

## **Internet Appendix**

### **Does Shareholder Litigation Risk Cause Public Firms to Delist? Evidence from Securities Class Action Lawsuits**

Internet Appendix IA1 presents robustness tests for the findings in Table 4 on the relationship between SCA lawsuits and delisting propensity.

In Panel A, instead of using OLS, we estimate duration and probit models, respectively. In Columns (1) and (2), the dependent variable is the hazard ratio for the Cox regression, which is the probability that a firm will delist in the next unit of time. The advantage of using survival models is that they can account for both the event occurrence and the time to the event (Fama and French, 2004). Furthermore, a survival approach is useful to examine censored data and time-series data with different time horizons (Shumway, 2001). In Column (2), we include variables that capture the industry sales growth rate and real GDP growth rate to control for industry conditions and economy-wide effects. Consistent with the OLS estimate, the hazard ratio is positively and statistically significantly related to the delisting propensity. Thus, the probability of delisting increases following SCA lawsuits. In Columns (3)-(6), we employ a probit model instead of the Cox model. The coefficients on  $\mathbb{1}(SCA)$  remain positive and statistically and economically significant in this alternative model specification.

Panel B addresses the potential confounding effects of the 2008 global financial crisis and the bursting of the dotcom bubble. During these crisis periods, the likelihood of litigation and of delisting increases. While the baseline model addresses this by incorporating industry-year fixed effects, Panel B further examines whether the results are robust to the exclusion of these periods. In Column (1), we remove observations for the years 2001 and 2002, representing the dotcom bubble. In Column (2), we remove observations for the global financial crisis period of 2007–2008. In Column (3), we remove observations for both the periods of the dotcom bubble and the financial crisis. We find consistently positive and statistically significant coefficients on  $\mathbb{1}(SCA)$ , indicating a positive relationship between SCA litigation and firms' delisting propensity.

In the third robustness analysis, we consider the effect of corporate governance on firms' delisting decisions. Firms may be incentivized to delist, for example via a leveraged buy-out, not to lower frivolous litigation risk but to strengthen managerial oversight with a more concentrated ownership structure (Muscarella and Vetsuypens, 1990). To address this alternative rationale for delisting, we augment the baseline specification with additional controls for governance variables, including governance (G\_INDEX) and entrenchment (E\_INDEX) indices, and the percentage of institutional ownership to reflect the firm's ownership structure (*INSTITUTIONAL\_HOLDINGS*). The results in Panel C indicate that the coefficients on  $1(SCA)$  remain positive and statistically significant across the three models controlling for the governance variables.

In conclusion, regardless of the econometric design we use to estimate litigation risk, of the exclusion of crisis periods, or of explicitly controlling for governance effects, the results show a statistically significant and positive relation between the occurrence of SCA litigation and firms' delisting propensity.

## References

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### Internet Appendix IA1: Robustness tests on the relation between SCA litigation and firms' delisting propensity

This table reports robustness tests on the relation between SCA litigation and firms' delisting propensity. The dependent variable is  $\mathbf{1}(DELIST)$ , a dummy variable that equals one if the firm delists from a stock exchange in a given year, and zero otherwise. In Panel A, we employ Cox and probit models. In Panel B, we run the regressions on various subsample periods. Column (1) removes the dotcom bubble years of 2001 and 2002. Column (2) removes the global financial crisis years of 2007 and 2008. Column (3) removes both the dotcom bubble (2001 and 2002) and the global financial crisis (2007 and 2008). In Panel C, we additionally control for the potential effect of firms' corporate governance quality on delisting.  $G\_INDEX$  is the index of governance provisions developed by Gompers, Ishii, and Metrick (2003).  $E\_INDEX$  is the managerial entrenchment index developed by Bebchuk, Cohen, and Ferrell (2009). Data on  $G\_INDEX$  and  $E\_INDEX$  are obtained from the Institutional Shareholder Services database.  $INSTITUTIONAL\_HOLDINGS$  is the fraction of stocks owned by institutional investors. Data on institutional holding are obtained from the 13F filings.  $\mathbf{1}(SCA)$  is a dummy variable that equals one if a firm experiences an SCA lawsuit in a year, and zero otherwise. Lagged control variables are defined in the Appendix. Standard errors clustered at the firm-level are reported in parentheses. Statistical significance at the 1%, 5%, and 10% levels are indicated by \*\*\*, \*\*, and \*, respectively.

#### *Panel A: Cox and probit models*

Dependent variable: $\mathbf{1}(DELIST)$	Cox		Probit	
			Coefficient	Marginal
	(1)	(2)	(2)	(3)
$\mathbf{1}(SCA)$	1.292*** [0.076]	0.825*** [0.044]	0.053	
MARKET_TO_BOOK	-0.254*** [0.014]	-0.130*** [0.008]	-0.008	
FIRM_SIZE	-0.253*** [0.020]	-0.124*** [0.010]	-0.008	
LEVERAGE	1.911*** [0.077]	1.117*** [0.046]	0.072	
RETURN_ON_ASSETS	-1.258*** [0.081]	-0.738*** [0.047]	-0.047	
CASH_FLOW_VOLATILITY	0.954*** [0.229]	0.621*** [0.125]	0.040	
ANALYST_FOLLOWINGS	-0.360*** [0.034]	-0.198*** [0.016]	-0.013	
log(STATE_GDP)	0.034 [0.023]	-0.019* [0.011]	-0.001	
STATE_GDP_GROWTH	0.189 [1.051]	3.082*** [0.349]	0.198	
Observations	72,092	69,432		
Log pseudolikelihood	-18,048	-8,611		

*Panel B: Subsample testing*

<b>Dependent variable: <math>\mathbf{1}(\text{Delist})</math></b>	Exclude dotcom bubble	Exclude financial crisis	Exclude both
	(1)	(2)	(3)
$\mathbf{1}(\text{SCA})$	0.059*** [0.006]	0.063*** [0.006]	0.062*** [0.006]
Control variables	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes
Observations	62,366	63,992	56,926
$R^2$	0.174	0.171	0.173

*Panel C: Controlling for governance*

<b>Dependent variable: <math>\mathbf{1}(\text{Delist})</math></b>	(1)	(2)	(3)
	$\mathbf{1}(\text{SCA})$	0.061*** [0.006]	0.022*** [0.007]
INSTITUTIONAL_HOLDINGS	0.012*** [0.003]		
G_INDEX		0.0003 [0.000]	
E_INDEX			0.00003 [0.001]
Control variables	Yes	Yes	Yes
Industry-year fixed effects	Yes	Yes	Yes
Observations	69,432	19,923	18,479
$R^2$	0.172	0.389	0.438