Further, the odds of auditors issuing a going concern opinion for firms in the top decile of managerial ability are 37.4 percent lower relative to firms in the bottom decile. These findings are consistent with the notion that greater managerial ability mitigates auditor's business risk.

In summary, the above findings are consistent with the "upper echelons perspective" (Hambrick and Mason 1984) that managerial ability impacts a variety of corporate decisions, firm performance, and firm value. The potential channels through which more able managers could mitigate litigation related to financial reporting are: higher firm performance (Demerjian et al. 2012 and Andreou et al. 2015), lower risk of firm failure and regulatory scrutiny (Leverty and Grace 2012), lower credit risk (Bonsall et al. 2016 and Cornaggia et al. 2016), higher earnings quality and more accurate earnings forecasts suggesting lower information risk (Demerjian et al. 2013 and Baik et al. 2011), and lower perceived audit risk (Krishnan and Wang 2015). Collectively, these findings suggest that litigation risk arising from financial reporting is likely to be inversely related to managerial ability.

On the other hand, though a prior study has not directly examined the relation between managerial ability and litigation risk, prior research has examined the relation between selected CEO characteristics and litigation and the results are mixed. For example, while Denis et al. (2006) find a positive relation between CEO option compensation and lawsuits, McTier and Wald (2011) find no relation between CEO's compensation, ownership, age, or tenure and lawsuits.

Separately, concurrent research finds that high-ability managers undertake actions that could contribute to litigation related to financial reporting. For example, Koester et al. (2016) find that higher-ability managers engage in more tax avoidance. Such actions suggest aggressive financial reporting as well as possible scrutiny by the IRS (Frank et al. 2009 and Mills 1998). Further, Kim et al. (2011) provide evidence that corporate tax avoidance is positively associated with firm-specific stock price crash risk, a potential trigger of litigation against the firm (Jones and Weingram 1996). They surmise that tax avoidance facilitates managerial rent extraction and hoarding of bad news that eventually crosses a tipping point resulting in a stock price crash. Another example comes from Demerjian et al. (2017). They find that high-ability managers are more likely to engage in intentional smoothing of earnings when the firm is near earnings benchmarks, near debt covenant thresholds, when executive compensation is tied to the firm's stock price, and when managers are younger. However, they do not find evidence suggesting that managers engage in smoothing for personal gains. Further, they find that income smoothing by high-ability managers is positively associated with future earnings. While income smoothing may benefit shareholders, it may also invite unwanted scrutiny from the SEC and others (Kamalick 1998 and Levitt 1998).[3] In summary, the above line of discussion suggests that managerial ability could contribute to litigation arising from financial reporting matters. Thus, the net effect of the relation between managerial ability and litigation risk related to financial reporting is an empirical issue. Therefore, we propose the following non-directional hypothesis about the relation between litigation risk and managerial ability:

Hypothesis: Litigation risk related to financial reporting is not associated with managerial ability.

[3] With regard to the lawsuit against WR Grace and its managers, David Nelson, the Deputy Regional Director of the SEC in Miami remarked, "…we want to make it very clear that income smoothing is absolutely prohibited and unacceptable."

Next, we describe the measure of managerial ability and our empirical model.

III. RESEARCH DESIGN

Measure of Managerial Ability

We use a quantitative measure of managerial ability developed by Demerjian et al. (2012).[4] They use a two-step process to estimate managerial ability, the ability of managers relative to their industry peers in maximizing revenues from a given set of inputs. First, using data envelopment analysis (DEA)[5], a non-linear optimization procedure used to evaluate the relative efficiency of decision-making units, they estimate firm efficiency by solving the following optimization model:

$$max\theta = (Sales) \cdot (v_1 CoGS + v_2 SG\&A + v_3 PPE + v_4 OpsLease + v_5 R\&D + v_6 Goodwill + v_7 OtherIntan)^{-1}. \quad (1)$$

where sales (*Sales*) is the output and there are seven inputs: cost of inventory (*CoGS*); selling, general and administrative expenses (*SG&A*); net property, plant, and equipment (*PPE*); net operating leases (*OpsLease*); net R&D (*R&D*); purchased goodwill (*Goodwill*); other tangible assets (*OtherIntan*). Demerjian et al. (2012) posit that the above seven inputs capture the decisions managers make in generating revenue. The above model is used to estimate firm efficiency by industry to identify firms that generate the highest level of revenue from a given set of inputs.

Firm efficiency reflects both firm-level as well as manager-specific efficiency since overall firm efficiency can be influenced by both firm factors and managers. Therefore, Demerjian et al. (2012) estimate the following Tobit model by industry to separate the two components:

[4] Demerjian et al. (2013) note that the managerial ability measure is for the management team as a whole.

[5] In comparison to conventional measures of efficiency, DEA allows the weightings on each of the inputs to vary, instead of restricting the weights to equal 1. Also, unlike regression analysis or comparison of ratios which estimate efficiency relative to average performance, DEA compares each firm within an industry to the most efficient firm (Demerjian et al. 2013).

$$Firm\ Efficiency = \alpha_0 + \alpha_1 Ln(Total Assets) + \alpha_2 Market\ Share + \alpha_3 Free\ Cash\ Flow\ Indicator + \alpha_4 Ln(Age) + \alpha_5 Business\ Segment\ Concentration + \alpha_6 Foreign\ Currency\ Indicator + Year\ fixed\ effects + \varepsilon \quad (2)$$

where *Firm Efficiency* is estimated from model (1) using the DEA; *Total Assets* is the total assets at the end of the year; *Market Share* is the percentage of revenues earned by the firm within the industry; *Free Cash Flow Indicator* is coded as 1 when the firm has non-negative free cash flow (earnings before depreciation and amortization less the change in working capital less capital expenditures); *Firm Age* is the number of years the firm has been listed on *Compustat* at the end of the year; *Business Segment Concentration* is the ratio of individual business segment sales to total sales, summed across all business segments; and *Foreign Currency Indicator* is coded as 1 when a firm reports a non-zero value for foreign currency adjustment. Among these six firm characteristics, the former four characteristics enhance while the latter two hinder firm efficiency. The residual from model (2) is their measure of managerial ability score. It indicates managers' ability in transforming corporate resources to revenues relative to their industry peers. We refer to this score as *MABLTYS*.

Validation Checks

Demerjian et al. (2012) and others (e.g., Cornaggia et al. 2016) have performed several validation checks on *MABLTYS* to ensure that this measure reflects managerial ability. We summarize the results of those analyses below. Demerjian et al. (2012) report that *MABLTYS* has an economically significant relation with manager fixed effects; is negatively associated with stock price reactions to CEO turnover announcements; is positively associated with the subsequent performance at CEOs' new appointments; outperforms several alternative managerial ability measures, such as historical industry-adjusted stock returns and return on assets, CEO pay and

CEO tenure; and mitigates the negative relation between seasonal equity financing and future abnormal returns.

Krishnan and Wang (2015) find that incremental to firm-level attributes, both audit fees and the likelihood of issuing a going concern opinion are decreasing in managerial ability. These findings indicate that managerial ability is significantly associated with two key decisions auditors make – audit pricing and going concern risk assessment and support the notion that auditors perceive that greater managerial ability mitigates auditors' business (engagement) risk.

Bonsall et al. (2016) provide evidence that *MABLTYS* is negatively associated with future ROA variability as well as future stock return variability, indicating that higher ability managers are more likely to deliver not only increased revenues, but also less variable future earnings and returns. Cornaggia et al. (2016) perform several validation checks on the *MABLTYS* measure. First, they find that managerial ability is positively correlated with CEO tenure and compensation but not CEO age. Second, managerial ability is positively correlated with prior managerial experience in S&P 500 firms among the entire managerial team and of the CEO in particular. Third, they examine the stability of the *MABLTYS* measure over the entire history of the firm and the CEO and find that it is more stable for specific CEOs than for specific firms. These tests demonstrate that *MABLTYS* is correlated with readily observable measures of managerial experience and captures manager effect rather than firm effect. Collectively, evidence in Demerjian et al. (2012), Krishnan and Wang (2015), Bonsall et al. (2016), and Cornaggia et al. (2016) indicates that the managerial ability measure captures an economically significant manager-specific component of ability rather than luck or other unobservable firm characteristics.

We extend Demerjian et al. (2012) by examining the relation between managerial ability and discretionary (abnormal) revenues, an inverse measure of earnings quality. This analysis is

motivated by the following. First, while Demerjian et al. (2012) present evidence that high-ability managers produce more revenue relative to low-ability managers, they do not examine revenue quality. In other words, given their superior knowledge about the firm and skills, high-ability managers can maximize revenue via revenue management. Thus, our analysis can shed light on the relation between managerial ability and revenue quality. Second, revenue manipulation is frequently associated with firms that were subject to enforcement actions by the SEC and also a major cause of restatement of financial statements.[6] Palmrose and Scholz (2004, 172) find a significant association between misstatements of revenue and litigation and posit that restatements of revenue "may facilitate plaintiffs' arguments that defendants ought to be held liable."

We estimate discretionary revenues following Stubben (2010)'s conditional revenue model. He presents evidence that his model detects a combination of revenue and expense manipulation and outperforms commonly used models of abnormal accruals. More importantly, his measure of discretionary revenues detects earnings management by firms subject to enforcement actions by the SEC. We estimate the following model:

$$\begin{aligned}\Delta AR_{it} = {} & \alpha + \beta_1 \Delta R_t + \beta_2 \Delta R_t \times SIZE_t + \beta_3 \Delta R_t \times AGE_t + \beta_4 \Delta R_t \times AGE\_SQ_t + \\ & \beta_5 \Delta R_t \times GRR\_P_t + \beta_6 \Delta R_t \times GRR\_N_t + \beta_7 \Delta R_t \times GRM_t + \\ & \beta_8 \Delta R_t \times GRM\_SQ_t + \varepsilon_t \end{aligned} \quad (3)$$

where

ΔAR	=	Annual change in accounts receivable;
ΔR	=	Annual change in revenues;
SIZE	=	The natural log of total assets;
AGE	=	The natural log of the firm's age in years;
AGE_SQ	=	Square of firm's age;
GRR_P	=	Industry-adjusted growth rate in revenues (if positive);

[6] Dechow et al. (1996) report that overstatement of revenues is the most common type of earnings manipulation among firms subject to enforcement actions by the SEC. Scholz (2014) finds that over the years 2003 through 2012, revenue recognition accounts for 14 percent of all restatements. Stock price reaction to restatement announcements is also more severe (-4 percent) for revenues relative to the average stock price reaction of -1.5 percent for restatements in general.

GRR_N = Industry-adjusted growth rate in revenues (if negative);
GRM = Industry-adjusted gross margin;
GRM_SQ = Square of industry-adjusted gross margin.

All variables are scaled by average total assets. The residual from model (3) is our measure of abnormal revenues (*DREV*).

Next, we estimate the following model to test the relation between abnormal revenues and managerial ability. Since discretionary accruals are similar to discretionary accruals, we control for firm attributes that are known to be associated with discretionary accruals: firm size (*LNASSETS*), market-to-book ratio (*MTB*), leverage (*LEV*), return on assets (*ROA*), lagged total accruals (*LACC*), sales growth (*SGROW*), cash flows (*CFO*), log of operating cycle (*LOPCYCL*), cash flow volatility (*VOLCFO*), sales volatility (*VOLSALE*) and reporting lag (*REPLAG*) (Dechow and Dichev 2002; Ashbaugh-Skaife et al. 2003; and Francis et al. 2004):

$$\begin{aligned} DREV_t = {} & \chi_0 + \chi_1 MABLTYS_t + \chi_2 LNASSETS_t + \chi_3 MTB_t + \chi_4 LEV_t + \chi_5 ROA_t + \chi_6 LACC_t \\ & + \chi_7 SGROW_t + \chi_8 CFO_t + \chi_9 LOPCYCL_t + \chi_{10} VOLCFO_t + \chi_{11} VOLSALE_t \\ & + \chi_{12} REPLAG_t + \varepsilon_t \end{aligned} \quad (4)$$

We estimate the model with year fixed-effects. The variable of interest is *MABLTYS*. A positive (negative) coefficient would be consistent with the notion that discretionary revenues are increasing (decreasing) in managerial ability.

We first conduct univariate analysis and find that the mean and median values of *DREV* for low-ability managers are, respectively, 0.002 and 0.003. Corresponding values for high-ability managers are, -0.004 and 0.000 (results not tabulated). Both the mean and median differences are significant at the 0.01 level, indicating that mean and median discretionary revenues are lower for high-ability managers relative to low-ability managers. Results of model (4) are in Table 1. The *F*-statistic is significant at the 0.01 level but the explanatory power of the model is modest. We

find that the coefficient on *MABLTYS* is -0.025 and significant at the 0.01 level. This finding supports the notion that revenue quality (lower discretionary revenues) is increasing in managerial ability. Turning to control variables, *LNASSETS* and *LOPCYCL* are negatively related to discretionary revenues and *CFO* and *LEV* are positively associated with discretionary revenues. Overall, when combined with the findings in Demerjian et al. (2012), these findings indicate that high-ability managers not only generate more revenues relative to low-ability managers and more importantly, do not sacrifice revenue quality. This finding also suggests that managerial ability is likely to mitigate litigation risk arising from financial reporting, especially those related to revenue recognition (Palmrose and Scholz 2004).

[Insert Table 1 About Here]

Empirical Model

Next, we describe the model used to test our hypothesis. Francis et al. (1994) find that firms in the biotechnology, computers, electronics, and retail industries are subject to higher incidence of litigation. This industry-based variable (*FPS*) has been widely used as a proxy for litigation risk. However, Kim and Skinner (2012) suggest that firm size, sales growth, and stock return characteristics are more effective and efficient predictors for litigation than the litigation industry variable. Specifically, larger firms are associated with higher litigation risk as they are more attractive to plaintiffs' attorneys. Large and sudden declines in stock price can be directly related to measures of stockholder damages, thus increase the risk of litigation (Alexander 1991; Jones and Weingram 1996). Consistent with these expectations, Kim and Skinner (2012) document that firms that are larger (*LNASSET*), have higher sales growth *(SGROWTH*), earn negative returns *(RET*), have higher return volatility (*RETSTD*), and have greater share turnover (*TURNOVER*) are more likely to be sued. We include these variables in our empirical model. Donelson et al. (2012)

find that firms with higher market-to-book ratio and more abnormal insider trading are associated with higher litigation risk. Therefore, we include market-to-book ratio (*MTB*) and insider trading (*INSIDER*) as additional controls. Finally, poor accounting quality is a likely determinant of litigation (Henninger 2001 and Hennes et al. 2008). Therefore, we include a measure of accounting quality (*AQ*). Thus, we estimate the following logistic regression to test our hypothesis:

$$\begin{aligned} SUED_t = {} & \beta_0 + \beta_1 MABLTYS_t + \beta_2 FPS_t + \beta_3 LNASSET_{t-1} + \beta_4 SGROWTH_{t-1} \\ & + \beta_5 RET_{t-1} + \beta_6 SKEW_{t-1} + \beta_7 RETSTD_{t-1} + \beta_8 TURNOVER_{t-1} \\ & + \beta_9 MTB_{t-1} + \beta_{10} INSIDER_{t-1} + \beta_{11} AQ_{t-1} + \varepsilon \end{aligned} \quad (5)$$

Variable definitions are provided in the Appendix. $SUED_t$ is an indicator variable that is equal to 1 if the firm was subject to a litigation related to financial reporting in year *t* and 0 for all non-sued firm-years. Since we are interested in examining whether managerial ability mitigates litigation risk, we measure the control variables in the fiscal year before the filing of the lawsuit.[7] A positive (negative) coefficient on *MABLTYS* will be consistent with managerial ability exacerbating (mitigating) litigation risk.

IV. SAMPLE SELECTION

To construct our sample, we start with financial statement data from *Compustat* for years 2003 to 2011. We then obtain firm litigation information from the litigation data module of *Audit Analytics* and match them to the firm-year *Compustat* observations.[8] The stock returns are from Center for Research in Security Prices (*CRSP).* The insider trading data are extracted from the Insider Filing Data Feed file of *Thomson Reuters*. We obtain managerial ability measure from

[7] Measuring the variables such as abnormal returns over the period during which the lawsuit is filed reflect events that trigger the litigation.

[8] The litigation data set of *Audit Analytics* is populated with the federal cases referenced in the public registrant's disclosures of material legal proceedings under SEC regulation S-K §229.103.

Professor Demerjian's website.[9] After retaining firms with necessary information to estimate model (5), our sample consists of 28,105 firm-year observations and includes 5,237 unique firms. We keep the first-time litigation for each firm if the firm has more than one financial reporting lawsuits during the sample period. In addition, we exclude firm years that have other types of litigations. Our final sample has 23,592 firm-year observations representing 5,124 unique firms of which 294 observations were subject to first-time litigations related to financial reporting. However, we use a reduced sample when we include accruals quality as a control variable.

V. RESULTS

Panel A, Table 2 presents the descriptive statistics for the variables in model (5) for the full sample. There are about 1.2 percent of firm-years that were subject to new litigations related to financial reporting (*SUED*).[10] The mean and median values of the managerial ability score are, respectively, -0.013 and -0.022. These are comparable to -0.004 and -0.013 reported in Demerjian et al. (2012). About 34.6 percent of firm-years are in high litigation industry (*FPS)* as identified by Francis et al. (1994). The mean (median) of $SGROWTH_{t-1}$ is 8.1 percent (5.7 percent). The average firm has equally weighted lagged market adjust return of 2.8 percent. Mean (median) lagged monthly stock volatility is 0.314 (0.216). The mean lagged market to book ratio is 2.637. The mean earnings quality (*AQ*) following Demerjian et al. (2013) is 4.10 percent of beginning assets.

We also compare the firm characteristics between sued firm-years and non-sued firm-years and those results are in Panel B. The mean and median values of *MABLTYS* is more negative (i.e., lower managerial ability) for sued firms relative to non-sued firms and these differences are

[9] http://faculty.washington.edu/pdemerj/data.html. This sample excludes financial firms (i.e., two-digit SIC codes 60-69) and utility firms (i.e., two-digit SIC codes 49).
[10] Note this is consistent with the 2 percent rate in Kim and Skinner (2012).

significant at the 0.05 level. Both mean and median values of lagged firm size ($LNASSETS_{t-1}$) are higher for sued firm-years. Consistent with prior research, sued firm-years are more likely to be in the biotechnology, computers, electronics, and retail industries than non-sued firm-years (Kim and Skinner 2012). We find that mean and median values of $SGROWTH_{t-1}$, $RETSTD_{t-1}$, and MTB_{t-1} are significantly higher for sued firm-years compared to non-sued firm-years (significant at the 0.01 level). The median lagged stock return is more negative for sued firm-years than for non-sued firm-years (significant at the 0.05 level). Both mean and median values of the lagged proportion of shares traded ($TURNOVER_{t-1}$) is lower for sued firm-years relative to non-sued firm-years (significant at the 0.01 level). Higher accounting quality is associated with non-sued firm-years. The mean and median of *AQ* are higher for sued firm-years (significant at the 0.01 level) than non-sued firm-years.

[Insert Table 2 About Here]

Pearson correlation coefficients among variables in model (5) and their statistical significance (*p*-value) are presented in Table 3. Correlations in bold are significant at the 0.01 level while correlations in *italics* are significant at the 0.10 level. The correlation between $SUED_t$ and $MABLTYS_t$ is negative and significant at the conventional level. Several determinants of the likelihood of litigation, such as FPS_t, $LNASSETS_{t-1}$, $SGROWTH_{t-1}$, $TURNOVER_{t-1}$, MTB_{t-1}, and $RETSTD_{t-1}$ are significantly associated with $SUED_t$ in the predicted directions. We control for these characteristics in a multivariate panel regression. $LNASSETS_{t-1}$ is negatively correlated with *FPS*, $RETSTD_{t-1}$, $SGROWTH_{t-1}$, and $TURNOVER_{t-1}$.

[Insert Table 3 About Here]

Results of model (5) on the association between financial reporting litigation and managerial ability are reported in Table 4 in two columns. In the first column, we do not include

AQ_{t-1} since doing so results in a loss of nearly 3,000 observations (about 12.6 percent of the sample). Results in the second column is based on the reduced sample of 20,628 observations with the control of AQ_{t-1}. The *z*-values are based on standard errors that are clustered by firm and year. We find that the likelihood of being sued is positively related to *FPS*, $LNASSETS_{t-1}$, $SGROWTH_{t-1}$, $RETSTD_{t-1}$, and MTB_{t-1} are negatively related to $TURNOVER_{t-1}$ (all are significant at the 0.01 level). These results are consistent with prior research. Our variable of interest, *MABLTYS* is significant in both columns (significant at the 0.01 level). In the first column, the coefficient on *MABLTYS* is -1.877. The marginal effect of managerial ability on the likelihood of being sued is -2.2 percent and this effect appears to be economically significant. Recall that the mean rate of a financial reporting related suit for our sample is about 1.20 percent. Further, note that *MABLTYS* has the second highest marginal effect, indicating that managerial ability appears to be more important in explaining variation in litigation risk than industry or firm-specific variables except accounting quality. Pseudo R^2 values are comparable to those in Kim and Skinner (2012).[11] In the second column, the coefficient on *MABLTYS* is -1.631 and the marginal effect of managerial ability on the likelihood of being sued is -2.0 percent. The coefficient on AQ_{t-1} is positive and significant at the 0.01 level, consistent with the notion that firms with lower earnings quality are more subject to litigation risk related to financial reporting. Overall, these findings reject the null hypothesis and are consistent with the notion that more able managers exercise better judgment in applying complex accounting standards, produce more accurate estimates of accruals (Demerjian et al. 2013), and make appropriate decisions with regard to financial reporting that enhance revenue quality (as reported in Table 1) and earnings quality. Collectively, these actions appear to mitigate litigation risk arising from financial reporting issues. Our findings are also consistent with the

[11] Our sample differs from Kim and Skinner in two ways. We identify firms subject to litigation using *Audit Analytics* and our sample period covers years 2003 through 2011.

efficient contracting perspective, i.e., high-ability managers have strong market-based incentives not to engage in opportunistic rent-seeking behavior to protect their career prospects and reputation as well as that of their firm (Fama 1980; Fee and Hadlock 2003).[12]

[Insert Table 4 About Here]

The Impact of Ex Ante Litigation Risk on the Relation between Managerial Ability and Ex Post Litigation

We further test whether there is a cross-sectional variation in the relation between managerial ability and litigation risk due to financial reporting. To the extent that more able managers can mitigate the litigation risk, we predict that the impact of managerial ability to be more pronounced for firms that have higher *ex ante* financial reporting related litigation risk relative to firms with lower *ex ante* litigation risk. To empirically examine this prediction, we first use Skinner and Kim (2012)'s model (3) to obtain the predicted probability of litigation related to financial reporting. Then we rank the predicted litigations and partition our sample into the "high *ex ante* litigation risk" subsample with observations whose predicted probability of litigation is above the median and the "low *ex ante* litigation risk" subsample consisting of observations whose predicted probability is below the median of predicted probability of litigation.[13]

We reestimate model (5) for these two subsamples separately and the results are reported in Table 5. We find that the coefficient on *MABLTYS* is, respectively, -1.813 (significant at the 0.01 level) and -0.136 (not significant at the 0.10 level) for the high and low *ex ante* litigation risk subsamples. Note the marginal effect of -0.037 for the high ex-ante litigation risk sample is much

[12] Hribar and Jenkins (2004) find that a firm's cost of capital increases between 7 and 19 percent following a restatement, consistent with the notion that restatements lower perceived accounting quality. Karpoff et al. (2008) find that the reputation loss to firms engaging in financial misrepresentation is huge – 7.5 times the sum of all penalties imposed through the legal and regulatory system. At the manager level, Desai et al. (2006) provide evidence that both corporate boards and the external labor market impose significant penalties on managers for GAAP violations.

[13] We also partition the sample into four or five groups. "High *ex ante* litigation risk" subsample consists of firm years in the top quartile or quintile and "low *ex ante* litigation risk" subsample consists of firm years in the bottom quartile or quintile. The results are similar.

higher than the -0.000 for the low ex-ante litigation risk sample. These results are consistent with our expectations and support the notion that managerial ability is potentially important in mitigating litigation in firms with higher *ex ante* financial reporting related litigation risk. Overall, these findings provide additional evidence that greater managerial ability mitigates a firm's *ex post* litigation risk, particularly for firms with higher *ex ante* litigation risk.[14]

[Insert Table 5 About Here]

VI. ADDITIONAL ANALYSES

We conduct two additional analyses to assess the robustness of our results to an alternate sample specification and to further explore the link between managerial ability and litigation risk. We discuss those results below.

Litigation Propensity Matched Sample

Firms with high ex ante litigation risk may endogenously hire more able managers to deter, prevent, or resolve potential litigations. To address this endogeneity concern, we employ a matched-pairs design using firms with financial reporting litigation and otherwise similar non-sued firms. Specifically, we estimate the model (3) in Kim and Skinner (2012) to predict the probability of financial reporting litigation as a function of economic determinants. Then, for each firm-year with financial reporting litigation, we select a non-sued firm from the same year with the closest predicted litigation probability. To ensure the successful match, we further require the difference of predicted probabilities of paired firm-years to be less than 10 percent of predicted probability of the sued firms. Using a matched design yields a sample with sued firms and a

[14] We also partition the sample on the industry-based proxy for litigation (*FPS*) and estimate model (5) separately for firms in high and low litigation industries. The untabulated results indicate that the coefficient (marginal effect) on *MABLTYS* is -1.883 (-0.033) and -1.855 (-0.017), respectively for the high and low litigation partitions (significant at the 0.01 level and insignificant, respectively for the high and low partitions). These findings indicate that managerial ability has a greater impact on mitigating litigation risk in industries subject to a higher likelihood of litigation.

comparable set of non-sued control firms that plausibly could have been sued, but were not.

Our matched sample includes 292 sued firm-year observations and 292 non-sued firm-year observations. We do not observe any significant differences in firm characteristics between the treatment and control groups, suggesting that our matching procedure is successful. We include those firm characteristics to control for any remaining differences in a multivariate framework (Cram et al. 2009).

We use both logistic regression and conditional logistic regression to estimate the model. Prior studies (e.g., Hosmer and Lemeshow 2000; Johnson et al. 2007; Cram et al. 2009; Armstrong et al. 2010) suggest that it is more appropriate to use conditional logistic regression for the matched-sample analysis that matches observations based on the dependent variable. Results of the conditional logit model are in Table 6. The coefficient on *MABLTYS* is -1.583 and is statistically significant at the 0.05 level. The marginal effect is -5.7 percent and is economically significant. That most of the control variables except *MTB* are not significant is consistent with the fact that the sued and control firms are matched on propensity to litigation that has taken into account those firm characteristics. The pseudo R^2 value is lower than the value in Table 4, possibly due to lack of power as the sample size is much reduced. Results are similar when we use the logistic regression and the coefficient on *MABLTYS* is -1.337 and significant at the 0.05 level (not tabulated). In summary, these results are consistent with the results based on the full sample and alleviate the concern of endogeneity.

[Insert Table 6 About Here]

Path Analysis

We next perform a path analysis to further examine how managerial ability affects the litigation risk. More specifically, we test whether the negative relation between managerial ability

and the likelihood of litigation is due to managerial ability directly reducing the litigation risk or indirectly reducing litigation risk by moderating the impacts of firm characteristics, such as growth, size, and insider trading. In performing the path analysis, we follow Pevzner et al. (2015) and DeFond et al. (2016) and estimate a structural equation model (SEM). The SEM includes a regression of the likelihood of litigation on managerial ability and other litigation risk factors and regressions of other risk factors on managerial ability. The path coefficient on managerial ability indicates the direct path of managerial ability on the likelihood of litigation. The indirect effects of managerial ability on other litigation risk factors include a path coefficient between managerial ability and other risk factors as well as a path coefficient between the other risk factor variable (e.g., firm size) and the litigation risk. The magnitude of the indirect path is the product of these two path coefficients.

As reported in Table 7, we find that managerial ability has significant indirect effects on litigation risk through all litigation risk factors. In particular, the coefficient on managerial ability on firm size, sales growth, stock return, return volatility, and market to book are all positive and significant, while the coefficients on managerial ability on return skewness, turnover, and insider trading are negative and significant. These results suggest that managerial ability has a significant indirect effect on litigation risks through its impact on other litigation risk factors. More importantly, we find that there is a direct link between managerial ability and litigation risk as indicated by the direct path coefficient on managerial ability (-1.868) and is statistically significant at the 0.01 level. Taken together, the path analysis results suggest that managerial ability has a direct as well as indirect effects on litigation risk.

[Insert Table 7 About Here]

We also perform our path analysis in our subsamples partitioned based on *ex ante* litigation risk. We find that managerial ability has direct effect on litigation risk for firms with high ex ante litigation risk, but not for firms with low ex ante litigation risk.

VII. CONCLUSION

We extend Demerjian et al. (2013) by documenting that earnings management via manipulation of revenues is decreasing in managerial ability. Further, we provide the first empirical evidence that incremental to the commonly used industry-based proxy for litigation risk and firm-level attributes, managerial ability in transforming corporate resources to revenues is associated with lower risk of litigation arising from financial reporting. We also find that the negative relation between managerial ability and the likelihood of being sued is more pronounced for firms with higher ex ante litigation risk. These findings are economically significant. Finally, results from path analysis suggest that managerial ability has both a direct and an indirect impact on litigation risk.

Our study is potentially important because litigation against the firm has adverse consequences for the firm, managers, investors, and other stakeholders. Thus, empirical evidence on factors that mitigate litigation risk is of interest to managers, investors, board of directors, and academics. Our results also suggest real economic benefits of hiring and retaining high quality management. Our findings that managerial ability is especially important in mitigating litigation risk in firms with higher ex ante litigation risk shed light on the contexts where managerial ability is particularly valuable in mitigating litigation risk. Finally, our findings may be of interest to insurers that underwrite insurance policies for directors and officers.

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Appendix: Variable Definitions

Litigation Variables

$SUED_t$	=	Equals 1 if the firm was subject to a new financial reporting litigation claim as a defendant in year *t*, 0 otherwise;

Test Variable

$MABLTYS_t$	=	Managerial efficiency score in year *t* from Demerjian et al. (2012).

Control Variables

FPS_t	=	Equals 1 if the firm is in the biotech (SIC codes 2833–2836 and 8731–8734) computer (3570–3577 and 7370–7374), electronics (3600–3674), or retail (5200–5961) industry, and 0 otherwise;
$LNASSETS_{t-1}$	=	The log of lagged total assets in year *t-1*;
$SGROWTH_{t-1}$	=	Year *t-1* sales less year *t-2* sales scaled by beginning of year *t-1* total assets;
RET_{t-1}	=	equal-weighted market adjusted return for prior fiscal year;
$RETSTD_{t-1}$	=	Equal-weighted market adjusted return standard deviation for prior fiscal year;
$SKEW_{t-1}$	=	Skewness of the firm's return for prior fiscal year;
$TURNOVER_{t-1}$	=	Trading volume accumulated over the previous calendar year using the CRSP monthly file divided by the number of shares outstanding;
MTB_{t-1}	=	Lagged market-to-book ratio: price×csho divided by common equity;
$INSIDER_{t-1}$	=	Average of year *t-1* and *t-2* insider sales net of acquisitions scaled by year *t-1* revenue;
AQ_{t-1}	=	A proxy for earnings quality estimated as follows:

We replicate the approach of Demerjian et al. (2013) and estimate the following modified Dechow and Dichev (2002) model by industry and loss percentage quintile.

$$CACC_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t-1} + \alpha_2 CFO_{i,t} + \alpha_3 CFO_{i,t+1} + \alpha_4 \Delta SALE_{i,t} + \alpha_5 PPE_{i,t} + \varepsilon_{i,t}$$

Where *CACC* is total current accruals, *CFO* is operating cash flows; *ΔREV* is change in sales revenue; *PPE* is the gross value of plant, property and equipment. Industries are defined as Fama and French's 48 industries. The loss percentage of firm is measured over the period from year t-4 to t. We require that each industry and year to have at least 20 observations. *AQ* is derived as the standard deviation of the residuals for the period between year t-4 and year t for each firm-year observation. Higher values of *AQ* indicate lower earnings quality.

TABLE 1
Regression results of abnormal revenue on manager ability

This table presents the results of regression of abnormal revenue (*DREV*) on managerial ability (*MABLTYS*) and controls. *DREV* is the residual from model (3). *MABLTYS* is based on Demerjian et al. (2012). *LNASSETS* is the log of lagged total assets in year *t*; *MTB* is market-to-book ratio: price × csho divided by common equity; *LEV* is the firm's long-term debt divided by its total assets; *ROA* is the firm's net income divided by the beginning year total assets; *LACC* is last year's total accruals, calculated as net income before extraordinary items minus cash flow from operations and scaled by total assets; *SGROW* is sales growth defined as sales in year *t* less sales in year *t*-1 scaled by sales in year t-1; *CFO* is cash flow from operations scaled by beginning of year total assets; *LOPCYCL* is the natural log of operating cycle, measured by accounts receivable cycle and inventory cycle (360 x averages of account receivables / sales + 360 x average of inventories / cost of goods sold and each cycle is truncated at 360 days); *VOLCFO* is the standard deviation of cash flow from operations deflated by average; *VOLSALE* is the standard deviation of sales deflated by average total assets over year *t*-4; and *REPLAG* is the natural log of the number of days between the fiscal year-end date of a company and the date of the auditors' opinion. *t*-statistics are in parentheses below the coefficients. Standard errors are clustered by year and firm. ***, **, and * indicate, respectively, significance levels at the 0.01, 0.05, and 0.10 levels.

Variable	Predicted Sign	Coefficient
Intercept	?	0.025**
		(2.18)
MABLTYS$_t$	**?**	**-0.025*** **
		(-4.08)
LNASSETS	?	-0.002***
		(-3.52)
MTB	+	-0.000**
		(-2.39)
LEV	?	0.003***
		(3.78)
ROA	-	0.001
		(0.84)
LACC	+	-0.001
		(-0.86)
SGROW	+	-0.000
		(-0.01)
CFO	+	0.006**
		(2.32)
LOPCYCL	-	-0.005***
		(-8.28)
VOLCFO	+	-0.000
		(-0.15)
VOLSALE	+	-0.000
		(-0.81)
REPLAG	+	-0.000
		(-0.06)
Year fixed effects		Yes
R^2		0.011
F-test		4.730***
Observations		11,198

TABLE 2
Descriptive statistics

Panel A presents descriptive statistics of the variables used in the regression analyses. All continuous variables are winsorized at the 1% and 99% level. Panel B presents descriptive statistics of the variables between sued firms and non-sued firms. Differences in mean and median values between sued and non-sued firms are also presented. Variable definitions are provided in the appendix. *AQ* is available for 20,628 firm-years representing 259 and 20,369 sued and non-sued firm-years respectively.

Panel A: Descriptive statistics for the full sample (n=23,592)

Variable	Mean	Stdev	Median	Q1	Q3
$SUED_t$	0.012	0.111	0.000	0.000	0.000
$MABLTYS_t$	-0.013	0.145	-0.022	-0.107	0.071
FPS_t	0.346	0.476	0.000	0.000	1.000
$LNASSETS_{t-1}$	5.792	1.941	5.709	4.358	7.082
$SGROWTH_{t-1}$	0.081	0.263	0.057	-0.025	0.176
RET_{t-1}	0.028	0.660	-0.078	-0.334	0.218
$SKEW_{t-1}$	0.353	0.598	0.345	-0.051	0.760
$RETSTD_{t-1}$	0.314	0.332	0.216	0.140	0.349
$TURNOVER_{t-1}$	-2.120	2.110	-1.467	-2.843	-0.624
MTB_{t-1}	2.637	4.043	1.898	1.152	3.235
$INSIDER_{t-1}$	-0.004	0.022	0.000	-0.002	0.000
AQ_{t-1}	0.041	0.036	0.030	0.018	0.052

Panel B: Test of differences in means and medians between sued and non-sued firm-years

Variable	Sued firm-years (n=294)			Non-sued firm-years (n=23,298)			Test of differences in means and medians	
	Mean	Median	S.D	Mean	Median	S.D.	*t*-statistic	Wilcoxon *z*
$MABLTYS_t$	-0.031	-0.039	0.151	-0.013	-0.022	0.145	-2.163**	-2.300***
FPS_t	0.514	1.000	0.501	0.343	0.000	0.475	6.101***	6.096***
$LNASSETS_{t-1}$	6.434	6.139	1.984	5.784	5.703	1.939	5.713***	5.002***
$SGROWTH_{t-1}$	0.159	0.076	0.310	0.081	0.057	0.263	5.085***	4.077***
RET_{t-1}	0.076	-0.160	1.023	0.028	-0.077	0.654	1.242	-2.339**
$SKEW_{t-1}$	0.393	0.397	0.576	0.353	0.344	0.599	1.161	1.222
$RETSTD_{t-1}$	0.416	0.242	0.500	0.312	0.216	0.329	5.309***	3.345***
$TURNOVER_{t-1}$	-3.490	-2.905	2.529	-2.103	-1.454	2.098	-11.228***	-11.366***
MTB_{t-1}	3.901	2.541	5.065	2.621	1.890	4.026	5.399***	6.834***
$INSIDER_{t-1}$	-0.008	0.000	0.024	-0.004	0.000	0.022	-2.966**	-4.538***
AQ_{t-1}	0.049	0.035	0.045	0.041	0.030	0.036	3.525***	2.812**

TABLE 3
Pearson correlations

This table presents Pearson correlation coefficients for the variables used in the regression analyses. *p*-values are reported in the second row following the correlation coefficients. Coefficients in **bold** are significant at the 0.01 level. The coefficients in *italics* are significant at the 0.10 level (two-tailed test). All variables are winsorized at the 1% and 99% level. Correlation coefficients are based on 23,592 observations. Variable definitions are provided in the appendix.

	$SUED_t$	$MABLTYS_t$	FPS_t	$LNASSETS_{t-1}$	$SGROWTH_{t-1}$	RET_{t-1}	$SKEW_{t-1}$	$RETSTD_{t-1}$	$TURNOVER_{t-1}$	MTB_{t-1}
$MABLTYS_t$	*-0.014*									
	(0.03)									
FPS_t	**0.040**	**-0.050**								
	(0.00)	**(0.00)**								
$LNASSETS_{t-1}$	**0.037**	**0.105**	**-0.242**							
	(0.00)	**(0.00)**	**(0.00)**							
$SGROWTH_{t-1}$	**0.033**	**0.172**	*-0.011*	**-0.026**						
	(0.00)	**(0.00)**	*(0.08)*	**(0.00)**						
RET_{t-1}	0.008	**0.115**	*-0.012*	**-0.025**	**0.158**					
	(0.21)	**(0.00)**	*(0.06)*	**(0.00)**	**(0.00)**					
$SKEW_{t-1}$	0.008	**-0.022**	**0.043**	**-0.082**	**-0.102**	**0.051**				
	(0.25)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**				
$RETSTD_{t-1}$	**0.035**	*0.013*	**0.077**	**-0.214**	**0.109**	**0.504**	**0.212**			
	(0.00)	*(0.04)*	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**			
$TURNOVER_{t-1}$	**-0.073**	**-0.087**	**-0.072**	**-0.302**	**-0.114**	**-0.058**	*-0.013*	**-0.102**		
	(0.00)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	*(0.04)*	**(0.00)**		
MTB_{t-1}	**0.035**	**0.073**	**0.069**	**-0.054**	**0.098**	**0.135**	*-0.013*	**0.079**	**-0.080**	
	(0.00)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	*(0.04)*	**(0.00)**	**(0.00)**	
$INSIDER_{t-1}$	**-0.019**	**-0.029**	**-0.026**	-0.002	**-0.058**	*-0.015*	*0.011*	*-0.013*	**0.121**	**-0.064**
	(0.00)	**(0.00)**	**(0.00)**	(0.80)	**(0.00)**	*(0.02)*	*(0.08)*	*(0.04)*	**(0.00)**	**(0.00)**

TABLE 4
Results of logistic regression of financial reporting litigation on managerial ability

This table presents the result of logistic regression analysis. Dependent variable is $SUED_t$. It is equal to 1 for firm-years that have a new financial reporting litigation and 0 for all non-sued firm-years. *z*-statistics are in parentheses below the coefficients. Standard errors are clustered by year and firm. ***, **, and * indicate, respectively, significance levels at the 0.01, 0.05, and 0.10 levels. Marginal effects of the coefficients are reported in a separate column. Variable definitions are provided in the appendix.

Variable	Predicted Sign	Coefficient	Marginal Effects	Coefficient	Marginal Effects
Intercept	?	-7.115***		-7.865***	
		(-34.51)		(-34.71)	
$MABLTYS_t$	**?**	**-1.877*** **	**-0.022**	**-1.631*** **	**-0.020**
		(-3.21)		**(-2.61)**	
FPS_t	+	0.739***	0.009	0.737***	0.009
		(8.00)		(8.07)	
$LNASSETS_{t-1}$	+	0.271***	0.003	0.354***	0.004
		(8.80)		(10.32)	
$SGROWTH_{t-1}$	+	1.052***	0.013	1.049***	0.013
		(6.23)		(6.82)	
RET_{t-1}	-	-0.143	-0.002	-0.119	-0.001
		(-1.14)		(-1.08)	
$SKEW_{t-1}$	-	0.061	0.001	0.148	0.002
		(0.69)		(1.77)	
$RETSTD_{t-1}$	+	0.378***	0.005	0.338***	0.004
		(3.86)		(3.14)	
$TURNOVER_{t-1}$	-	-0.177***	-0.002	-0.168***	-0.002
		(-6.53)		(-5.68)	
MTB_{t-1}	+	0.054***	0.001	0.043***	0.001
		(5.22)		(3.57)	
$INSIDER_{t-1}$	+	-3.674***	0.044	-4.513	-0.054
		(2.76)		(3.06)	
AQ_{t-1}	+			7.001***	0.084
				(8.90)	
Year fixed effects		Yes		Yes	
Pseudo R^2 (McFadden)		0.113		0.128	
Wald Chi2		420.870		397.890	
Observations		23,592		20,628	
No. of Financial Reporting Litigations		294		259	

TABLE 5
Results of logistic regression of financial reporting litigation on managerial ability: conditional on *ex ante* litigation risk

This table presents the results of logistic regressions conditional on *ex ante* litigation risk. Dependent variable is $SUED_t$, which is equal to 1 for firm-years that have a new financial reporting litigation and 0 for all firm-years without financial reporting litigations. We estimate *ex ante* litigation using Skinner and Kim (2012)'s model (3). We rank the predicted probability of litigations and partition our sample into the "high *ex ante* litigation risk" subsample with observations whose predicted probability of litigation is above the median and the "low *ex ante* litigation risk" subsample consisting of observations whose predicted probability is below the median. *z*-statistics are in parentheses below the coefficients. Standard errors are clustered by year and firm. ***, **, and * indicate, respectively, significance levels at the 0.01, 0.05, and 0.10 levels. Marginal effects of the coefficients are reported in a separate column. Variable definitions are provided in the appendix.

Variable	Predicted Sign	Subsample with High ex ante Litigation Risk	Marginal Effects	Subsample with Low ex ante Litigation Risk	Marginal Effects
Intercept	?	-7.963***		-7.587***	
		(-43.47)		(-10.13)	
MABLTYS$_t$	**?**	**-1.813*** (-2.79)**	**-0.037**	**-0.136 (-0.16)**	**-0.000**
FPS_t	+	0.890***	0.018	-0.561	-0.002
		(5.63)		(-1.16)	
$LNASSETS_{t-1}$	+	0.369***	0.008	0.234**	0.001
		(13.20)		(2.20)	
$SGROWTH_{t-1}$	+	1.020***	0.021	1.502***	0.005
		(5.80)		(4.69)	
RET_{t-1}	-	-0.047	-0.001	-1.293**	-0.005
		(-0.71)		(-2.29)	
$SKEW_{t-1}$	-	0.031	0.001	0.660*	0.002
		(0.53)		(1.73)	
$RETSTD_{t-1}$	+	0.333***	0.007	0.156	0.001
		(4.31)		(0.14)	
$TURNOVER_{t-1}$	-	-0.164***	-0.003	-0.367***	-0.001
		(-5.43)		(-3.52)	
MTB_{t-1}	+	0.033**	0.001	0.084***	0.000
		(2.31)		(2.79)	
$INSIDER_{t-1}$	+	-3.192*	0.065	-8.428*	-0.030
		(-1.85)		(-1.77)	
AQ_{t-1}	+	7.282***	0.148	5.027	-0.018
		(7.46)		(1.02)	
Year fixed effects		Yes		Yes	
Pseudo R^2 (McFadden)		0.092		0.096	
Wald Chi2		237.71		109.57	
Observations		11,796		10,314	
No. of Financial Reporting Litigations		222		37	

TABLE 6
Results of conditional logistic regression of financial reporting litigation on managerial ability: firms matched on probability of litigation

This table presents the result of logistic regression analysis for matched-pairs with 292 sued firms and otherwise similar 292 non-sued firms. We first estimate the probability of being sued and then, for each sued firm-year, we select a non-sued firm from the same year with the closest predicted litigation probability. We also require the difference of predicted probability of being sued between sued and non-sued firm-years to be less than 10 percent of predicted probability of the sued firms. Dependent variable is $SUED_t$. It is equal to 1 for firm-years that have a new financial reporting litigation and 0 for all firm-years without financial reporting litigations. *z*-statistics are in parentheses below the coefficients. Standard errors are clustered by year and firm. ***, **, and * indicate, respectively, significance levels at the 0.01, 0.05, and 0.10 levels. Marginal effects of the coefficients are reported in a separate column. Variable definitions are provided in the appendix.

Variable	Predicted Sign	Coefficient	Marginal effects
MABLTYS$_t$	**?**	-1.583**	**-0.057**
		(-2.45)	
FPS_t	+	-1.181	-0.042
		(-0.05)	
$LNASSETS_{t-1}$	+	-0.328	-0.012
		(-0.05)	
$SGROWTH_{t-1}$	+	-1.351	-0.043
		(-0.05)	
RET_{t-1}	-	0.192	0.006
		(0.05)	
$SKEW_{t-1}$	-	0.023	0.001
		(0.01)	
$RETSTD_{t-1}$	+	-0.564	-0.020
		(-0.05)	
$TURNOVER_{t-1}$	-	0.215	0.008
		(0.04)	
MTB_{t-1}	+	0.033	0.001
		(1.60)	
$INSIDER_{t-1}$	+	-2.648	-0.095
		(-0.65)	
Pseudo R^2 (McFadden)		0.027	
LR Chi2		10.830	
Observations		584	
No. of Financial Reporting Litigations		292	

TABLE 7
Path Analysis of the indirect and direct impact of managerial ability on financial reporting litigation

This table presents the result of a path analysis to further examine how managerial ability affects the litigation risk: the indirect path of managerial ability on other litigation risk factors (e.g., firm size) and the direct path of managerial ability on the likelihood of litigation. Standard errors are clustered by year and firm. ***, **, and * indicate, respectively, significance levels at the 0.01, 0.05, and 0.10 levels. Variable definitions are provided in the appendix.

Indirect Path of *MABLTYS*		
P(MABLTYS, LNASSETS)	1.400	1.396
	(16.21)***	(15.36)***
P(MABLTYS, SGROWTH)	0.312	0.317
	(26.84)***	(24.74)***
P(MABLTYS, RET)	0.520	0.535
	(17.74)***	(16.98)***
P(MABLTYS, SKEW)	-0.090	-0.098
	(-3.36)***	(-3.40)***
P(MABLTYS, RETSTD)	0.031	0.027
	(2.07)**	(1.68)*
P(MABLTYS, TURNOVER)	-1.268	-1.253
	(-13.48)***	(-12.32)***
P(MABLTYS, MTB)	2.033	2.206
	(11.27)***	(11.70)***
P(MABLTYS, INSIDER)	-0.004	-0.004
	(-4.43)***	(-4.12)***
P(MABLTYS, AQ)		-0.006
		(-3.39)***
Direct Path		
P(MABLTYS, SUED)	-1.868	-1.683
	(-4.33)***	(-3.65)***
Observations	23,592	20,628
No. of Financial Reporting Litigations	294	259