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Litigation Risk Management Through Corporate Payout Policy

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Abstract

Firms modify their payout policy in anticipation of future litigation costs. We examine a comprehensive sample of U.S. corporate lawsuits and find that firms facing significant litigation risk pay lower dividends, and in some cases omit dividends while distributing more cash through share repurchases. Litigation risk changes the distribution of payouts but not the total payout yield as the increase in share repurchases offsets the decrease in dividends. Cash-poor firms cut share repurchases when settlement costs are incurred. The results suggest that firms at a higher risk of litigation increase their payout flexibility.

I. Introduction

U.S. corporations are exposed to significant litigation risk. As reported by the Audit Analytics Litigation Database, in the 16-year period spanning from 2000 to 2015, U.S. publicly traded companies have been the defendants of 13,199 federal lawsuits. Figure 1 shows the number of corporate lawsuits per year between 2000 and 2015.[1] The settlement costs associated with these lawsuits are often significant. The average settlement amount for corporate lawsuits in the U.S. between 2000 and 2015 is $61 million. About 20% of the settlements surpass $100 million with a few notable settlements over $1 billion. As Figure 2 shows, average settlements at the firm level have trended upward over time. Figure 3 shows the aggregate settlement amount per year for firms that disclose settlement information. For the years in which we have complete settlement data the average aggregate settlement amount is $8.4 billion. The year with the highest aggregate amount is 2006 with $18.5 billion.[2] In addition to settlement expenses, firms face significant attorney fees and indirect costs.

[1]The spike in 2001 is attributable to a multitude of IPO lawsuits that immediately followed the 2000–2001 dot-com bubble bust.

[2]The settlement amounts for the first 3 years of our sample (2000–2002) are grossly underreported because, while the Audit Litigation database starts its coverage with lawsuits filed in 2000, the majority of lawsuits take longer than 2 years to reach a resolution and settle. Moreover, our settlement statistics do not include state-level lawsuits and lawsuits against privately-held firms.

FIGURE 1

Number of Lawsuits by Year

Figure 1 shows the number of corporate lawsuits filed against U.S. publicly traded corporations between 2000 and 2015.

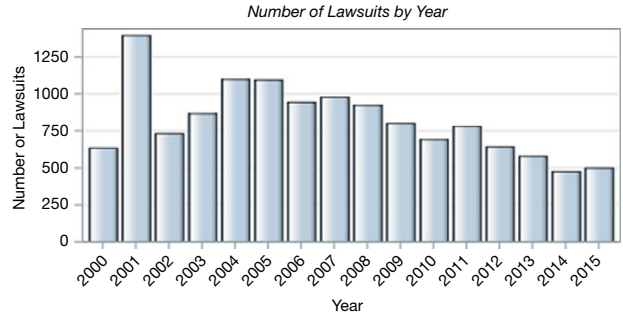


FIGURE 2

Average Lawsuit Settlement by Year

Figure 2 shows the average real settlement amount in million of 2016 dollars between 2000 and 2016 for corporate lawsuits filed against U.S. publicly traded corporations between 2000 and 2015.

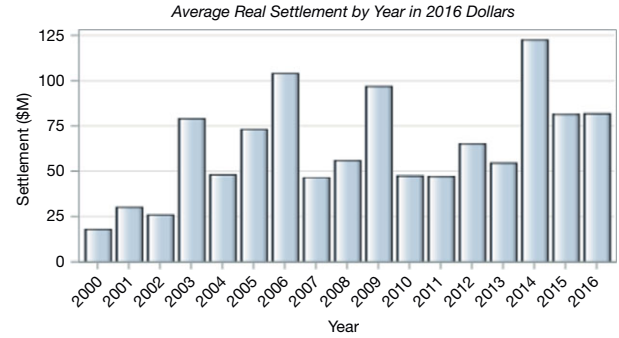
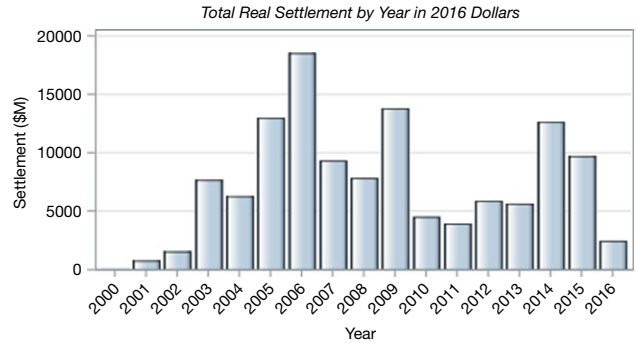


FIGURE 3

Aggregate Settlement Amounts by Year

Figure 3 shows the aggregate real settlement amount in million of 2016 dollars between 2000 and 2016 for corporate lawsuits filed against U.S. publicly traded corporations between 2000 and 2015.



Litigation risk is an important source of cash flow risk. As can be expected by the large number of corporate lawsuits and the size of lawsuit costs, litigation risk has important implications for the corporate decision-making process. Firms at higher risk of litigation underprice their IPOs relatively more as a form of insurance (Lowry and Shu (2002)) and are more likely to undertake aggressive growth through acquisitions (Gormley and Matsa (2011)). Litigation risk also affects stock ownership and corporate governance (Crane and Koch (2018)), and firms' disclosure behavior (Skinner (1997)). High-quality auditing firms are less likely to work for corporate clients at risk of litigation (Field, Lowry, and Shu (2005)).

To the extent litigation represents a significant source of cash flow risk, it has implications for how firms distribute cash to shareholders. In this study, we analyze the effect of litigation risk on the firm's decision to distribute cash to shareholders in the form of dividends or share repurchases. We find that litigation risk is an important determinant of how and when firms payout cash to shareholders. An illustrative example is that of Microsoft's dividend initiation announcement in Jan. 2003. Microsoft cited two reasons for their timing: the firm's "financial strength," and the resolution of outstanding legal issues (*Wall Street Journal*, Jan. 17, 2003). Microsoft had just settled an antitrust case with the U.S. government and several states and had set aside $210 million for other litigation costs. In 2004, when Microsoft increased their regular dividend and declared a large special dividend, Brad Smith, Microsoft's general counsel, declared: "We have resolved the large majority of our legal issues, which the company has always said was a prerequisite to addressing our cash management plans. While we still have a number of legal issues and we take them seriously, we have reduced the legal uncertainties facing the company, and we have a much clearer understanding of the potential risks involved in the cases that remain, such as the ongoing European Commission case" (https://news.microsoft.com/2004/07/20/microsoft-outlines-quarterly-dividend-four-year-stock-buyback-plan-and-special-dividend-to-shareholders/).

Our study is motivated by recent research in payout policy emphasizing that the second moment of the earnings distribution is important for how firms determine their payout policy. Early papers, such as Bhattacharya (1979) and Miller and Rock (1985) show that firms may signal future earnings by paying dividends. Empirical research has found very little support for these first-moment signaling models. Michaely, Rossi, and Weber (2019) show that the payout decision is closely linked to the second moment of the earnings distribution. In their model, dividends signal lower cash flow volatility in the future. Michaely et al. (2019) test their model empirically and find that dividend announcements are followed by lower cash flow volatility and the announcement returns vary according to the size of the volatility reduction. Cash flow volatility increases following dividend cuts. Grullon and Michaely (2002) and Hoberg and Prabhala (2009) also link risk and volatility to payout decisions of firms.

We examine how firms alter their payout policy in response to exposure to litigation risk. Firms engage in a variety of activities to manage their cash flow risk exposure. In addition to financial hedging through derivatives, firms accumulate a cash buffer through earnings retention. Building up liquidity also requires well-timed adjustments to investment, financing, and payout policies. Bolton, Chen, and Wang (2011) propose a model in which firms pay out cash to shareholders only

when the cash-capital ratio is high, and raise external funds only when the firm has depleted its cash. Bonaime, Hankins, and Harford (2014) show that payout policy is a complementary risk management technique to financial hedging. Arena and Julio (2015) show that firms accumulate cash in anticipation of litigation costs, in part by reducing capital expenditures.

It is through the lens of cash flow volatility and risk management incentives that we examine how litigation risk affects payout policy. As future cash flows become more uncertain, firms may alter their payout to manage litigation risk (Bolton et al. (2011)) or to convey information to shareholders about changes in the firm's earnings distribution (Michaely et al. (2019)). Changes in risk can affect the decision to pay dividends and also affect the composition of payouts between cash dividends and share repurchases. Share repurchases are often viewed as a more flexible form of payout (Jagannathan, Stephens, and Weisbach (2000)), allowing firms to alter the payout amount more easily than can be accomplished through dividends. Guay and Harford (2000) show that firms choose their form of payout based on whether cash flow shocks are permanent or transient, with repurchases adjusting more to temporary shocks and dividends to permanent shocks. Our goal is to examine whether and how payout adjustments are made when a firm is exposed to litigation risk, which significantly increases the probability of a negative cash flow shock.

Our empirical analysis consists of dividend forecast error regressions based on the Lintner (1956) model, along with payout probability, payout yield, and payout flexibility Fama–MacBeth regressions. We find that firms at higher risk of litigation adjust their payout policy away from regular dividends and toward share repurchases. The higher cash distribution through share repurchases offsets the reduction in dividend payouts. As a consequence, we do not find a significant relation between litigation risk and the total payout yield. In other words, litigation risk shifts the distribution of payouts between dividends and repurchases but does not significantly change the total payout to shareholders. Firms at risk of litigation increase payout flexibility by substituting repurchases for dividends. We find that when firms have to pay a large settlement in comparison to their cash holdings, they reduce share repurchases to generate cash to cover settlement costs. In essence, firms buy an option by adopting a more flexible payout policy. This option is then exercised at the time of the litigation outcome if needed. The results of this study are both statistically and economically significant. For example, a change in the predicted probability of litigation, one of our litigation risk measures, from its 25th to its 75th percentile, while keeping all other independent variables at their median, decreases the probability that a firm will pay dividends by 17.03% and increases the probability that it will buy back shares by 4.96% relative to the mean.

The joint consideration of these results with those of Arena and Julio (2015) suggests that firms facing significant litigation risk shift from dividend to share repurchases and save excess free cash flows rather than increasing payouts. This two-pronged strategy allows firms to reduce the negative impact of expected litigation costs in two ways: through enhanced payout flexibility, and through a higher level of cash reserves.

Our sample includes all corporate lawsuits filed against publicly traded corporations between 2000 and 2016. Corporate lawsuits in our sample include

liability, copyright, patent, antitrust, trade regulation, and security lawsuits, among others. Most previous financial studies on litigation only examine security class action lawsuits. Our empirical analysis makes use of three different proxies for litigation risk. Because litigation risk has a very significant industry component (Gande and Lewis (2009)), we consider an industry-based proxy. We obtain this measure by calculating the annual sum of all lawsuits in the firm's 3-digit SIC industry excluding the observed firm. We then divide that sum by the total number of firms in the same 3-digit SIC industry in the same year. In our multivariate tests, we use the logarithm of the ratio. The other two proxies of litigation risk are obtained by generating predicted probabilities of probit models that include several litigation determinants as independent variables. These types of measures are based on both systematic and firm-specific sources of litigation risk. The approach used to obtain these proxies is well established in the literature (e.g., Gande and Lewis (2009), Kim and Skinner (2012), and Arena and Julio (2015)). We generate the first of these 2 proxies by considering all lawsuits, and the second by considering only security lawsuits. As a robustness check, we also reestimate our main regressions with out-of-sample litigation predicted probabilities and we conduct an industry spillover analysis. Our results persist. Our results are also robust to industry-fixed effects, an extensive set of control variables that significantly affect payout policy, and alternative time periods.

It is important to note that even though many firms buy C-side litigation insurance, which protects the corporation from its own liability, the coverage provided by this insurance is quite limited in most cases. Arena and Julio (2015) indicate that, according to the annual Towers Perrin Directors and Officers Liability Surveys, firms have an average litigation insurance limit of only about $15 million between 1996 and 2006. Moreover, a significant percentage of publicly traded firms (between 15% and 50% depending on the year) does not have any C-side coverage at all. The limited insurance coverage makes risk management through financial policy an essential corporate strategy. This is also consistent with risk management theoretical models (e.g., Froot and Stein (1998), Bolton et al. (2011)) that are based on the complementary role of financial hedging through derivatives and insurance and cash management through payout and investment policy.

This article contributes to two important strands of literature. First, our article contributes to the literature examining the choice between share repurchases and dividends. Our evidence is consistent with the substitution hypothesis of Grullon and Michaely (2002) who find that firms have substituted repurchases for dividends over time. Our results also reflect the finding that financial flexibility is an important determinant of the repurchase versus dividend choice (Jagannathan et al. (2000)). Our results provide additional evidence, as in Bonaime, Hankins, and Harford (2014), that risk management considerations are important for how firms set their payout policy. Our results complement the recent research showing that the second moment of the earnings distribution is an important determinant of payout policy (Michaely et al. (2019)).

Second, our article contributes to the literature on how litigation risk and cash flow risk more generally affect firms' financial and investment policies. Litigation risk has been shown to affect IPO pricing (Lowry and Shu (2002), Hanley and Hoberg (2012)), cash policy (Arena and Julio (2015)), firm investment decisions

(Arena and Julio (2015), Bennett, Milbourn, and Wang (2018)), corporate debt policies and cost (Arena (2018)), disclosure (Skinner (1997)), executive compensation (Peng and Roell (2008)), and corporate governance (Appel (2016), Crane and Koch (2018)). Our article extends these results to show that litigation risk is an important determinant of payout choice and that firms use payout policy to hedge against cash flow risk.

The remainder of this article proceeds as follows: Section II describes our sample and presents the univariate analysis. Section III presents our primary empirical results. Section IV discusses robustness tests. Finally, Section V offers a summary and conclusions.

II. Sample and Univariate Analysis

A. Sample

The initial sample consists of the entire population of Compustat North America firms from 2000 to 2016 with no missing data for the financial statement variables used in the analysis. We then match this initial sample with the CRSP database to retrieve stock data for firms with CRSP codes 10 and 11. The merged Compustat-CRSP sample contains approximately 80,000 firm-year observations. As most recent studies on payout policy, our sample selection procedure follows DeAngelo, DeAngelo, and Stulz (2006). After excluding utility and financial firms (SIC codes 4900–4999 or codes 6000–6999), we select firms that are publicly traded on the NYSE, NASDAQ, or AMEX, and have available data on dividends and earnings. Our sample consists of 35,865 firm-year observations and 7,164 unique firms. We then merge our sample with the litigation data that we obtain from Audit Analytics Litigation. The coverage provided by this data set begins in 2000 and reports information on lawsuits for U.S. publicly traded firms. Audit Analytics collects information from corporate disclosures, corporate newswires, and from legal disclosures, registrations, and legal opinions filed with the SEC. The most common types of corporate lawsuits are security class action lawsuits, product liability, copyright and patent, and antitrust and trade regulation litigations. The litigation data set contains information about the type of lawsuit, lawsuit filing dates, beginning and ending of each class period, type of resolution, and settlement costs when available. We collect lawsuit filing information from 2000 to 2015 and resolution information (dismissal or settlement) from 2000 to 2016.

In the multivariate analysis presented in this study, we measure litigation risk in three ways. Our first proxy for litigation risk, LAWSUIT_DUMMY, is an indicator variable that assumes the value of 1 if a firm is sued in the following year, and 0 otherwise. This variable is a widely used ex post proxy of litigation risk (e.g., Lowry and Shu (2002), Arena and Julio (2015)). We then generate a more sophisticated measure of litigation risk that takes account of firm-specific characteristics that can trigger litigation. Similar to Gande and Lewis (2009) and Kim and Skinner (2012), we estimate a probit regression with a dependent indicator variable equal to 1 when at least one lawsuit is filed for a firm in a given year. The independent variables are lagged factors that the literature recognizes as

predictors of future lawsuits (logarithm of assets, stock turnover, stock return, previous lawsuits, industry litigation intensity, industry dummies, discretionary accruals, unexpected earnings, executive bonuses over total compensation, CEP share ownership). The litigation risk proxy LITIGATION_LIKELIHOOD consists of the predicted probabilities obtained by estimating this regression. To avoid identification issues in our main multivariate analysis, the explanatory variables of the probit models used to create LITIGATION_LIKELIHOOD do not include any of the variables of the main multivariate tests. For robustness purposes, we also generate an alternative litigation risk proxy (SECURITY_LITIGATION_-LIKELIHOOD) by estimating probit regressions in which the dependent indicator variable is 1 when at least one security class action lawsuit is filed against a firm in a given year.[4]

Our third proxy for litigation risk, LITIGATION_INTENSITY, is a firm-year industry-based measure. We obtain litigation intensity by adding all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry excluding the observed firm for each year under observation. We then divide that number by the total number of firms in the same 3-digit SIC industry in the same year. This proxy is a valid measure for litigation risk because, as widely documented by the literature (e.g., Gande and Lewis (2009), Arena and Julio (2015)), litigation risk has a large industry component. Firms and investors perceive that litigation risk for a specific firm is higher when a larger number of competitors in the same industry are sued.

The main payout policy variables used in this study consist of three payout indicator variables and three payout yield variables. Our total payout indicator variable is equal to 1 for firms that are dividend payers and/or net repurchasers of common shares, and is 0 otherwise. Consistent with Grullon, Paye, Underwood, and Weston (2011), we define a net repurchaser a firm that in a given year repurchases shares in excess of shares introduced in the market through equity issuances and exercise of stock options. The dividend indicator variable is equal to 1 for firms that are dividend payers and is 0 otherwise. The repurchasing indicator variable is equal to 1 for firms that are net repurchasers of common shares and is 0 otherwise. DIVIDEND_YIELD is the firm's annual dividend payments divided by its year-end market value. NET_REPURCHASE_YIELD is the firm's annual total net repurchase amount (repurchases less equity issuances) divided by its year-end market value. As in Grullon and Michaely (2002), Boudoukh, Michaely, Richardson, and Roberts (2007), and Grullon et al. (2011), we construct our NET_REPURCHASE_YIELD variable using data on share repurchases and equity issues from the flow of funds statement. Specifically, we define net repurchases as purchases of common and preferred stock (Compustat item # 115) minus sales of common and preferred stock (Compustat item # 108). One advantage of this proxy is that it does not require assumptions regarding the prices at which the company issues or buys back shares because equity issues and share repurchases are expressed in total dollar amounts. PAYOUT_YIELD is the firm's annual total net

[4]In robustness tests, we replicate our multivariate analysis by using out-of-sample litigation probabilities instead of in-sample probabilities. The results are comparable. The results of these tests are included in the Supplementary Material.

payout (dividends plus repurchases less equity issuances) divided by its year-end market value. All other variables are defined in the Appendix.

B. Univariate Analysis

We begin our investigation on the effect of litigation risk on corporate payout policy by analyzing the distribution of dividend payers, repurchasing firms, and payout yields across litigation risk tertiles. For this univariate test, we measure litigation risk as litigation intensity, the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry.[5] Table 1 presents the results of this univariate analysis. The number of dividend-paying firms significantly diminishes as litigation risk increases. About 46% of the sample firms in the low litigation intensity tertile pay dividends, compared to 15% in the high litigation intensity tertile. The chi-square test rejects the homogeneity of the distribution of dividend payers across litigation risk tertiles with significance at the 1% level. Dividend yield (the ratio of the dollar amount of dividends paid to the firm's market value of equity) also declines significantly as litigation risk increases. The dividend yield is on average 1.29% for low litigation risk firms and 0.42% for high litigation risk firms.

Overall, about 45% of our sample firm repurchase stock. It is important to notice that we only count net repurchasing firms; that is, firms that repurchase shares in excess of shares issued in seasoned equity offerings (private and public)

TABLE 1

Distribution in Payout Activity and Litigation Risk

Panel A of Table 1 presents the distribution of dividend payers, the distribution of net repurchasing firms, the average dividend yield, and the average repurchase yield by litigation risk tertiles. Dividend yield (repurchase yield) is the ratio of dollar amount of dividends (dollar amount of repurchased shares) to the firm's market value. Payout flexibility is defined as net share repurchases scaled by total payout. Litigation Intensity is the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry excluding the observed firm divided by the total number of firms in the same industry. Panel B presents the summary statistics of our three proxies of litigation risk. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. LITIGATION_INTENSITY is the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry.

Panel A. Distribution in Payout Activity by Litigation Intensity Tertiles

Litigation Intensity Tertile	*N* Dividend Payers	*N* Repurchasing Firms	Dividend Yield	Repurchase Yield	Payout Flexibility	*N*
1	6,546 (45.71%)	6,462 (45.12%)	1.29%	1.40%	49.05%	14,321
2	5,311 (37.33%)	5,963 (41.91%)	1.11%	1.33%	54.07%	14,227
3	2,150 (15.14%)	5,038 (35.48%)	0.41%	1.25%	75.71%	14,200
Chi-square test *P*-value	0	0.098				
ANOVA *F*-test *P*-value			0	0.135	0	

Panel B. Distribution of Litigation Risk Variables

	Mean	Min	Q25	Median	Q75	Max
LAWSUIT_DUMMY	0.094	0.000	0.000	0.000	0.000	1.000
LITIGATION_LIKELIHOOD	0.080	0.019	0.041	0.058	0.086	1.000
ln(LITIGATION_INTENSITY)	0.077	0.000	0.024	0.071	0.107	4.500

[5]In unreported univariate tests, we substitute litigation intensity with our other litigation risk variables. Our main results persist.

and shares introduced in the market due to the exercise of stock options. This categorization explains why our percentage of repurchasing firms is lower than what could be expected from prior evidence. Even though the number of share repurchasing firms decreases as litigation intensity increases, the decrease is not statistically significant. Moreover, repurchase yield does not change significantly across litigation intensity tertiles. A comparison of the distribution of dividend payers and repurchasers across litigation risk tertiles suggests that firms at higher litigation risk are likely to reduce dividend payments but are less likely to modify their share repurchasing activity.

In order to understand how litigation risk might change a firm's payout policy dynamics, we calculate transition probabilities by litigation intensity tertiles as reported in Table 2. We calculate transition probabilities as in Grullon and Michaely (2002). We assign a firm's payout policy into 1 of 4 categories in each period: i) no cash distribution (DIV = 0, REPO = 0), ii) only dividends (DIV > 1, REPO = 0), iii) only repurchases (DIV = 1, REPO > 0), and iv) both dividends and repurchases (DIV > 1, REPO > 1). As in Table 1, a firm is considered a share repurchaser

TABLE 2

Transition Probabilities by Litigation Intensity Tertiles

Table 2 presents the transition probabilities of payout policy changes from time $T-1$ to time T. The transition probabilities are equal to the number of firms changing their payout policy from i to j divided by the total number of firms with payout policy i at time $T-1$. REPO is net repurchase amount (repurchases minus equity issuances). Panel A presents the transition probabilities for the low litigation intensity tertile, Panel B presents the transition probabilities for the high litigation intensity tertile, and Panel C presents the p-values of Chi-Square tests for the homogeneity of the distribution at time T for firms with the same payout policy at time $T-1$. Panel D presents the p-value of the Chi-Square tests for specific transition pairs. LITIGATION_INTENSITY is the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry.

		T			
		DIV = 0, REPO = 0 (%)	DIV > 0, REPO = 0 (%)	DIV = 0, REPO > 0 (%)	DIV > 0, REPO > 0 (%)
Panel A. Low Litigation Intensity Tertile					
$T-1$	DIV = 0, REPO = 0	79.10	3.36	14.28	1.26
	DIV > 0, REPO = 0	6.06	72.68	1.13	20.13
	DIV = 0, REPO > 0	26.22	1.60	66.27	5.91
	DIV > 0, REPO > 0	1.64	17.16	2.23	78.98
Panel B. High Litigation Intensity Tertile					
$T-1$	DIV = 0, REPO = 0	81.58	1.75	15.43	1.24
	DIV > 0, REPO = 0	7.57	69.16	1.66	22.60
	DIV = 0, REPO >0	26.32	1.01	68.17	4.50
	DIV > 0, REPO >0	1.74	15.67	3.13	79.46
Panel C. Chi-Square Test P-Value (High vs. Low)					
$T-1$	DIV = 0, REPO = 0		0		
	DIV > 0, REPO = 0		0.0002		
	DIV = 0, REPO > 0		0.0018		
	DIV > 0, REPO > 0		0.1137		

Panel D. Pairwise Chi-Square Test P-Value

	Low Lit Risk Tertile (%)	High Lit Risk Tertile (%)	Chi-Square Test P-Value
From DIV = 0, REPO = 0 to DIV > 0, REPO = 0	3.36	1.75	0.000
From DIV = 0, REPO = 0 to DIV = 0, REPO >0	14.28	15.43	0.000
From DIV > 0, REPO = 0 to DIV = 0, REPO = 0	6.06	7.57	0.000
From DIV > 0, REPO = 0 to DIV > 0, REPO > 0	20.13	22.60	0.000
From DIV > 0, REPO > 0 to DIV > 0, REPO = 0	17.16	15.67	0.000
From DIV > 0, REPO > 0 to DIV = 0, REPO > 0	2.23	3.13	0.000

(REPO > 1) if repurchased shares exceed shares introduced in the market through equity issuances and exercises of stock options. The transition probabilities are equal to the number of firms changing their payout policy from *i* to *j* divided by the total number of firms with payout policy *i* at time $T-1$. Among the nonpayers in year $T-1$, firms in the high litigation tertile are less likely to start paying dividends in the following year (1.75% vs. 3.36%). However, these firms have higher likelihood of starting to buy back shares (15.43% vs. 14.28%). Among firms that pay dividends but are not net share repurchasing firms, firms at higher risk of litigation are more likely to omit dividends the following year (7.57% vs. 6.06%) or to buy back shares in addition to paying dividends (22.60% vs. 20.13%). For firms that repurchase shares but do not pay dividends in year $T-1$, litigation risk has again a significant effect on the payout policy decision for the following year. Firms at higher risk of litigation are less likely to switch from share repurchases to dividends (1.01% vs. 1.60%) and also less likely to add dividend payments to their share buyback programs (4.50% vs. 5.91%).

Panel D of Table 2 presents the Chi-Square tests *p*-values for specific transition pairs instead of considering all transitions concurrently. The results show that high litigation risk firms that do not pay out shareholders (DIV = 0, REPO = 0) are less likely to start paying dividends but more likely to start repurchasing shares; high litigation risk dividend payers ((DIV > 0, REPO = 0) are more likely to either omit dividends or start repurchasing shares, and high litigation risk firms that both pay dividends and repurchase shares (DIV > 0, REPO > 0) are less likely to interrupt share repurchases but more likely to omit dividends when compared to low litigation risk analogs.

Overall, Table 2 provides preliminary evidence of a substitution between dividends and share repurchases for firms at a higher risk of litigation.

III. Multivariate Analysis

We conduct our multivariate analysis by first estimating cross-sectional regressions of the dividend forecast error on litigation risk based on the Lintner (1956) model. We then estimate several regression specifications to examine the effect of litigation risk on the decisions to pay dividends, repurchase shares, the quantity of dividend paid, and shares repurchased. Finally, we investigate changes to payout policy at the time of the lawsuit resolution.

A. Cross-Sectional Regressions of the Dividend Forecast Error on Litigation Risk

Lintner (1956) observes that dividend policy depends on the firm's targeted payout ratios and the speed of adjustment of current dividends. We implement the Lintner (1956) model to investigate whether dividend-paying firms deviate from their expected dividend payout level when they perceive to be at risk of litigation. We calculate the expected dividend payment based on firms' past dividend policy and determine whether actual dividend payments are above or below the expected dividend payment. If the risk of litigation causes firms to pay dividends below the expected values suggested by the model, we should find a negative significant

relationship between the dividend forecast error (actual minus expected) and litigation risk.

We examine the effect of litigation risk on the dividend forecast error by using a sample of firms that have continuously paid dividends over the entire preforecast period. Our pre-forecast period starts in 1985 and ends in 1999. As in Grullon and Michaely (2002), we estimate cross-sectional regressions of the dividend forecast error using as a dependent variable the dividend forecast error calculated as

$$(1) \quad \text{ERROR}_{t,i} = \left[\Delta\text{DIV}_{t,i} - \left(\beta_{1,i} + \beta_{2,i}\text{EARN}_{t,i} + \beta_{3,i}\text{DIV}_{t-1,i}\right)\right]/\text{MV}_{t-1,i},$$

where $\Delta\text{DIV}_{t,i}$ is the actual change in dividends at time t, $\text{EARN}_{t,i}$ is the earnings at time t, $\text{DIV}_{t-1,i}$ is the dividend level at $t-1$, and $\text{MV}_{t-1,i}$ is the market value of equity at time $t-1$. The coefficients $\beta_{1,i}$, $\beta_{2,i}$, and $\beta_{3,i}$ are the parameters of the Lintner (1956) model that we estimate for each firm over a pre-forecast period. Table 3 presents the results of Fama–MacBeth style regressions obtained by first estimating year-by-year annual average coefficients and then estimating time-series averages for each coefficient.[6] We estimate the standard errors by using the Newey–West standard error correction method. Consistent with other studies that estimate Lintner model regressions, the control variables are the repurchase yield (to assess the substitution effect between dividends and repurchases as in Grullon and Michaely (2002)), the logarithm of size, the return on assets, the volatility of return on assets, the nonoperating income scaled by total assets, and the debt-to-total assets ratio.

Our results show that litigation risk has a negative effect on the dividend forecast error even after we control for firm characteristics. All three proxies of litigation risk are negatively related to the dividend forecast error. The average regression coefficient of LAWSUIT_DUMMY is equal to −0.010, the average regression coefficient of LITIGATION_LIKELIHOOD is equal to −0.038 and the average regression coefficient of LITIGATION_INTENSITY is −0.016. All these coefficients are significantly different from zero. Overall, the results of Table 3 provide evidence that dividend-paying firms reduce dividend payments compared to their expected values when litigation risk is high.

B. The Effect of Litigation Risk on the Corporate Payout Decision: Fama–MacBeth Logit Regressions

Having established a deviation from the expected dividend payout due to litigation risk, we now examine the role of litigation risk in the cross-sectional and temporal variation of the number of firms distributing cash to shareholders by paying dividends and repurchasing shares. Similar to Fama and French (2001), we estimate a logit model explaining the probability that a firm is a dividend payer. The dependent variable is an indicator variable that assumes the value of 1 if the

[6]We estimate Fama–MacBeth to ensure comparability between the results of our study and many predominant studies on payout policy (e.g., Grullon and Michaely (2002), Grullon, Michaely, and Swaminathan (2002), and Hoberg and Prabhala (2009)). Fama–Macbeth regressions (Table 10) reduce the effect of cross-correlated residuals.

TABLE 3

Litigation Risk and Dividend Forecast Error

Table 3 reports average estimates of cross-sectional regressions of the dividend forecast error on several factors for a sample of U.S. firms. We define the dividend forecast error as $ERROR_{t,i} = \left[\Delta DIV_{t,i} - (\beta_{1,i} + \beta_{2,i} EARN_{t,i} + \beta_{3,i} DIV_{t-1,i})\right] / MV_{t-1,i}$ where $\Delta DIV_{t,i}$ is the actual change in dividends at time t, $EARN_{t,i}$ is the earnings at time t, $DIV_{t-1,i}$ is the dividend level at $t-1$, and $MV_{t-1,i}$ is the market value of equity at time $t-1$. The coefficients $\beta_{1,i}$, $\beta_{2,i}$, and $\beta_{3,i}$ are the parameters of Lintner's (1956) model that have been estimated for each firm over a preforecast period. To be included in the sample, each firm must have paid dividends continuously over the entire preforecast period. If the absolute value of the forecasting error is greater than 5%, then the observation is eliminated to reduce the effect of extreme values. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. RYIELD is the total expenditure on share repurchases at time t scaled by the market value of equity at time $t-1$. log(MV) is the logarithm of the market value of equity. SD(EARNINGS/ASSETS) is the standard deviation of Earnings/Assets over the 3 years prior to the firm-year observation. NOPER is the nonoperating income before depreciation scaled by the book value of the total assets. LEVERAGE is the book value of total long-term debt plus the book value of total short-term debt scaled by the book value of the total assets. RYIELD, NOPER, and DEBT have been truncated at the 99th percentile. ROA has been truncated at the 1st and 99th percentiles. We use Fama–MacBeth type regressions to estimate the coefficients and standard errors. First, we estimate year-by-year annual average coefficients. Then, we estimate time series averages for each coefficient. We estimate the standard errors using the Newey–West standard error correction method. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	−0.0010 [−2.46]**		
LITIGATION_LIKELIHOOD		−0.0038 [−3.30]***	
ln(LITIGATION_INTENSITY)			−0.0016 [−2.03]**
NOPER	0.0154 [1.39]	0.0147 [1.37]	0.0164 [1.39]
EARNINGS/ASSETS	0.0098 [2.41]**	0.0103 [2.55]**	0.0090 [2.13]**
RYIELD	−0.0002 [−0.37]	−0.0004 [−0.44]	−0.0008 [−0.49]
LEVERAGE	−0.0031 [−1.90]*	−0.0032 [−1.91]*	−0.0031 [−1.88]*
log(MV)	0.0002 [2.44]**	0.0003 [2.67]***	0.0002 [1.98]*
SD(EARNINGS/ASSETS)	−0.0164 [−2.07]**	−0.0160 [−2.05]**	−0.0163 [−2.06]**
Intercept	0.0003 [0.59]	0.0001 [0.26]	0.0005 [0.93]
N	18,674	18,674	18,674

firm pays a dividend in year t and 0 otherwise. In addition to the market-to-book ratio, asset growth, profitability, NYSE size percentile, and industry-fixed effects, our control variables include systematic and idiosyncratic risk. Hoberg and Prabhala (2009) show that both systematic and idiosyncratic risks have a negative and significant relation to the probability of paying dividends. It is therefore important to include these risk variables to verify that litigation risk is not subsumed by them. The reported coefficients and t-statistics are Fama and MacBeth (1973) time-series averages of the annual cross-sectional logit coefficients. The standard errors for the logit coefficients are adjusted for autocorrelation using Newey and West (1987).

In Table 4, we estimate Fama and MacBeth style logit regressions in which the dependent variable is an indicator equal to 1 when a firm pays dividends, and 0 otherwise. In addition to the control variables listed above, each regression specification contains one of our three proxies of litigation risk. All three litigation

TABLE 4

Litigation Risk and the Incidence of Dividend Payments

Table 4 reports Fama and MacBeth (1973) style estimates of a logit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is equal to 1 for dividend-paying firms and is 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all types of corporate lawsuits. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry excluding the observed firm divided by the total number of firms in the same industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	−0.1598 [−1.88]*		
LITIGATION_LIKELIHOOD		−0.4624 [−2.37]**	
ln(LITIGATION_INTENSITY)			−1.5691 [−4.40]***
MARKET-TO-BOOK	−0.2579 [−6.28]***	−0.2531 [−6.17]***	−0.2572 [−6.06]***
ASSET_GROWTH	−1.3947 [−6.63]***	−1.4410 [−6.51]***	−1.4004 [−6.57]***
EARNINGS/ASSETS	5.1885 [11.69]***	5.2402 [13.87]***	5.1915 [11.50]***
STOCK_RETURNS	0.0376 [1.52]	0.0390 [1.60]	0.0372 [1.60]
NYSE_PERCENTILE	0.1138 [9.32]***	0.1082 [10.49]***	0.1125 [8.73]***
SYSTEMATIC_RISK	−26.6918 [−3.33]***	−27.6080 [−3.37]***	−26.5305 [−3.33]***
IDIOSYNCRATIC_RISK	−89.8993 [−16.82]***	−90.1900 [−16.53]***	−89.8724 [−16.81]***
Intercept	1.5420 [7.36]***	1.6216 [6.56]***	1.6292 [8.09]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

risk proxy coefficients are negative and statistically significant. This result shows that firms at a higher risk of litigation are less likely to pay dividends. The sign and significance of the control variables are consistent with those reported in Hoberg and Prabhala (2009). More profitable firms are more likely to pay dividends. Firms with larger expected future growth (larger M/B) and greater past asset growth are less likely to pay. Systematic and idiosyncratic risks are negatively related to the probability of disbursing cash to shareholders in form of dividends or share repurchases. Our findings show that litigation risk matters even when controlling for systematic and idiosyncratic risk.

In Table 5, we examine the effect of litigation risk and other firm-specific variables on the share repurchasing decision with Fama and MacBeth regressions in which the dependent variable is 1 if the firm is a net repurchaser of shares (it repurchases shares in excess of shares issued), and 0 otherwise. All three litigation proxies are positive and significant at the 1% level. This result suggests that firms are more likely to repurchase more shares when at higher litigation risk. Aside from systematic risk, which loses its significance, all other control variables provide results consistent with the dividend regressions presented in Table 4. When comparing the results of systematic risk in Tables 4 and 5, it appears that systematic risk affects dividend policy but not the repurchasing

TABLE 5

Litigation Risk and the Incidence of Share Repurchasing

Table 5 reports Fama and MacBeth (1973) style estimates of a logit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is equal to 1 for firms that are net repurchasers of common shares and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all types of corporate lawsuits. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry excluding the observed firm divided by the total number of firms in the same industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	0.0961 [2.88]***		
LITIGATION_LIKELIHOOD		0.4787 [2.12]**	
ln(LITIGATION_INTENSITY)			0.6791 [2.54]**
MARKET-TO-BOOK	−0.1530 [−5.01]***	−0.1461 [−4.86]***	−0.1552 [−4.89]***
ASSET_GROWTH	−2.2932 [−8.50]***	−2.3429 [−8.78]***	−2.2975 [−8.43]***
EARNINGS/ASSETS	3.8554 [9.86]***	3.9415 [10.56]***	3.8741 [9.75]***
STOCK_RETURNS	−0.0406 [−1.41]	−0.0450 [−1.54]	−0.0412 [−1.39]
NYSE_PERCENTILE	0.1536 [8.97]***	0.1469 [8.48]***	0.1547 [9.32]***
SYSTEMATIC_RISK	−24.7352 [−3.87]**	−24.2817 [−3.80]***	−23.9474 [−3.75]***
IDIOSYNCRATIC_RISK	−33.1653 [−7.35]***	−33.3252 [−7.36]***	−33.3442 [−7.30]***
Intercept	−0.6774 [−2.77]***	−0.6726 [−2.70]***	−0.7509 [−3.18]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

decision. More importantly, a comparison with Table 4 shows that litigation risk has an opposite effect on the decision to pay dividends and the decision of repurchasing shares.

Due to the opposite effect of litigation risk on dividend and repurchasing decisions, it is important to see how the risk of lawsuits affects the overall decision to pay out shareholders. Similar to Grullon et al. (2011), we estimate Fama and MacBeth (1973) logit regressions in which the dependent variable is a net payout firm indicator. A firm is a net payer if it pays dividends and/or repurchases shares in excess over shares issued in the same year. Table 6 presents the results. All three litigation proxies have a negative coefficient but only the litigation intensity industry proxy is statistically significant. Overall, it appears that companies at higher risk of litigation shift from dividends to share repurchases with a limited effect on their decision to omit all types of payouts. The sign and significance of the control variables are consistent with those reported in Hoberg and Prabhala (2009) for dividends. More profitable firms are more likely to pay dividends and buy back shares. Firms with larger expected future growth (larger M/B) and greater past asset growth are less likely to pay. Systematic and idiosyncratic risks are negatively related to the probability of disbursing cash to shareholders.

TABLE 6

Litigation Risk and Payout Probability

Table 6 reports Fama and MacBeth (1973) style estimates of a logit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is equal to 1 for firms that are dividend payers and/or net repurchasers of common shares, and is 0 otherwise. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	−0.0019 [−0.03]		
LITIGATION_LIKELIHOOD		0.4090 [1.38]	
ln(LITIGATION_INTENSITY)			−0.6021 [−1.95]*
MARKET-TO-BOOK	−0.1666 [−7.06]***	−0.1600 [−7.01]***	−0.1682 [−6.57]***
ASSET_GROWTH	−1.5447 [−7.05]***	−1.6185 [−7.07]***	−1.5553 [−6.81]***
EARNINGS/ASSETS	3.0160 [5.87]***	3.1249 [6.06]***	3.0409 [5.68]***
STOCK_RETURNS	−0.0365 [−0.89]	−0.0398 [−0.93]	−0.0375 [−0.90]
NYSE_PERCENTILE	0.1681 [20.86]***	0.1632 [18.69]***	0.1691 [21.17]***
SYSTEMATIC_RISK	−25.0735 [−4.63]***	−25.3418 [−4.49]***	−24.4547 [−4.42]***
IDIOSYNCRATIC_RISK	−48.0184 [−10.34]***	−48.4241 [−10.19]***	−47.9510 [−10.17]***
Intercept	2.6564 [7.71]***	2.7326 [7.70]***	2.6564 [8.24]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

A comparison of the results of Table 6 with those of Tables 4 and 5 suggests that firms that perceive to be at higher risk of litigation partially substitute dividends with share repurchases. This is consistent with our hypothesis that firms exposed to litigation risk place a higher value on the flexibility offered by share repurchases. While some high-litigation risk firms do not pay out shareholders in any way, many of them change the payout mix shifting their cash distribution to more aggressive share repurchase activity while placing less emphasis on dividends.

Our litigation risk proxies have also a relevant economic significant effect on the decision to pay dividends and repurchase shares. For example, a change in LITIGATION_LIKELIHOOD from its 25th to its 75th percentile (from 0.0752 to 0.2088), while keeping all other independent variables at the median, decreases the probability that a firm will pay dividends by 10.03% and increases the probability that it will buy back shares by 11.96% relative to the mean.

C. The Effect of Litigation Risk on the Amount That Firms Distribute to Shareholders in Form of Dividends or Share Repurchases

In addition to influencing the decision to pay shareholders, litigation risk is likely to affect the dollar amount that firms decide to distribute to shareholders in

TABLE 7

Litigation Risk and Dividend Yield

Table 7 reports Fama and MacBeth (1973) style estimates of a Tobit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is the dividend yield, the firm's annual dividend payment divided by its year-end market value. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	−0.0056 [−2.63]***		
LITIGATION_LIKELIHOOD		−0.0062 [−2.60]***	
ln(LITIGATION_INTENSITY)			−0.0378 [−4.86]***
MARKET-TO-BOOK	−0.0069 [−16.28]***	−0.0069 [−16.86]***	−0.0068 [−15.97]***
ASSET_GROWTH	−0.0251 [−6.24]***	−0.0266 [−5.63]***	−0.0254 [−6.29]***
EARNINGS/ASSETS	0.0959 [10.88]***	0.0993 [10.24]***	0.0958 [10.61]***
STOCK_RETURNS	−0.0008 [−1.88]*	−0.0007 [−1.75]*	−0.0007 [−1.78]*
NYSE_PERCENTILE	0.0016 [6.84]***	0.0016 [6.40]***	0.0015 [7.27]***
SYSTEMATIC_RISK	−0.9967 [−3.69]***	−1.0162 [−3.72]***	−1.0018 [−3.75]***
IDIOSYNCRATIC_RISK	−1.4206 [−16.53]***	−1.4010 [−16.38]***	−1.4188 [−16.58]***
Intercept	0.0346 [9.07]***	0.0343 [8.89]***	0.0373 [10.75]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

form of dividends or share repurchases. Similar to Grullon et al. (2011), we estimate Tobit regressions in which the dependent variables are i) the net payout yield (the sum of the firm's annual dividend payment amount and the firm's annual net repurchase amount, all divided by year-end market capitalization), ii) the dividend yield (the firm's annual dividend payment amount divided by year-end market capitalization), and iii) the share repurchase yield (the firm's annual net repurchase amount divided by year-end market capitalization). We use Tobit regressions because we have a mass of firm-year observations equal to 0 due to firms that do not distribute cash to shareholders in a given year.[7]

Table 7 presents the results of Tobit regressions with the net payout yield as the dependent variable. None of the litigation risk proxies is statistically significant. This result does not provide support for a significant influence of litigation risk on total payout yields. The sign and significance of the control variables are consistent with the findings of previous studies. In Table 8, we present the results for the Tobit

[7]For robustness, we have also estimated standard panel regressions for dividend yield, repurchase yield, and payout yield including firm and year fixed effects. The results are qualitatively similar to the results obtained by the Tobit regressions. These results are included in the Supplementary Material.

TABLE 8

Litigation Risk and Net Repurchase Yield

Table 8 reports Fama and MacBeth (1973) style estimates of a Tobit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is the repurchase yield, the firm's annual total net repurchase amount (repurchases less equity issuances) divided by its year-end market value. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_ LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	0.0029 [2.79]***		
LITIGATION_LIKELIHOOD		0.0190 [3.60]***	
ln(LITIGATION_INTENSITY)			0.0385 [4.38]***
MARKET-TO-BOOK	−0.0039 [−5.34]***	−0.0036 [−5.24]***	−0.0040 [−5.34]***
ASSET_GROWTH	−0.0626 [−8.58]***	−0.0640 [−8.90]***	−0.0620 [−8.68]***
EARNINGS/ASSETS	0.1071 [9.24]***	0.1095 [10.05]***	0.1065 [9.19]***
STOCK_RETURNS	−0.0001 [−0.14]	−0.0003 [−0.35]	−0.0002 [−0.22]
NYSE_PERCENTILE	0.0033 [7.10]***	0.0031 [6.52]***	0.0033 [7.49]***
SYSTEMATIC_RISK	−0.4677 [−1.91]*	−0.4842 [−2.06]**	−0.4588 [−1.88]*
IDIOSYNCRATIC_RISK	−0.7812 [−7.51]***	−0.7775 [−7.50]***	−0.7887 [−7.56]***
Intercept	−0.0053 [−1.00]	−0.0058 [−1.13]	−0.0076 [−1.51]
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

regressions with the dividend yield as the dependent variable. For these regressions, all our litigation risk proxies are negative and significant at either the 5% or 1% confidence level after controlling for other variables that affect dividend yield. The results presented in Table 8 clearly show that firms pay lower dividends if they perceive to be at higher risk of litigation.

The difference in results for the litigation risk variables in the total payout yield and dividend yield regression can be explained by the repurchase yield regression results presented in Table 9. After controlling for other firm-specific and risk factors, litigation risk has a positive and significant effect on the dollar amount distributed to shareholders in form of share repurchases. LAWSUIT_DUMMY is positive and significant at the 5% level, while LITIGATION_LIKELIHOOD and LITIGATION_INTENSITY are positive and significant at the 1% level. The litigation risk variables have also an economic significant effect on dividend and repurchase yields. Changing the value of LITIGATION_LIKELIHOOD from its 25th to its 75th percentile, while maintaining all the other variables at their median values, decreases the dividend yield by 7.98% of its mean value and increases the repurchase yield by 5.11% of its mean value.

TABLE 9

Litigation Risk and Payout Yield

Table 9 reports Fama and MacBeth (1973) style estimates of a Tobit model with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is the payout yield, the firm's annual total net payout (dividends plus repurchases less equity issuances) divided by its year-end market value. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	−0.0022 [−1.14]		
LITIGATION_LIKELIHOOD		0.0043 [0.50]	
ln(LITIGATION_INTENSITY)			−0.0016 [−0.19]
MARKET-TO-BOOK	−0.0071 [−11.09]***	−0.0069 [−10.86]***	−0.0071 [−10.96]***
ASSET_GROWTH	−0.0644 [−13.30]***	−0.0662 [−12.40]***	−0.0639 [−13.58]***
EARNINGS/ASSETS	0.1312 [11.22]***	0.1345 [11.62]***	0.1302 [11.20]***
STOCK_RETURNS	−0.0017 [−1.24]	−0.0017 [−1.23]	−0.0017 [−1.21]
NYSE_PERCENTILE	0.0032 [11.80]***	0.0031 [9.95]***	0.0031 [12.71]***
SYSTEMATIC_RISK	−1.1373 [−4.92]***	−1.1711 [−5.16]***	−1.1339 [−5.06]***
IDIOSYNCRATIC_RISK	−1.2459 [−12.64]***	−1.2230 [−12.44]***	−1.2497 [−12.55]***
Intercept	0.0457 [13.60]***	0.0451 [14.22]***	0.0463 [15.71]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

In Table 10, we directly test the substitution between dividends and share repurchases by regressing a measure of payout flexibility in a similar vein to Bonaime et al. (2014). The payout flexibility is defined as a ratio between net share repurchases and total payout and thus expresses the degree of payout substitution between share repurchases and dividends. All 3 proxies for litigation risk are positive and statistically significant at the 1% level, underscoring a significant effect of the exposure to litigation and the likelihood of firms to pay out a larger portion of their earnings in form of share repurchases rather than dividends. The economic significance of this relation is also rather large. Increasing the value of LITIGATION_ LIKELIHOOD from its 25th to its 75th percentile, while maintaining all the other variables at their median values, increases the payout flexibility by 22.62% relative to the mean. The coefficients of the control variables show that companies with higher market-to-book, lower asset growth, higher profitability, and higher idiosyncratic risk are more likely to use share repurchases over dividends.

When jointly analyzing the results of Tables 7–10, it is evident that cash flow risk associated with litigation has a strong influence on the firm's decision to substitute dividends with share repurchases. Firms at a higher risk of litigation tend to decrease

TABLE 10

Litigation Risk and Payout Flexibility

Table 10 reports Fama and MacBeth (1973) style estimates of OLS regressions with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variable is payout flexibility, annual net share repurchase amount divided by the total annual net payout. LAWSUIT_DUMMY is an indicator variable that assumes the value of 1 when a firm is sued the following year, and 0 otherwise. LITIGATION_LIKELIHOOD is the predicted probability of litigation estimated with a probit regression on a sample that includes all corporate lawsuits during our sample period. ln(LITIGATION_INTENSITY) is the logarithm of the sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same SIC industry. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	1	2	3
LAWSUIT_DUMMY	0.0624 [3.31]***		
LITIGATION_LIKELIHOOD		0.1011 [2.99]***	
ln(LITIGATION_INTENSITY)			0.4901 [5.33]***
MARKET-TO-BOOK	0.0406 [8.82]***	0.0418 [9.42]***	0.0396 [8.50]***
ASSET_GROWTH	−0.1506 [−2.57]**	−0.1504 [−2.51]**	−0.1473 [−2.50]**
EARNINGS/ASSETS	−0.1113 [−1.93]*	−0.1090 [−1.84]*	−0.1157 [−1.84]*
STOCK_RETURNS	−0.0009 [−0.14]	−0.0019 [−0.32]	−0.0015 [−0.25]
NYSE_PERCENTILE	0.0055 [0.97]	0.0048 [0.91]	0.0062 [1.11]
SYSTEMATIC_RISK	2.9069 [1.26]	3.0595 [1.31]	3.1603 [1.35]
IDIOSYNCRATIC_RISK	7.1187 [9.66]***	7.1035 [9.38]***	7.0567 [9.81]***
Intercept	0.1953 [3.68]***	0.1915 [3.62]***	0.1606 [3.16]***
Industry dummy	Yes	Yes	Yes
N	35,865	35,865	35,865

their dividend yield and increase their repurchase yield. This substitution explains the nonsignificant effect of litigation risk on the total amount paid out to shareholders as seen in Table 7. Overall, the results shown in these tables provide strong support for our flexibility hypothesis. As firms anticipate a possible shock to future cash flows due to legal fees, indirect litigation costs, and settlement costs, they increase their payout flexibility by modifying their payout mix in favor of share repurchases.

D. Payout Policy at the Resolution of Lawsuits

The enhanced flexibility that high-litigation risk firms obtain by modifying their payout mix in favor of repurchases can then be exploited when litigation costs are incurred. We analyze this empirical question on a sample of settlements and dismissals. From our original sample, we keep only firm-year observations for the years in which a defendant firm experiences the resolution of at least one lawsuit. The two possible lawsuit resolutions in our sample are settlements or dismissals. No litigation in our sample is fully litigated in court, consistent with previous studies on corporate litigations (e.g., Arena and Julio (2015)). If in a given year a firm settles more than one lawsuit, we compute the sum of all the settlement amounts for

that year. The independent variable of interest for this test is SETTLEMENT/$CASH_{t-1}$, obtained by dividing the annual settlement dollar amount by the firm's cash and marketable securities in the previous fiscal year. Firms tend to accumulate cash in anticipation of litigation costs (Arena and Julio (2015)); a potential shortfall can be covered by reducing payouts to shareholders. SETTLEMENT/$CASH_{t-1}$ assumes the value of 0 if all the lawsuits that are resolved in a given year for a defendant firm terminate with dismissals. The only litigation cost that we consider in this test consists of settlement payments. Firms face also other significant litigation costs for which we do not have available data, such as attorney's fees and indirect costs (Engelmann and Cornell (1988)). If anything, limiting this analysis to settlement costs might create a bias against finding significant results.

Table 11 presents the results of our analysis. We examine how settlement costs affect payout yields and changes in payout policy (dividend omissions or initiations, and share repurchase interruptions or initiations). In the first column, we present the results of Fama and Macbeth Tobit regressions with the total payout yield as dependent variable. SETTLEMENT/$CASH_{t-1}$ is negative and significant at the 10% level. Firms that have to pay larger settlements when compared to their cash holdings, tend to pay out less in dividends and repurchases. We then separate dividends and repurchases to verify which of the two drives the

TABLE 11

Payout Policy at the Time of Lawsuit Resolutions

Table 11 presents the results of Fama–MacBeth style regressions on a sample of defendant firms for the years in which at least one of the lawsuits is resolved with a settlement or dismissal. The PAYOUT_YIELD column shows the results of Fama–Macbeth Tobit regressions with the payout yield as dependent variable. The DIVIDEND_YIELD column shows the results of Fama–Macbeth Tobit regressions with the dividend yield as dependent variable. The REPURCHASE_YIELD column shows the results of Fama–Macbeth Tobit regressions with the net repurchase yield as dependent variable. The DIVIDEND_INITIATIONS/OMISSIONS column shows the results of Fama–Macbeth ordered logit regressions with a dependent variable that assumes the value of −1 for dividend omissions, 0 for no changes in dividend policy, and +1 for dividend initiations. The REPURCHASE_INITIATIONS/INTERRUPTIONS column shows the results of Fama–Macbeth ordered logit regressions with a dependent variable that assumes the value of −1 for repurchase program interruptions, 0 for no changes in repurchasing policy, and +1 for repurchase program initiations. We define all the independent variables in the Appendix. We estimate the standard errors using the Newey–West standard error correction method. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Payout Yield	Dividend Yield	Repurchase Yield	Dividend Initiations/ Omissions	Repurchase Initiations/ Omissions
SETTLEMENT/$CASH_{t-1}$	−0.0334	−0.0077	−0.0601	−0.4183	−3.3715
	[−1.97]*	[−1.17]	[−2.56]**	[−1.52]	[−2.53]**
MARKET-TO-BOOK	−0.0018	−0.0071	−0.0042	−0.5607	4.6265
	[−1.99]*	[−2.93]***	[−2.46]**	[−0.54]	[0.98]
ASSET_GROWTH	−0.0760	−0.0406	−0.0776	−4.1060	−20.5576
	[−4.59]***	[−5.20]***	[−12.14]***	[−1.93]*	[−1.90]*
EARNINGS/ASSETS	0.0821	0.0466	0.1632	2.3706	18.8460
	[2.19]**	[1.16]	[3.82]***	[0.95]	[0.82]
STOCK_RETURNS	−0.0011	−0.0020	0.0011	0.0043	0.0046
	[−0.18]	[−0.35]	[0.20]	[0.45]	[0.51]
NYSE_Percentile	0.0031	0.0028	0.0025	−0.3265	−0.8115
	[2.71]**	[3.00]***	[3.99]***	[−1.30]	[−0.88]
SYSTEMATIC_RISK	−0.4193	−0.2231	−1.1275	−169.3614	−494.1198
	[−0.61]	[−0.48]	[−2.23]**	[−1.07]	[−1.17]
IDIOSYNCRATIC_RISK	−1.3504	−1.5747	−1.7269	−79.7322	−96.8060
	[−4.63]***	[−2.46]**	[−4.97]***	[−1.87]*	[−2.41]**
Intercept	0.0461	0.0235	0.0064	1.9903	−8.5327
	[7.81]***	[1.78]	[0.83]	[0.81]	[−1.02]
Industry dummy	Yes	Yes	Yes	Yes	Yes
N	8,214	8,214	8,214	8,214	8,214

reduction in the payouts to shareholders. The settlement variable is not significant in the dividend yield regressions but is negative and significant at the 5% level in the repurchase yield regressions. These results corroborate the findings obtained in the previous tests. Firms at higher risk of litigation increase repurchases and decrease dividends to increase payout flexibility. They then take advantage of this added flexibility to quickly reduce repurchases at the time of the settlement to free up the needed cash.

When we examine dividend and repurchase interruptions and initiations we obtain a similar picture. We generate the dependent variables for the tests presented in the last 2 columns of Table 11 by comparing the firm's payout policy in the year of the lawsuit resolution and the payout policy in the previous year. For dividend initiations and omissions, we create an indicator variable that assumes: i) the value of minus 1 if the firm does not pay dividends in the year of the lawsuit resolution but paid dividends in the previous year, ii) the value of 0 if there is no change (i.e., the firms continues dividend payments or does not pay dividends in either year), and iii) the value of plus 1 if the firm pays dividends in the year of the lawsuit resolution but not in the previous year. We create the repurchase initiation/interruption indicator variable in a similar way. We use these two trinomial indicator variables to estimate Fama and MacBeth-style ordered logits. SETTLEMENT/CASH_{t-1} is not significant for dividend changes but is negative and significant at the 5% level for repurchase initiations and interruptions. Firms that have to pay larger settlements in comparison to their cash holdings are more likely to stop repurchasing shares to free up cash.

E. Spillover Effects

As an alternative to using firm or industry characteristics to form proxies of litigation risk, we also employ a spillover effects methodology. Given that litigation risk is difficult to measure at the firm level and there is some concern that litigation risk can vary with firm performance, we use industry litigation events as a measure of variation in litigation risk. Gande and Lewis (2009) find evidence of strong spillover effects in corporate litigation. They find that lawsuits in an industry signal a higher probability of another lawsuit within the same industry. They find that peer firms have significant, negative stock price reactions to the announcement of a litigation event for firms in the same industry.

Based on the evidence of spillover effects, we construct an industry litigation dummy variable set to 1 in a given year if a firm in a 3-digit SIC industry enters a litigation event. To avoid possible bias, we exclude the firm involved in litigation from the sample. We then aggregate firm characteristics at the industry level and estimate the payout policy regressions as before. The results are meant to capture industry-level changes in payout policy in response to an industry litigation event. Table 12 reports the results. The results of the spillover regressions are similar to the firm-level regressions presented earlier. Column 1 of Table 12 shows that firms in industries where litigation risk has increased are less likely to initiate a dividend for the first time. Column 2 shows that firms are more likely to initiate share repurchases during an industry litigation event. The remaining three columns report the yield regressions. As in the previous results, we find that when litigation risk is

TABLE 12

Spillover Effects: Same-Industry Litigation Events

Table 12 reports regression estimates from industry payout policy regressions. Industry membership is based on 3-digit SIC codes. The firm characteristics, including the payout measures, are aggregated at the industry level each year. Firms that are involved in actual litigation events are not included in the sample. The litigation dummy is set equal to 1 in years when a firm within the same 3-digit SIC industry has a lawsuit initiated against it in that calendar year. The reported *t*-statistics are based on robust standard errors, clustered at the 3-digit SIC industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Dividend Indicator	Repurchase Indicator	Dividend Yield	Repurchase Yield	Payout Yield
INDUSTRY_LITIGATION	−0.5844	0.2967	−0.0070	0.0242	−0.1312
	[−4.317]***	[2.318]**	[−5.556]***	[1.524]	[−0.279]
MARKET-TO-BOOK	−0.1793	−0.0801	−0.0793	−0.0357	−0.1150
	[−1.261]	[−0.797]	[−2.640]***	[−2.542]**	[−3.403]***
ASSET_GROWTH	−0.0008	−0.0009	0.0000	−0.0001	−0.0000
	[−0.177]	[−0.297]	[0.049]	[−0.219]	[−0.048]
EARNINGS/ASSETS	0.4067	0.9165	0.5606	0.2082	0.7688
	[0.308]	[0.982]	[2.008]**	[1.597]	[2.448]**
STOCK_RETURNS	−0.5532	−0.4951	−0.1015	−0.0347	−0.1363
	[−2.141]**	[−2.713]***	[−1.860]*	[−1.362]	[−2.220]**
NYSE_DECILE	0.1575	0.0500	0.0206	0.0036	0.0242
	[1.654]*	[0.743]	[1.022]	[0.389]	[1.070]
SYSTEMATIC_RISK	13.3962	25.1635	−1.2537	0.7542	−0.4995
	[0.771]	[2.050]**	[−0.341]	[0.440]	[−0.121]
IDIOSYNCRATIC_RISK	−28.3421	−26.9479	−1.2071	−0.3736	−0.0335
	[−2.601]***	[−2.903]***	[−4.177]***	[−0.348]	[−0.013]
Intercept	5.5287	4.3048	0.0815	0.0432	0.1248
	[9.592]***	[10.575]***	[0.670]	[0.760]	[0.911]
N	5,768	5,768	5,768	5,768	5,768

higher, the dividend yield decreases, the repurchase yield increases, and the change in the total payout yield does not change significantly. The results from the spillover analysis suggest that our previous results are not driven by our firm-level measures of litigation risk.

IV. Robustness Tests

A. Propensity Score Matching

Our results show that firms facing litigation significantly modify their payout policy. An alternative explanation for our results is that there might be significant differences between firms targeted by lawsuits and nonsued firms; these differences could affect payout policy. Another concern is that an external shock, such as a significant drop in stock price, could impact litigation probability and payout levels concurrently. To address these concerns, we implement a propensity score match strategy, each employing a different matching technique. The first approach is a pure propensity score match, where a treated firm (a firm sued in a given year) is matched with a nonsued firm with the closest propensity score. The propensity scores are based on a probit regression that models the probability of being sued as a function of the observable variables of the payout regressions. The variable MATCH_ALL is set equal to 1 in the year that a control firm is identified as a matched firm. The second approach uses a stratified matching approach, where we match on propensity scores

but require that the matched observation be in the same year as the treated firm. A firm matched on that basis has the variable MATCH_YEAR set equal to 1. In the third approach, we match on propensity scores requiring the control firm to be in the same industry and same year as the treated firm. That indicator variable is called MATCH_YEAR_INDUSTRY. The 3 approaches complement each other as the MATCH_ALL variable allows for the best match on the variables, while the stratified approaches also match on year and industry with the trade-off of a slightly less precise match on propensity scores. Table 13 presents the results of Fama–MacBeth payout regressions (dividend yield, repurchase yield, and payout yield) on the matched samples. The coefficients for the matched treatment variables are not statistically significant in any specifications, suggesting that differences in characteristics across sued and nonsued firms do not explain the differences we estimate in payout behavior.

B. Sample Period, Out-of-Sample Predicted Probabilities, and Firm Fixed Effects

Our sample period includes the years of the financial crisis and great recession (2008–2009). During the recession, both systematic and idiosyncratic risk increased significantly while corporate payouts declined. Even though our sample excludes financial firms, which were the most affected by the financial crisis, there is the possibility that the relation between litigation risk and payout for those 2 years is biased by the large rise in other forms of risk that affected payout policy (Floyd, Li, and Skinner (2015)), and the relation between the incidence of lawsuits and other variables that are strongly influenced by the recessionary environment. As a robustness check, we replicate all the tests of this study excluding the recession years. All the coefficients of the regressions maintain their sign and significance.

The predicted probability litigation risk measure used in this study, LITIGATION_LIKELIHOOD, consists of in-sample predicted probabilities obtained by estimating a lawsuit probit model. As a robustness check, we also construct an out-of-sample measure. We generate the first out-of-sample measure by estimating a probit regression each year using data from all previous years and applying the parameter estimates to the following year's explanatory variables to obtain predicted probabilities. For example, to obtain predicted probabilities for firms in 2005, we estimate the probit model over the period 2000 to 2004 and apply the parameter estimates to the information in 2005 and store the predicted probabilities. We repeat our multivariate analysis using the predicted probabilities so generated. The results are consistent with those presented in the previous section.

In the tests presented in the previous sections of the article, we include industry-fixed effects. To exploit within-firm variation in yields, we replicate the dividend, repurchase, and net payout yield regressions using panel regression models with firm fixed effects. The results are qualitatively similar to the results obtained with the Tobit model with industry-fixed effects reported in Tables 7–9.[8]

[8]All the results of these robustness tests are included in the Supplementary Material.

TABLE 13

Propensity Score Matching Regressions

Table 13 reports Fama and MacBeth (1973) style estimates of OLS regressions with Newey–West *t*-values in square brackets. One cross-sectional model is estimated per year. The dependent variables are dividend yield, repurchase yield, and payout yield. The variable MATCH_ALL is set equal to 1 when a control firm is identified as a matched firm based on propensity scores obtained with a probit regression that models the probability of being sued as a function of the observable variables of the payout regressions. The variable MATCH_YEAR is set to 1 using a stratified matching approach, where we match on propensity scores but require that the matched observation be in the same year as the treated firm. The variable MATCH_YEAR_INDUSTRY is set to 1 for a firm matched with propensity with the requirement for the control firm to be in the same industry and same year as the treated firm. Control variables are IDIOSYNCRATIC_RISK, SYSTEMATIC_RISK, MARKET-TO-BOOK_RATIO, ASSET_GROWTH, EARNINGS_TO_ASSETS, STOCK_RETURNS, and NYSE_PERCENTILE to which a firm's market capitalization belongs. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Variables	Dependent Variable								
	Dividend Yield			Repurchase Yield			Payout Yield		
	1	2	3	4	5	6	7	8	9
MATCH_ALL	−0.0002	–	–	−0.0002	–	–	−0.0005	–	–
	[−0.33]	–	–	[−0.29]	–	–	[−0.89]	–	–
MATCH_YEAR	–	−0.0003	–	–	−0.0008	–	–	−0.0014	–
	–	[−0.99]	–	–	[−0.44]	–	–	[−0.43]	–
MATCH_YEAR_INDUSTRY	–	–	−0.0019	–	–	−0.0003	–	–	−0.0020
	–	–	[−0.92]	–	–	[−0.40]	–	–	[−1.02]
MARKET-TO-BOOK	−0.0009	−0.0009	−0.0009	−0.0005	−0.0005	−0.0005	−0.0013	−0.0013	−0.0013
	[−6.75]***	[−6.68]***	[−6.73]***	[−1.13]	[−1.12]	[−1.11]	[−2.44]**	[−2.42]**	[−2.42]**
ASSET_GROWTH	−0.0010	−0.0010	−0.0010	−0.0032	−0.0031	−0.0032	−0.0045	−0.0045	−0.0046
	[−3.22]***	[−3.25]***	[−3.22]***	[−4.94]***	[−4.94]***	[−4.97]***	[−4.75]***	[−4.75]***	[−4.76]***
EARNINGS/ASSETS	0.0060	0.0059	0.0059	0.0127	0.0127	0.0128	0.0208	0.0207	0.0209
	[3.13]***	[3.19]***	[3.12]***	[2.43]**	[2.41]**	[2.39]**	[2.77]***	[2.77]***	[2.73]***
STOCK_RETURN	−0.0005	−0.0005	−0.0005	−0.0002	−0.0002	−0.0002	−0.0006	−0.0006	−0.0007
	[−1.81]*	[−1.84]*	[−1.79]*	[−0.37]	[−0.35]	[−0.40]	[−1.36]	[−1.32]	[−1.38]
NYSE_PERCENTILE	0.0005	0.0005	0.0006	0.0019	0.0019	0.0019	0.0023	0.0023	0.0023
	[6.96]***	[5.97]***	[6.62]***	[6.42]***	[6.33]***	[6.21]***	[7.27]***	[7.36]***	[7.36]***
SYSTEMATIC_RISK	−0.5167	−0.5160	−0.5232	−0.3063	−0.3064	−0.3160	−0.8226	−0.8222	−0.8403
	[−6.74]***	[−6.69]***	[−6.66]***	[−2.22]**	[−2.21]**	[−2.41]**	[−5.09]***	[−5.10]***	[−5.60]***
IDIOSYNCRATIC_RISK	−0.2050	−0.2052	−0.2022	−0.1292	−0.1279	−0.1281	−0.3084	−0.3071	−0.3048
	[−12.72]***	[−12.65]***	[−12.12]***	[−5.74]***	[−5.68]***	[−5.58]***	[−8.62]***	[−8.68]***	[−8.23]***
N	37,369	37,369	37,369	37,369	37,369	37,369	37,369	37,369	37,369

V. Conclusions

Litigation is an important source of significant, negative cash flow shocks for firms. As financial distress is costly and litigation can lead to higher cash flow volatility and a higher probability of significant cash outflows, firms have an incentive to manage litigation risk and litigation cash flow shocks. Litigation risk offers a unique empirical opportunity to investigate how firms tailor payout policy over time to anticipate future litigation costs and then respond to them when those costs are incurred. We find that firms manage litigation risk by saving cash through modifications to their payout policy by substituting repurchases for dividends when faced with significant litigation risks. Share repurchase programs essentially offer corporations an option that can be exercised to effectively manage litigation risk and cover lawsuit costs when necessary. Firms are likely to pay fewer dividends and buy back more shares if they perceive to be at higher risk of litigation. This payout strategy provides firms with the flexibility to quickly reduce payments to shareholders and save cash at the time of the settlement when cash holdings are not sufficient.

The results of this study show that the legal environment has a strong influence on how corporations set their payout policy, which, in turn, has important implications on shareholder returns and profit sharing throughout the economy. Our findings also provide a very clear empirical validation of theoretical models based on the complementarity of traditional financial risk management hedging strategies and payout policy (Froot and Stein (1998), Bolton et al. (2011)) in response to more general cash flow shocks. Firms use their payout policy to hedge against important cash flow risks. Our results also lend support to recent theories of dividend policy focusing on second-moment effects (Michaely et al. (2019)).

Appendix. Variable Definitions and Sources

ASSET_GROWTH: Percent growth in assets from year $t-1$ to year t. Source: Compustat.

EARNINGS/ASSETS: Earnings before extraordinary items plus interest expense plus income statement deferred taxes divided by assets. Source: Compustat.

IDIOSYNCRATIC_RISK: A firm's idiosyncratic risk is the standard deviation of residuals from a regression of its daily excess stock returns (raw returns less the riskless rate) on the market factor (i.e., the value-weighted market return less the riskless rate). One firm-year observation of idiosyncratic risk is computed using firm-specific daily stock returns from 1 calendar year. Source: CRSP.

LAWSUIT_DUMMY: Indicator variable equal to 1 when the firm is sued in the following year and 0 otherwise. Source: Audit Analytics.

LITIGATION_INTENSITY: The sum of all securities litigation events from Audit Analytics in the firm's 3-digit SIC industry divided by the total number of firms in the same industry. Source: Audit Analytics.

log(MV): Natural logarithm of the market value of equity. Source: CRSP.

MARKET_TO_BOOK: Book assets minus book equity plus market equity all divided by book assets. Source: Compustat.

LEVERAGE: Book value of total long-term debt plus the book value of total short-term debt scaled by the book value of the total assets. Source: Compustat.

NOPER: Nonoperating income before depreciation scaled by the book value of the total assets. Source: Compustat.

NYSE_PERCENTILE: NYSE market capitalization percentile that is the fraction of NYSE firms having equal or smaller capitalization than firm i in year t. Source: CRSP.

PAYOUT_FLEXIBILITY: Annual dollar amount spent on net equity stock repurchases divided by the annual dollar amount of total net payout (dividend plus net repurchases). Source: Compustat.

LITIGATION_LIKELIHOOD: Predicted probability of litigation estimated with a probit regression on a sample that includes all types of corporate lawsuits. Source: CRSP and Audit Analytics.

SECURITY_LITIGATION_LIKELIHOOD: Predicted probability of litigation estimated with a probit regression on a sample that includes all class action security lawsuits. Source: CRSP and Audit Analytics.

RYIELD: Total expenditure on share repurchases at time t scaled by the market value of equity at time $t - 1$. Source: Compustat.

SD(EARNINGS/ASSETS): Standard Deviation of Earnings/Assets for the 3 years prior to the firm-year observation. Source: Compustat.

STOCK_RETURNS: Annual cumulative abnormal stock returns calculated using monthly returns (return of stock i minus the CRSP market value-weighted returns). Source: CRSP.

SYSTEMATIC_RISK: The standard deviation of the predicted values from a regression of a firm's daily excess stock returns on the market factor (the value-weighted market return less the riskless rate). Source: CRSP.

Supplementary Material

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