

Enforcement without Enforcement

- A Difference-in-Difference Study of US Private Enforcements

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Abstract

We look at the disciplining effect of shareholder initiated class-action lawsuits beyond the pure enforcement. We argue that shareholder-initiated class-action lawsuits provide information that help the market assess the value of other – non-affected but similar (“peer”) – companies. We argue and document (using a sample of world company over the 1996-2012 period) that the class action lawsuit against a foreign firm listed in US affects the “peer” firms that are listed in the target firm’s home country and belong to the same industry inducing a collateral damage on their valuation. Firms resort to corporate actions to regain investor trust – reduction of investment and cash holding, increase in payout. The willingness of the firms to engage in such policies is related to both their sensitivity of their valuation loss to the collateral damage as well as to degree they depend on external financing. These corporate policies achieve – at least partially – their goals. Our results contribute to the disciplining effect of corporate law and show how US-based class-action lawsuits have far-reaching effects around the world.

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1 Introduction

Typically, the disciplining effect of the law comes from enforcement. In the corporate arena, the enforcement can be public – e.g., SEC- or Public Attorney-driven – or private – e.g., court-based through shareholder initiated class-action lawsuits.⁵ And indeed, strong security law enforcement is one of the key benefits that the US market has provided to foreign firms. As public enforcement by SEC rarely acts against foreign firms and often results in insignificant penalties, an efficient private enforcement mechanism through shareholder initiated class-action lawsuits is generally considered a necessary supplement to government enforcement actions (Gande and Lewis 2009; Gande and Miller 2012), especially for firms not domiciled in US. In either case, the role of SEC and class action lawsuits are based on enforcement – public in the case of SEC and private in the case of the class-action lawsuits.

However, can shareholder initiated class-action lawsuits have a disciplining effect that is beyond the pure enforcement? We argue that this is indeed the case. Shareholder initiated class-action lawsuits not only start a process that may lead to enforcement and therefore discipline the companies they target, but also provide information that help the market assess the value of other – non-affected but similar (“peer”) – companies. Shareholder initiated class-action lawsuits about a specific company make the market re-assess

⁵In addition to class action securities lawsuits, firms are exposed to other legal risks through private enforcement, such as copyright infringement, product liability, and antitrust lawsuits. As suggested by Arena and Julio (2015), choose class action lawsuit as the best representative of private enforcement actions is motivated by several reasons. First, class action securities fraud litigations are brought under the Securities Act of 1933 and the Securities Exchange Act of 1934. As such, all publicly traded firms are susceptible to this particular type of lawsuit. Second, detailed information related to the class action lawsuits is publicly available for a longer period than that for other types of lawsuits and provides us with a large observable sample of litigation events. Finally, class action securities litigation is of interest, because the average settlement or penalty amounts tend to be quite large and therefore represent a significant source of loss from the firm’s perspective.

the likelihood that other “similar” companies should be affected by the very same issues that have triggered the lawsuits. The ensuing negative impact on the stock price will trigger “corrective” actions on the side of the companies aiming at reestablishing trust among the investors and reduce uncertainty about the company.

To test this hypothesis, we need to be able to separate enforcement from information. Indeed, enforcement on firm A may impact firm B either because it provides information about firm B, or because it signals that such firm will be also likely receive a similar enforcement. Distinguishing between the two possibilities is very hard. We use a unique testing ground in which this can be accomplished. We focus on the impact of the US class action lawsuits against foreign firms on similar firms from the same country not affected by the lawsuits. Specifically, we test whether the US class action lawsuits affect the valuation and corporate finance policy of the firms in non-US markets that share common characteristics with the firms targeted in the lawsuits. That is, we look at how the class action lawsuit against a foreign firm listed in US affects the “peer” firms that are listed in the target firm’s home country and belong to the same industry. This allows us to control for enforcement as the peer firms, not being listed in the US, are not likely to be subject to the same type of enforcement.

We lay out two testable hypotheses. The first hypothesis posits that the peer firms are subject to collateral damage on their valuation from the US class action lawsuits. Investors – especially international ones – use the lawsuits as (negative) signals that help to assess the value of the peer firms. The damage is not related to such firms being reachable by US law. In fact, we will argue that for the firms that are already linked to the US system (e.g., cross-listed) the effect will not be there. We expect that such an impact is attenuated in the presence of cross-listing or better quality of home country institutions.

The second hypothesis posits that these firms will take corporate actions to recover from the valuation

loss. We expect that the willingness of the firms to engage in such policies is related to both their sensitivity of their valuation loss to the collateral damage as well as to degree they depend on external financing.

The corporate actions are devised to reduce shareholder uncertainty. One corporate financial policy is investment. Investment attracts scrutiny and creates uncertainty. For example, firm prices react negatively to R&D investment – the typical high-uncertainty one. Therefore, we expect investment to be reduced.

Another corporate financial policy is dividend payout. Dividends may be employed to convey a firm's commitment to act in the best interests of outside investors (e.g., Jensen, 1986; Allen, Bernardo, and Welch, 2000; La Porta et al., 2000; Myers, 2000). To regain the confidence of investors who revalued the peer firms to a lower level, firms can express their alignment of interest with investors by paying out more dividends. Also, paying dividends attenuate the agency concerns and limit private control benefits available to the management: paying out more dividends may suggest less likelihood of illegal wrongdoing. We therefore expect an increase in dividends.

A third important corporate policy is the cash policy. Typically, firms holding cash are undervalued as the market doubts the motives beyond such behavior (lack of investment opportunity, agency cost of equity). Bad governance firms suffer even more from the cash holding related uncertainty (e.g., Dittmar and Mahrt-Smith, 2007). We therefore expect a reduction in cash holdings.

We test these hypotheses using data on a sample of 11212 pairs of firms around the world over the 1996-2012 period. We start by documenting that the US class action lawsuits against foreign firms lead to collateral damage on the valuation of the targets' home peers. In particular, the reduce the Tobin's Q (adjusted Tobin's Q) for the peer firms by 11.7% (5.9%) compared to the nonpeer firms, where the reduction of valuation stands for about 6% of the sample mean. Similar results hold if we consider an event-based

analysis. The cumulative abnormal returns (CARs) of the home peer firms over the three-day and thirty-day window around the US class action lawsuits against the foreign targets are both significantly negative with the mean of between -0.623% and -3.638%.

The impact is stronger for firms that are not cross-listed or come from countries with worse quality of governance. The collateral damage on valuation from the US class action lawsuits to home only peers is around 14.6%, while for the cross-listed ones only 8%. The difference is both statistically and economically significant. This shows that the US class action lawsuit effect is not confined to firms that are protected by US law (cross-listed firms) but extends worldwide. The loss is not due to fear of being sanctioned by US authorities or by the anticipation of future litigation before US courts, but more likely by the perceived likelihood that these firms engage in the same illegal behavior as their peers targeted by the US lawsuits. In fact, being already bonded to the US by cross-listing helps to mitigate this effect. Indeed, the second finding is that when litigation risk spills over, the collateral damage on non-target firms is mitigated if the firms are bonded to the US market by cross-listing and the investors of the firms are already protected by the US governance system. Similar results hold if we focus on the institutional quality of the home countries (e.g., anti-self-dealing index and common law). The collateral damage from the US class action lawsuits is more severe for home peers that have lower country institutional quality.

Given this impact on value, how do the firms react to it? We document that firms reduce investment, increase dividend and payout and reduce the amount of cash holdings. In particular, compared to non peers, home peer firms decrease their investments by 30 basis points, increase their dividend by 30 basis points and reduce cash holdings 40 basis points. The adjustments are also economically large, especially the dividend payment policy change represents a 25% increase over the sample mean. These results suggest a

causal inference on the impact of US class action lawsuits on the corporate financial policies of home peer firms. Home peer firms change their corporate financial policies as reaction to the valuation loss following the US class action lawsuits. They decrease cash holding and investments, and increase dividend payout. Generally, they change corporate finance policies to make themselves look better to investors.

This effect is more pronounced for the firms that suffer from more severe valuation loss – i.e., the non cross-listed as well as the ones from worse quality of home country institutional quality – due to collateral damage from the US class action lawsuits as well as the firms more financial constrained.

Indeed, the effects of the change in corporate policies are mostly concentrated in non cross-listed firms as well as firms from countries with worse quality of institutions. The effect is also stronger the more financial constrained the firms, where more financially constrained firms adopt a more aggressive dividend payout policy, a lower investment level and a lower holding of cash.

Having established that home peer firms adjust their corporate financial policies in response to the valuation loss following the US class action lawsuits, a natural question is whether these policy adjustments indeed help increase the valuation of these firms in the long-run. We calculate the adjustments in different corporate financial policies and examine whether they are related to the changes in firm's future valuation relative to the year immediately after the event. We document a link between the policy adjustments and long-run valuation for the peer firms. One standard deviation change in the adjustments in corporate policies following the lawsuits shocks help recovers more than a third of the valuation damage in the following 2 (3 years).

Our results are robust to a host of alternative specifications as robustness checks. Parallel trends analysis provides evidence in favor of a casual interpretation of our results.

We make several contributions. First, we contribute to the literature on the spread of US governance around the world and more specifically to the “bonding hypothesis” ((Stulz, 1999; Coffee, 1999; Reese and Weisbach, 2002; Doidge, Karolyi, and Stulz, 2004, etc.)). The bonding theory predicts that firms from countries with weaker institutional quality suffer from agency conflicts and that such firms can choose to “bond” themselves to markets with stronger legal institutions by cross-listing their stocks on better-governed stock markets, such as the US market. These firms then enjoy higher equilibrium valuations because their governance risks are reduced. We contribute by showing the international implications of US-based class-action lawsuits. We show that the US class action lawsuits against bonded foreign firms may affect valuation of peer firms in their domestic market. In addition, we extend studies on how country-level institutions affect corporate behavior (e.g., Doidge, Karolyi, and Stulz, 2004, 2007; Aggarwal et al., 2010). In particular, the legal system is among the most important institutions of the modern western economy vis-à-vis other social elements that may also influence the economy (e.g., Acemoglu and Jackson, 2017). While the existing literature focuses either on the regulatory reach of accounting and trading rules (e.g., Leuz, Nanda, and Wysocki, 2003; Jain, Jain, McNish, and McKenzie 2013) or on how litigation risk affects foreign firms listed in the U.S. (e.g., Gande and Miller 2012; Cheng, Srinivasan and Yu 2013), we show that the legal institution related to class-action lawsuits can actually have a world-wide reach.

Second, we contribute to the literature of governance. The existing governance literature has considered alternative actions between “voice and exit” (Maug, 1998; Kahn and Winton, 1998; Faure-Grimaud and Gromb, 2004) and has focused on “voice” as the main disciplining device. For example, hedge fund activism has been identified as an important source of governance (e.g., Brav et al., 2008; Clifford, 2008; Greenwood and Schor, 2009; Klein and Zur, 2009, 2011). More recently, Admati and Pfleiderer (2009),

Edmans (2009), and Edmans and Manso (2011) show that walking the “Wall Street Rule” is a governance mechanism. In particular, Edmans and Manso (2011) examine competitive trading among multiple blockholders, showing that such trading disciplines managers. Governance has also been shown to travel around the world as a function of the quality of institutions or as a function of the investment behavior of institutional investors (e.g., Claessens et al. 2000; La Porta et al., 2002; Claessens and Laeven, 2003; Ferreira and Matos, 2008; Aggarwal et al., 2011; Laeven and Levine, 2008; Doidge et al., 2007, Appel et al., 2015). We contribute by focusing on the role of cross-listing and local quality of governance in affecting the world impact of US class action lawsuits.

Third, our study presents the interplay between governance and globalization, which could have important normative implications. Stulz (2005) points out that the dual-agency problem stemmed from both the government and corporate insiders may hinder the benefits of financial globalization. Our results reveal a somewhat reverse effect in complementing Stulz (2005): we show that the US class action lawsuits can influence local governance through cross-listing, a specific channel of financial globalization. Hence financial globalization not only is influenced by agency problems but can also discipline it. The latter effect is also consistent with Spiegel (2009) that globalization can discipline macroeconomic policies—except our results focus on the corporate side and a specific channel of financial globalization.

2 Data and research design

2.1 Data

We base our class action lawsuit sample construction on the comprehensive list of US securities class action lawsuits available on Stanford University’s Securities Class Action Lawsuit Clearinghouse (SCAC) web

site (<http://securities.stanford.edu>) for the years 1996 through 2012.⁶ Using the defendant firms' headquarter location represented by item LOC in the Compustat database, we were able to identify 2875 lawsuits launched against US firms and 373 lawsuits launched against foreign firms in our sample period.

We focus on the lawsuits against foreign firms listed in the US. Also, we implemented additional data screens in order to exclude lawsuits that are irrelevant in the context of the present experiment as well as those for which data is insufficient to warrant inclusion in our final sample. In particular, we exclude the cases pertaining to initial public offering (IPO) underwriter allocations as well as mutual fund timing cases in which third party agents were named as defendants in the lawsuits rather than the investment firm's management.⁷ Next, we exclude cases in which the firms targeted by the lawsuits were delisted long before the lawsuits were filed as well as lawsuits targeting firms with less than \$5 million in total assets in the year preceding the lawsuits' filing dates. Since we are interested in the firms sharing same country and industry commonality with the target firms in the lawsuits, we also dropped those cases with targets domiciled in tax-heaven countries such as Bermuda, Cayman Islands and Virgin Islands. In the end, this screening procedure yields a sample of 306 federal class action lawsuits filed against 252 different foreign firms from 29 different countries around the world.

Given that our focus is whether the US class action lawsuits affect the valuation and corporate finance

⁶The SCAC maintains an index of filings against all issuers that have been named in federal class action securities fraud lawsuits since the passage of the Private Securities Litigation Reform Act of 1995 (PSLRA). The purpose of this legislation was to discourage potential litigants from filing frivolous lawsuits by making discovery rights contingent on evidence (Johnson, Nelson, and Pritchard, 2007; Dyck, Morse and Zingales, 2010).

⁷IPO allocation lawsuits generally allege that underwriters engaged in undisclosed practices in connection with the distribution of certain IPO shares. In mutual fund cases, plaintiffs typically allege that timing and late trading in funds has violated the federal securities laws. We exclude these lawsuits because plaintiffs do not allege that issuers have engaged in fraud when describing their own business or financial circumstances.

policy of the firms in non-US markets that share common characteristics of the targeted firms in the lawsuits, as a next step, we identify the “home peer firms” that are potentially subject to the litigation risk changes. We define the home country of domicile of a particular firm as the firm’s country of incorporation. For each class action lawsuit against a foreign firm listed in the US in year t , we define firms as “peer firms” in year t if they are listed in the target firm’s home country and in the same 2-digit SIC industry as the target.

Table 1 presents the distribution of lawsuits and the peer firms of the lawsuit targets across 29 different countries in all the event years of US securities class action lawsuits launched against US listed foreign firms between 1996 and 2012. Panel A provides the distribution of US class action lawsuits represented in our sample and corresponding peer firms, by country of domicile. Across the countries represented in our sample, there is a significant amount of cross-sectional variation in terms of the number of lawsuits and the number of home country peers. For instance, China is home to the largest number of US securities class action lawsuits (78), followed by Canada (59), the United Kingdom (29), Switzerland (27), and Israel (22). When we link the lawsuits to the peer firms in global markets, we see that China is home to 4,889 home peers, Canada is home to 2,527 home peers, and The United Kingdom is home to 957 home peers. These countries all feature multiple lawsuits, and home peers. Many countries feature only one lawsuit and, among those countries, several have no or only handful of home country peers (e.g. Australia with 1 lawsuit and 0 home peer) and some have a few lawsuits, but a multitude of home country peers (e.g. Taiwan, with 1 lawsuit, and 514 home peers).

2.2 Research design

Our approach is as follows. We treat the litigation event on a target foreign firm listed in the US as an exogenous shock for a home peer firm in the same country and industry. The shock represents an exogenous

source of risk that might be impounded into investors' valuation and the management's corporate decisions of the peer firms. To best identify the global impact from the US class action lawsuits, we employ a difference-in-difference design that compares the valuation and corporate policy measures a year before and a year after the exogenous shock from class-action lawsuits in the US for treatment firms versus control firms. The treatment firms are the home peer firms as defined before. A matched sample is used to identify the control firms. For each treated firm in each event year, we identify the control firms as the nearest neighbors in the same year generated by propensity score matching process. That is, each peer firm is matched to a firm from the non-peer sample with the closest propensity score (labeled as control firms). When applying the propensity score matching, we estimate a probit model. The dependent variable is one if the firm-year belongs to the treatment group. The probit model includes all the control variables from the baseline specification measured in the year immediately preceding the events.

In Panel B of Table 1, we show the distribution of firm-year observations in the matched regression sample together with the number of lawsuits by year. We observe a gradual increase in the number of US class action lawsuits initiated against US listed foreign firms, during our sample period of 1996-2012. The number of home peers varies a great deal from year to year, ranging between 21 in 1995 to 2,471 in 2010. To best retain the complete sample of peer firms that are subject to litigation risk shocks, we keep all matched pairs in the main analysis. However, we further conduct robustness test using unique pairs, where for treatment firms matched with a same control firm, we keep only one pair with the lowest difference in their propensity score. Our final global firm sample includes 11212 pairs of treatment and control firms, 39520 firm-year observations, 19678 are peer firm-year observations and 19842 are non-peer firm-year observations.

Once we have identified the treated and control firms, we estimate our main specification as follows:

$$\text{Valuation/ Corporate financial policy measures}_{j,t} = \beta_0 + \beta_1 \text{Peer}_{j,t} + \beta_2 \text{Post}_t + \beta_3 (\text{Peer} \\ \times \text{Post})_{j,t} + \beta^t X_{j,t} + \omega_j + \mu_t + \varepsilon, \quad \text{Eq. (1)}$$

where j denotes firm j , t denotes the event year that a US class action lawsuit filed against a same home country same industry firm, X is a vector of control variables, ω_j is a firm fixed effect, and μ_t is a year fixed effect. $Peer$ is an indicator equal to 1 for firm in the treatment sample, and equal to 0 otherwise. $Post$ is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. The valuation measures are either the firm Tobin's Q or its adjusted Tobin's Q. The adjusted Tobin's Q is computed to further alleviate the concern of overall valuation differences in different markets, where it is the Tobin's Q value of each firm minus the average Q value of all of the domestic firms in the firm's home industry. The corporate policy measures include cash holding, investment and payout. Details of the definition of these measures are provided in the Appendix.

The difference-in-difference model requires data pre and post event, and therefore, the data period of our regression sample ranges from 1995 to 2013. We further require the firms to have non-missing accounting data from Worldscope to construct our control variables. Following the international finance literature, we exclude any home firm observation from our sample when the target firm's total assets are \$100 million or less to insulate our experiment from outliers. We further exclude home firms within financial and utility industries as corporate policies are heavily regulated for those firms.

We control for several firm characteristics that are documented to be related to valuation and corporate financial policy, such as size, return on assets (ROA), sale growth, natural logarithm of sales (\ln_sale) and leverage. All variables used in our regression model are adjusted for inflation computed from local

consumer price index (CPI) changes from International Monetary Fund estimates. We winsorize all variables in our tests at the 1% level on both tails. Table 2 presents the summary statistics of the main variables of the global firms in our regression sample, treatment group and control sample. We can see that the basic firm characteristics as control variables (size, ROA, sale growth, ln_sale and leverage) are of little difference between peer firms and non-peer group. On average, the peer firms have higher valuation, cash holding and investment level than non-peer firms. The dividend payout level is slightly lower for the peer firms than non-peer firms.

The coefficient β_3 gauges the effect of the shock from class action lawsuits in the US market on home peer firms' valuations and corporate financial policies.

This approach addresses many of the identification challenges found in earlier work. First, the potential for omitted variables bias. It is possible that an unobservable factor may be causing both the initiation of a class action lawsuit and changes in firm valuation and corporate financial policy. In our setting, we focus on the impact of class action lawsuits on the peer firms not involved in a litigation. From the perspective of a home-listed peer firm that is not accused of wrongdoing, the private enforcement actions against its country-industry fellow in US market represent a series of exogenous shocks to the potential litigation risk.

A second issue is the possible simultaneity bias or reverse causality. Ordinary least squares regressions typically do not provide meaningful results because of the reflection problem, and thus a clear identification strategy is needed to rule out endogeneity. We employ a difference-in-difference design by examining valuation and corporate policy measures a year before versus after an exogenous shock from class-action lawsuits in US for treatment firms versus matched control firms. The DID methodology has some key advantages compared to traditional OLS. First, it rules out omitted trends that are correlated with valuation

and corporate policy in both the treatment and control groups. Second, it helps establish causality as the experiment is conducted surrounding the class action lawsuits that cause exogenous variation in the change in litigation risk. Moreover, by employing a matched sample, it controls for constant unobserved differences between the treatment and the control group.

A third benefit of the setting arises from the scattershot timing of the private enforcement actions. The class action lawsuits are scattered across time, which helps to rule out alternative explanations related to concurrent events. It is unlikely that an omitted variable would coincide with multiple enforcement actions (Silvers, 2016). Further, the scattershot timing of the shocks allows us the inclusion of firm fixed effects, so that we can further eliminate the possibility of omitted variables bias.

Finally, our setting is able to compare the effects of US private enforcement actions on the valuation and corporate policy of peer firms across different countries with differing legal environments. The inferences are strengthened by evidence that the impact of US private enforcement varies predictably, depending on the legal strength in the firms' home markets.

3. Empirical results

3.1 The impact of US class action lawsuits on the valuation of home peer firms

3.1.1 The valuation loss

We start by employing the DID we just described to test whether the US class action lawsuits against foreign firms lead to collateral damage on the valuation of the targets' home peers. We estimate the regression model as shown in Eq. (1). Standard errors are clustered at the treatment versus control firm pair level in all specifications. The dependent variables are Tobin's Q and adjusted Tobin's Q. *Peer* is an indicator equal to 1 for the treatment sample, and zero otherwise, while *Post* is an indicator equal to 1 for the year after the

event year, and equal to 0 for the year before the event year. The main independent variable of interest is $Peer \times Post$. It loads significantly negatively in both specifications in Panel A.

We report the results in Table 3, Panel A. In column (1), when the dependent variable is Tobin's Q, the coefficient estimate on $Peer \times Post$ is significantly negative (-.117, t-statistics = -6.971). This implies that the US class action lawsuits lead to a decrease on Tobin's Q for the home peer firms by .117 more than the nonpeer firms over the same period. The difference is economically large, representing 6.2% of the average level of Tobin's Q. In column (2), when the dependent variable is adjusted Tobin's Q, we have similar findings. The coefficient on $Peer \times Post$ is significantly negative (-0.059, t-statistics = -6.588), suggesting a .059 more reduction on adjusted Tobin's Q for home peer firms compared to nonpeer firms after the US class action lawsuits, representing 6% of the average level of adjusted Tobin's Q. Taken together, the findings in column (1) and (2) suggest that compared to non-peer firms, the home peer firms of the targets in the US class action lawsuits are subject to significant valuation loss after lawsuits. The coefficient estimates on the control variables are generally consistent with prior studies and our expectation. For example, firms with smaller size, higher sale growth, lower leverage are associated with lower valuation.

One critical assumption that underlies our DID research design is the parallel trend assumption. If the difference between the treatment and control groups, in the absence of treatment, is not constant, then the parallel trend assumption may not be satisfied. To address this concern and check the internal validity of our DID regression model, we follow the method used in Fang, Tian and Tice (2014) by adopting a dynamic effects model. If there is a pre-determined trend in firm valuation, then this trend would very likely to arise before the US class action lawsuits. If we do not observe a significant difference between treatment and

control group firms prior to the US class action lawsuits, then the parallel trend assumption underlies our DID research design would be very likely to be supported.

To perform the test, we incorporate several year indicators into our model: $Before^{-1}$, $Current$, $After^1$ and $After^2$, which denote different event years around the event year of the US class action lawsuits. Specifically, $Before^{-1}$ is a dummy that equals one if a firm-year observation is from the year before the lawsuit and zero otherwise. $Current$ is a dummy that equals one if a firm-year observation is from the lawsuit year (year 0) and zero otherwise. $After^1$ is a dummy that equals one if a firm-year observation is from the year immediately after the lawsuit (year 1) and zero otherwise. $After^2$ is a dummy that equals one if a firm-year observation is from two years after the lawsuit (year 2) and zero otherwise. We interact these year indicators with the treatment dummy – $peer$ to form the variables of interest.

In Panel B of Table 3, we report the results. We find that the coefficients on $Peer*Before^{-1}$ in both Cols. (1) and (2) are insignificant, suggesting there is no significant difference between treatment and control group firms prior to the US class action lawsuits. This supports the parallel trend assumption. In contrast, the coefficients on $Peer*Current$, $Peer*After^1$ and $Peer*After^2$ are generally significantly negative, suggesting that compared to non-peer firms, the valuation starts to drop for peer firms after the US class action lawsuits from the end of the event year to the following several years. In sum, our findings from the dynamic effects model help to validate the parallel trend assumption of our DID research design and support a causal inference on the impact of US class action lawsuits on the valuation of home peer firm.

As further robustness check, we also examine the short-term stock return reaction of the home peers surrounding the event, including a three-day event window $([-1,1])$ and a one-month window $([-1,30])$ after the event.. This event-based analysis assumes market efficiency and immediate incorporation of

information. On average, we find significantly negative cumulative abnormal returns (CARs) of the home peer firms over the three-day window (-0.620%) and the one-month window (-3.638%) around the US class action lawsuits against the foreign targets. This is consistent with the negative impact on Tobin's Q.

3.1.2 Cross-sectional determinants of the valuation loss

We now investigate what affects the valuation loss. As we argued above, being listed in the US provides a layer of protection to the peer firms due to the bonding effect, and therefore, the collateral damage to nontarget peers might be mitigated if they are cross-listed. We therefore expect the impact to be lower.

We therefore re-estimate equation (1) by grouping firms according to their cross-listing status – i.e., whether they are “cross-listed” firms or just “home only” firms. Cross-listed firms are the firms listed at home and simultaneously cross-listed in the US market. Home only firms refer to the firms that only listed at home markets.

We report the results in Table 4. We find that the collateral damage on valuation from the US class action lawsuits to home only peers is even more severe than cross-listed peers. In particular, for the cross-listed firms (column 2), the coefficient estimate on $Peer \times Post$ is significantly negative (-0.080, t-statistics = -2.507), suggesting a significant collateral damage on valuation from the US class action lawsuits to the cross-listed peer firms. For the home only firms (column 3) instead the coefficient estimate on $Peer \times Post$ is more negative (-.146, t-statistics = -7.475), suggesting the collateral damage on valuation from the US class action lawsuits to home only peers is more severe than cross-listed peers.

To show the statistical significance of difference between the impact of US class action lawsuits on cross-listed and home only peers, we interact the cross-list dummy and the interested DID estimator - $Peer \times Post$. In column (1), we can see that the coefficient estimate on $Peer*Post*Cross-list$ is significantly

positive, suggesting that the damage on valuation of home peer firms is less if the peer firm is also listed in the US market. We find similar pattern through column (4) to (6) when we use adjusted Tobin's Q as dependent variable.

These results have two major implications. First, the US class action lawsuit effect is not confined to firms that are protected by US law (cross-listed firms). To the extent that shareholder-initiated lawsuits signal that firms from the same industry as those targeted by the lawsuits are also likely to engage in the same illegal behavior as that alleged in the lawsuits (Gande and Lewis, 2009), then the collateral damage on valuation extends to all the targets' home peers, whether they are cross-listed or only home listed.

The fact that home country firms that are neither subject to US law nor targeted by US class action lawsuits also suffer from this collateral damage suggests that the valuation loss cannot be entirely driven by the anticipation of future litigation before US courts, but also by the perceived likelihood that these firms engage in the same illegal behavior as their peers targeted by the US lawsuits. In other words, the effect is not due to the home only firms being subject to US-enforced penalty as traditional bonding theory suggests, but it is related to the information investors in the market get about the potential wrongdoings of the peer firms. In fact, being already bonded to the US by cross-listing helps to mitigate this effect. Indeed, the second finding is that when litigation risk spills over, the collateral damage on non-target firms is mitigated if the firms are bonded to the US market by cross-listing and the investors of the firms are already protected by the US governance system.

Next, we investigate whether the institutional quality of the home countries affects the impact of US class action lawsuits on the valuation of home peer firm. Weak country level institutional quality suggest that the regulatory system is less likely to protect investors and act against firm wrong-doings. Country-

level corporate governance always serves as a supplementary governance scheme to firm-level corporate governance. Without the protection of a decent county-level governance, firms with potential wrong-doings may experience more collateral damage on shareholder value from the US litigation actions. In other words, the global bonding effect would be more pronounced for firms with relative “regulation failure” in their local markets and therefore with more need or room of “bonding”.

Empirically, we incorporate the interaction of country institutional quality and the DID estimators into our regression model. We use anti-self-dealing index and common law dummy as the proxy for the country institutional quality. A high value of the country’s anti-self-dealing index indicates strong shareholder protection. Common law dummy equals to 1 suggests stricter legal system to protect shareholders.

We report the results in Table 5. We find that the collateral damage from the US class action lawsuits is more severe for home peers that have lower country institutional quality. In particular, in columns (1) and (2), the coefficient estimates on $Peer \times Post$ are significantly negative (-.235, t-statistics = -3.676; -.157, t-statistics = -4.375), indicating that controlling for country institutional quality does not change the main results. Interestingly, the coefficient estimates on the interaction of $Peer \times Post$ and *Anti-self-dealing index* are significantly positive (.173, t-statistics = 1.879; .143, t-statistics = 2.789), suggesting that a high anti-self-dealing index mitigates the collateral damage from the US class action lawsuits to the home peers’ valuation. When we control for *Common law dummy* in columns (3) and (4), the main finding of valuation loss on peer firms still hold. Similarly, we observe significantly positive coefficient estimates on the interaction of $Peer \times Post$ and *Common law dummy*. Overall these results suggest that a stricter legal enforcement system contributes to mitigate the collateral damage from the US class action lawsuits to the home peers’ valuation.

Overall, the results till now document a spillover from US legal arena to the worldwide one. Such an impact is attenuated in the presence of cross-listing or better quality of home country institutions. The next question is how firms react to it.

3.2 The corporate financial policy adjustments of peer firms

3.2.1 Corporate financial policy adjustments

We now investigate how the peer firms react to the US class action lawsuits. The fact that home peer firms that are neither subject to US law nor targeted by US class action lawsuits also suffer from this collateral damage suggests that the valuation loss might be driven by the perceived likelihood that these firms engage in the similar illegal behavior as their peers targeted by the US lawsuits. The question is therefore how managers react to such a change in perception. As we argued, we expect firms to reduce investment and other “debatable” activities and increase catering policies such as dividends, share repurchases and cash management.

We therefore apply our difference-in-difference test to assess the impact of US class action lawsuits against US listed foreign firms on the corporate financial policies of the peer home firms. The dependent variables are now the corporate financial policies measures including *Cash holding*, *Investment* and *Payout*. We report the results in Table VI, Panel A.

The main variable of interest is *peer*post*. Consistent with our expectation, the coefficient estimates on *Peer × Post* is significantly negative for *Investment* (-.003, t-statistics = -2.504), suggesting that compared to nonpeers, home peer firms decrease their investment level by 30 basis points more following the US class action lawsuits. In contrast, the coefficient estimates on *Peer × Post* is significantly positive for *Payout* (.003, t-statistics = 8.761), suggesting that home peer firms increase their dividend payout ratio by 40 basis

more than the nonpeers following the US class action lawsuits. When we look at the cash policy, the coefficient estimates on $Peer \times Post$ is significant and negative (-0.004, t-statistics = -1.741), suggesting a 40 basis points more decrease in cash holding level for home peers compared to nonpeers in response to US class action lawsuits. Relative to the sample mean of the corporate financial policies, the adjustments are economically significant, where the investment policy change represents a 4.3% drop over the sample mean, the dividend payment policy change represents a 25% increase over the sample mean, and the cash policy change represents a 2% drop over the sample mean. The statistically and economically significant policy adjustments are remarkable as the peer firms that adopt these policy changes are not real targets in the class action lawsuits with real enforcements. Overall, these results suggest that the peer firms that are subject to more valuation loss are spending more cash in catering to investors rather than saving cash for precautionary uses.

As a robustness check, to assess the validity of our assumptions on parallel trends, in Panel B, we reports the regression results of a dynamic difference-in-difference test on the impact of US class action lawsuits on the corporate financial policies of global firms. The purpose of this test is to examine whether there is predetermined trend in corporate financial policy. Similar to the model design in Panel B of Table 3, we incorporate several year indicators into our DID model: $Before^{-1}$, $Current$, $After^1$ and $After^2$. These year dummies are defined as in section 3.1.1. We find that the coefficients on $Peer*Before^{-1}$ for both $Investment$ and $Payout$ are insignificant, suggesting there is no significant difference in the level of investment and dividend payout between treatment and control group firms prior to the US class action lawsuits. For cash, the coefficient on $Peer*Before^{-1}$ is positive. Note that the difference of cash holding is negative for treatment and control group after the shock, therefore this positive coefficient is not against

our finding, rather it shows that the difference in cash policy of the treatment and control group firms after the shocks is not driven by their pre-event difference. We observe a significance increase of dividend payout for peer firms starting from the end of the event year. Until the second year after the event year, the coefficients for *Cash holding*, *Investment* and *Payout* all become significant.

In sum, these findings support a causal inference on the impact of US class action lawsuits on the of corporate financial policies of home peer firms. Home peer firms change their corporate financial policies as reaction to the valuation loss following the US class action lawsuits. They decrease cash holding and investments, and increase dividend payout. Generally, they change corporate finance policies to make themselves look better to investors.

3.2.2 Cross-sectional variation on the adjustments of corporate policy

We now investigate which firms react more to the valuation loss by adjusting the corporate financial policies. As we argued, we expect that the firms that react more are the ones suffering from more severe valuation loss – i.e., the non cross-listed as well as the ones from worse quality of home country institutional quality – due to collateral damage from the US class action lawsuits as well as the firms more financial constrained.

We start with the role of cross-listing status. The dependent variables are the corporate financial policies measures including *Cash holding*, *Investment* and *Payout*. Similar to the design in Table 4, we group firms according to their cross-listing status to cross-listed and home only firms. We report the results in table 7. Columns (4) to (6) presents the results for cross-listed firms. We generally do not observe remarkable corporate policy adjustments for cross-listed firms. Only the coefficient estimate on *Peer* × *Post* for *Investment* is significant and negative for cross-listing firms (-0.004, t-statistics = -1.658), suggesting more decrease of investment level for the cross-listed peer firms compared to cross-listed

nonpeers, following the US class action lawsuits. The coefficient estimates on $Peer \times Post$ for *Cash holding* and *Payout* are insignificant. In contrast, we observe much more pronounced adjustments for all the corporate financial policies for home only firms (columns (7) to (9)). In column (7) for cash holding, the coefficient estimate on $Peer \times Post$ is significantly negative (-0.005, t-statistics = -1.868). In column (8) for investment, the coefficient estimate on $Peer \times Post$ is also significantly negative (-0.003, t-statistics = -1.983). These findings suggest that the home only peers significantly decrease their cash holding and investment levels compared to home only nonpeers, following the US class action lawsuits. In column (9) for dividend payout, the coefficient estimate on $Peer \times Post$ is significantly positive (0.004, t-statistics = 10.047), showing that these home only peer firms significantly increases their level of dividend payment in response to the US class action lawsuits. Overall, these findings support the view that the non cross-listed peer firms spend more cash in catering to investors in response to the collateral damage from the US class action lawsuits. They choose to pay more dividend, decrease their risk taking by reducing capital expenditure and decrease cash holding.

To show the statistical significance of difference between the impact of US class action lawsuits on cross-listed and home peers, we interact the cross-list dummy and the interested DID estimator - $Peer \times Post$. We find that the coefficient estimate on $Peer*Post*Cross-list$ for the dividend policy is significantly positive, suggesting that home only peers are payout to shareholders more in response to the shocks. Note that, compared to the cross-listed peer firms, our findings are generally much more pronounced for home only peer firms that are more severely damaged in the spillover of US class action lawsuits.

Next, we examine the role of home country institutional quality in the impact of US class action lawsuits on the corporate financial policies of home peer firms. We use the same measures of country

institutional quality as Table 5. The results, reported in Table 8, show that the firms from countries with higher *Anti-self-dealing index* and with *common law system* adjust less in their corporate financial policies. They decrease their cash holding less or increase dividend payment less than those firms with lower country institutional quality following the shocks. This is consistent with the findings in Table 5 that the collateral damage from the US class action lawsuits is more severe for home peers that have lower country institutional quality, these firms also react more in their corporate financial policies.

Finally, we focus on the degree of financial constraints of the firms. We follow Hadlock and Pierce (2010) and build a Size and Age (SA) index of financial constraints. Also, following Diamond (1991) and Baker, Stein and Wurgler (2003) we separately use Age.⁸ We report the results in Table 9. We find that that the coefficient for *Peer*Post* SA index* is positive and statistically significant (.001, t-statistics = 2.493) for dividend policy as shown in column (3), suggesting that firms more dependent on external financing as proxied by higher SA index adopt a more aggressive dividend payout policy following the US class action lawsuits. In columns (4) and (5), we find that the coefficients for *Peer*Post*Age* are positive and statistically significant (.001, t-statistics = 2.493) for both cash holding and investment. Therefore, the decrease of cash and investment following the US class action lawsuits appears to be lower for older firms that are less dependent on external financing. In general, the results in Table 9 supports our view that firms

⁸ The SA index has substantial intuitive appeal and relies on factors that are surely more exogenous than most of the alternatives. In addition, prior research identifies firm size and age as strong predictors of constraints in varied settings. Considering the complexity of international firm data, we use the most conservative approach to construct SA index to measure for financial constraints. We also use firm age as an additional measure for equity dependence as traditional studies (Diamond 1991; Baker, Stein and Wurgler, 2003) demonstrate that young firms without established reputations may have a harder time raising finance from the bond market. We then incorporate the interaction of SA index and firm age with our DID estimators in our baseline model for corporate financial policy adjustments.

depending more on equity financing make more adjustments in their corporate financial policy to pursue a recovery from the valuation loss, following the US class action lawsuits.

3.3 Robustness tests

We now conduct a comprehensive set of robustness tests to further substantiate the main findings regarding the impact of US class action lawsuits on home peer firm valuation loss and corporate financial policy.

First, it is likely that a matched control firm would appear multiple times due to the scattershot timing of the class action lawsuits. In our main analysis, we keep all matched firm-year pairs to best complete the sample of peer firms that are subject to litigation risk shocks. However, we further conduct robustness test using unique pairs, where for treatment firms matched with a same control firm, we keep the pair with the lowest difference in their propensity score. We find generally consistent results with our main analysis. Home peers change their corporate financial policies as reaction to the severe collateral damage on valuation from the US class action lawsuits. On average, they decrease investments and increase payout more than non-peer firms. The net effect of cash holding is insignificant in this matched sample.

Second, there is no discernable pattern to these class action lawsuits but we do observe multiple events in a year for certain country industries. To address the concern that the collateral damage is completely driven by those country industries that are embedded with frequent wrongdoings and have a series of class action lawsuits, we did two robustness checks. One test we conduct is to only keep the first lawsuit filed in each country industry in our class action lawsuits sample. Another test we adopt is to keep country industries that only have one class action lawsuits in our regression sample. We use these reshaped samples to repeat the difference-in-difference analysis for firm valuation and corporate financial policy. Again, we

consistently find that the class action lawsuits in the US lead to significant valuation loss to peer firms in home countries, and these firms make movements in corporate financial policies as a response.

Third, in our main analysis, to control for unobserved differences between treatment and control firms, we use a matched sample where the control firms are precisely matched using propensity score. The base of the control firm sample is all nonpeers, i.e., all global firms that are not in the same country and industry as the targets. Recent studies (Ding, Gagnon and Wang, 2014; Chen, 2016; Huang, Rui, Shen and Tian, 2017) suggest that country of domicile might be a dominant factor in the spillover studies that involves firms from multiple countries. Therefore, we try another more general way of matching. Rather than assigning a specific control firm to a treatment firm, we define control firms as all firms in the same home country but in different industries of the target. This way allows us to have a large while relatively unbalanced regression sample. We do find strong and consistent results for our main arguments.

Finally, we combine our design in the main analysis and the third robustness check, where we require the control firm to be the nearest neighbor in propensity score matching and at the same time domiciled in the same home country as the target. By applying this most strict matching, we still observe a strong valuation loss of peer firms relative to nonpeer firms. And we also observe qualitatively consistent findings regarding the corporate financial policy adjustments. Findings from the robustness checks are available in the Internet Appendix.

In addition to the above robustness checks using different matching criterion and difference sample, we tried to use country and industry fixed effects to repeat all the tests. So far in our tests, we use the strictest fixed effect model where we control for firm fixed effects additional to year fixed effects. While given the definition of home peers, another reasonable way of addressing omitted variable problem is to control for

country and industry fixed effects additional to year fixed effects. When we use country times year and industry time year fixed effects, our main findings remain robust. In the interest of brevity, we do not show this set of tests.

4. The long-term outcome of the corporate policy adjustments of peer firms

Having established that home peer firms adjust their corporate financial policies in response to the valuation loss following the US class action lawsuits, a natural question is whether these policy adjustments indeed help increase the valuation of these firms in the long-run. To address this issue, we design an empirical test in this section to examine the outcome of firms' corporate financial policy adjustments. We calculate the adjustments in different corporate financial policies and examine whether they are related to the changes in firm's future valuation relative to the year immediately after the event. If we find a strong link between the policy adjustments and long-run valuation for the peer firms, then we can conclude that the peer firms' effort is not in vain.

Table 10 shows the impact of firms' policy adjustments on the future valuations of the global firms. The dependent variables are the valuation change at future years relative to $t+1$, i.e., the year after the event year. The valuation measures include *Tobin's Q* and *Adjusted Tobin's Q*. The valuation change for second year is defined as $Tobin's Q_{t+2} - Tobin's Q_{t+1}$, $Adjusted Tobin's Q_{t+2} - Adjusted Tobin's Q_{t+1}$, respectively. The valuation change for the third year is defined as $Tobin's Q_{t+3} - Tobin's Q_{t+1}$, $Adjusted Tobin's Q_{t+3} - Adjusted Tobin's Q_{t+1}$, respectively. The policy adjustment measures are the change of a firm's policy level on the year before and after and event. Specifically, *Cash change* is defined as $Cash\ holding_{t+1} - Cash\ holding_{t-1}$. *Investment change* is defined as $Investment_{t+1} - Investment_{t-1}$. *Payout change* is defined as $Payout_{t+1} - Payout_{t-1}$. We interact *Peer* dummy with the changes of corporate policies. In column (1) and (7),

we observe a significantly negative coefficient on the interaction of *cash change* and *peer* (-.283, $t=-2.365$; -.126, $t=1.995$). Note that, the coefficient for *peer*post* is negative in the DID test for cash holding in Table 6, suggesting that compared to nonpeer firms, peer firms reduce cash holding following the shocks. Therefore, the negative relation between *cash change * peer* and *Tobin's Q_{t+2} - Tobin's Q_{t+1}* suggests that the decrease of cash holding of the peer firms after the shocks increases their valuation in the second year relative to the year immediately following the shocks. A coefficient of -.283 suggests that a standard deviation change of cash policy adjustment (.153) results in a 2.2% $(-.283*.153/1.96)$ recovery in the Tobin's Q for peer firms relative to their average value (1.96) in the year following the shocks. Note that the damage on Tobin's Q for peer firms relative to nonpeers is about 6% over the mean, therefore, the result suggest that the one standard deviation of cash policy adjustment removes almost a third of the damage until the second year following the shocks. We observe similar evidence for dividend payout policy adjustments. In column (3) and (6), the coefficients for *Payout change*Peer* are both positive and statistically significant (1.719, $t=-2.435$; 2.108, $t=1.920$). We previously document that peer firms increases dividend payout largely in response to the valuation loss due to the US class action lawsuits. Therefore, these positive coefficients suggest that the increase of dividend payout of the peer firms after the shocks increases their valuation in the second year relative to the year immediately following the shocks. Economically, a coefficient of 1.719 in column (3) suggests that a standard deviation change of dividend policy adjustment (.018) leads to a 1.6% $(1.719*.018/1.96)$ recovery in the Tobin's Q for peer firms relative to their average value (1.96) in the year following the shocks, again removing around 30% the damage until the second year. A coefficient of 2.108 in column (6) suggests that a standard deviation change of dividend policy adjustment (.018) translates into a 1.9% $(2.108*.018/1.96)$ recovery in the third year on Tobin's Q

for peer firms, suggesting a long-lasting outcome for the dividend policy adjustment. In columns (7)-(12), we find similar outcome for those corporate financial policy adjustments when we use long-term changes on adjusted Tobin's Q as dependent variables.

These results suggest that that the relatively long-run valuation from the peer firms' adjustments of cash and dividend policies have a positive impact on the market valuation of the firms. We do not observe significant outcome for the adjustment of investment policy. When we expand our test for the third-year valuation, we only observe a significant outcome for the dividend policy adjustment. In columns (6) and (12), the coefficients for *Payout change*Peer* are still positive and statistically significant (2.108, $t=1.920$; .868, $t=1.938$). Therefore, the positive outcome of dividend payout adjustments seems to be valid until the third year after the shocks.

In general, we find that the decrease of cash holding and the increase of dividend payout positively affect the relatively long-run valuation for the peer firms. Among them, dividend increase produces the best and most enduring outcome. Together with our previous findings, our study paints a coherent picture of the global effect of bonding. The valuation loss of home only peers following US class action lawsuits suggest a global effect of bonding on firm valuation. The actions in response to the valuation loss suggest that the global bonding effect induces real effects in corporate financial policy. The positive outcome on the long-run valuation out of the real actions taken by the affected firms suggests the cross-borderly long-run benefit of bonding with the US governance system.

5 Conclusion

We study whether shareholder initiated class-action lawsuits have a disciplining effect that is beyond the pure enforcement. We argue that shareholder initiated class-action lawsuits not only start a process that

may lead to enforcement and therefore discipline the companies they target, but also provide information that help the market assess the value of other – non-affected but similar (“peer”) – companies. Shareholder initiated class-action lawsuits about a specific company make the market re-assess the likelihood that other “similar” companies should be affected by the very same issues that have triggered the lawsuits. The ensuing negative impact on the stock price will trigger “corrective” actions on the side of the companies aiming at reestablishing trust among the investors and reduce uncertainty about the company.

We test this hypothesis, looking at the impact of the US class action lawsuits against foreign firms on similar firms from the same country not affected by the lawsuits. That is, we look at how the class action lawsuit against a foreign firm listed in US affects the “peer” firms that are listed in the target firm’s home country and belong to the same industry.

We argue that these peer firms are subject to collateral damage on their valuation from the US class action lawsuits and in fact is less for the firms that are already linked to the US system (e.g., not confined). Firms will resort to corporate actions to regain investor trust – reduction of investment and cash holding, increase in payout. The willingness of the firms to engage in such policies is related to both their sensitivity of their valuation loss to the collateral damage as well as to degree they depend on external financing.

We test these hypotheses using data on a sample of 11212 pairs of firms around the world over the 1996-2012 period. We show that the US class action lawsuits against foreign firms reduce the Tobin’s Q for the peer firms and induce negative return of the home peer firms over the three-day window around the US class action lawsuits. The impact is stronger for firms that are not cross-listed or come from countries with worse quality of governance.

The firms react to such drop in values by reducing investment, increasing dividend and payout and reducing the amount of cash holdings. This effect is more pronounced for the firms that suffer from more severe valuation loss – i.e., the non cross-listed as well as the ones from worse quality of home country institutional quality – due to collateral damage from the US class action lawsuits as well as the firms more financial constrained.

These corporate policies achieve – at least partially – their goals. Indeed, home peer firms adjusting their corporate financial policies in response to the valuation loss following the US class action lawsuits enjoy a long term increase in valuation.

Our results contribute to the disciplining effect of corporate law and show how US-based class-action lawsuits have far-reaching effects around the world.

References

- Acemoglu, D., and M. Jackson, 2017, Social norms and the enforcement of laws. *Journal of the European Economic Association* 15(2), 245-295
- Admati, A.R. and P. Pfleiderer, 2009, The “Wall Street Walk” and Shareholder Activism: Exit as a Form of Voice. *Review of Financial Studies* 22, 2645-2685
- Aggarwal, R., I. Erel, R. Stulz, and R. Williamson, 2010, Differences in governance practices between US and foreign firms: Measurement, causes, and consequences. *Review of Financial Studies* 23(3), 3131-3169.
- Allen, F., A. Bernardo, and I. Welch, 2000, A theory of dividends based on tax clienteles. *Journal of Finance* 55, 2499-2536.
- Appel, I.R., T.A. Gormley, and D.B. Keim, 2016, Passive investors, not passive owners, *Journal of Financial Economics* 121, 111-141
- Arena, M. and B. Julio, 2015, The Effects of Securities Class Action Litigation on Corporate Liquidity and Investment Policy. *Journal of Financial and Quantitative Analysis* 50, 251–275.
- Brav, A., W. Jiang, F. Partnoy, and R. Thomas, 2008, Hedge fund activism, corporate governance, and firm performance. *Journal of Finance* 63, 1729–1775.
- Chen, L., 2016, Local Institutions, Audit Quality, and Corporate Scandals of US-Listed Foreign Firms. *Journal of Business Ethics* 133, 351–373.
- Cheng, B., S. Srinivasan, and G. Yu, 2013, Securities Litigation Risk for Foreign Companies Listed in the U.S. Working Paper, Harvard University.
- Claessens, S., S. Djankov, and L. Lang, 2000, The separation of ownership and control in East Asian Corporations. *Journal of Financial Economics* 58, 81-112
- Claessens, S. and L. Laeven, 2003, Financial Development, Property Rights, and Growth, *Journal of Finance* 58, 2401–2436..
- Clifford, C., 2008, Value creation or destruction? Hedge funds as shareholder activists. *Journal of Corporate Finance* 14, 323–336.

Coffee, J., 1999. The future as history: The prospects for global convergence in corporate governance and its implications. *Northwestern University Law Review* 93, 641-708.

Ding, Y., L. Gagnon, and X. Wang, 2014, Spillover Effects from U.S. Class Action Lawsuits: Evidence from Foreign Firms Cross-listed in the U.S. Working Paper. Queens' University & CUHK(SZ)

Dittmar, A. and Mahrt-Smith, 2007, Corporate governance and the value of cash holdings. *Journal of Financial Economics* 83, 599-634.

Doidge, C., G. A. Karolyi, and R. M. Stulz, 2004, Why are foreign firms listed in the U.S. worth more?. *Journal of Financial Economics* 71, 205-238.

Doidge, C., G. A. Karolyi, and R. M. Stulz, 2007, Why do countries matter so much for corporate governance? *Journal of Financial Economics* 86, 1-39.

Edmans, A., 2009, Blockholder Trading, Market Efficiency, and Managerial Myopia. *Journal of Finance* 64, 2481-2513.

Edmans, A. and G. Manso, 2011, Governance Through Trading and Intervention: A Theory of Multiple Blockholders. *Review of Financial Studies* 24(7), 2395-2428.

Fang, V.W., X.Tian, and S. Tice, 2014, Does Stock Liquidity Enhance or Impede Firm Innovation?. *Journal of Finance*, 69, 2085-2125.

Faure-Grimaud, A. and D. Gromb, 2004, Public Trading and Private Incentives. *Review of Financial Studies* 17, 985-1014

Ferreira, M. and P. Matos, 2008. The colors of investors' money: the role of institutional investors around the world. *Journal of Financial Economics* 88, 499–533.

Gande, A. and C., Lewis, C., 2009, Shareholder-initiated class action lawsuits: Shareholder wealth effects and industry spillovers, *Journal of Financial and Quantitative Analysis* 44, 823–850.

Gande, A. and D. Miller, 2012, Why Do U.S. Securities Laws Matter to Non-U.S. Firms? Evidence From Private Class-action Lawsuits. Working Paper. Southern Methodist University.

Greenwood, R., M. Schor, 2009, Investor activism and takeovers. *Journal of Financial Economics* 92, 362–375.

Hadlock, C., and J. Pierce. 2010. New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index. *Review of Financial Studies* 23, 1909–40.

Huang, X.X., Y.X. Rui, J.F. Shen, and G.Y. Tian, 2017, U.S. class action lawsuits targeting foreign firms: The country spillover effect. *Journal of Corporate Finance* 45, 378–400.

Jain, A., P. Jain, T. McInish, and M. McKenzie, 2013, Worldwide reach of short selling regulations. *Journal of Financial Economics* 109:177–97.

Jensen, M., 1986, Agency costs of free cash ow, corporate finance, and takeovers. *American Economic Review* 76, 323-329.

Kahn, C. and A. Winton, 1998, Ownership Structure, Speculation, and Shareholder Intervention. *Journal of Finance* 53, 99-129

Klein, A. and E. Zur, 2009, Entrepreneurial shareholder activism: hedge funds and other private investors. *Journal of Finance* 64, 187–229.

La Porta, R., F. Lopez-De-Silanes, A. Shleifer, and R. Vishny, 2000, Agency problems and dividend policies around the world. *Journal of Finance* 55, 1-33.

La Porta, R., F. Lopez-De-Silanes, A. Shleifer, and R. Vishny, 2002. Investor protection and corporate valuation. *Journal of Finance* 57, 1147-1170.

Leuz, C., D. Nanda, and P. Wysocki, 2003, Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69(3), 505-532.

Laeven, L. and R. Levine, 2008, Complex Ownership Structures and Corporate Valuations. *Review of Financial Studies* 21, 579–604.

Maug, E., 1998, Large Shareholders and Monitors: Is There a Trade-Off Between Liquidity and Control? *Journal of Finance* 53, 65-98

Myers, S., 2000, Outside equity. *Journal of Finance* 55, 1005-1037.

Reese, W. and M. Weisbach, 2002. Protection of minority shareholder interests, cross-listings in the United States, and subsequent equity offerings. *Journal of Financial Economics* 66, 65-104.

Silvers, R., 2016, The valuation impact of SEC enforcement actions on non-target foreign firms. *Journal of Accounting Research* 54, 187–234.

Spiegel, M. M., 2009, Financial globalization and monetary policy discipline: A survey with new evidence from financial remoteness. *IMF Staff Papers*, 56(1), 198–221.

Stulz, R., 2005, The limits of financial globalization. *Journal of Finance*, 60(4), 1595–1637.

Stulz, R., 1999, Globalization, corporate finance and the cost of capital. *Journal of Applied Corporate Finance* 12, 8-25.

Appendix: Variable Definitions

Variable	Definition	Source
Firm valuation variables		
Tobin's Q	Book value of total assets (field 02999) minus book value of common equity (field 03501) plus market value of common shares outstanding (field 08001), divided by book value of total assets (field 02999).	Worldscope
Adjusted Tobin's Q	Tobin's q divided by the average q of domestic firms from the same country in the same year.	Worldscope
Home firm policy variables		
Cash holding	Cash (field 02001) divided by total assets (field 02999).	Worldscope
Investment	Percentage of capital expenditure over total assets (field 08416).	Worldscope
Payout	Sum of common dividend (field 05376) and repurchase divided by total assets (field 02999). Share repurchase is calculated as the (positive) amount of funds used to decrease the number of shares outstanding (field 04751), net of any yearly changes in preferred stock (field 03451)	Worldscope
Firm characteristics		
Size	Natural logarithm of the book value of total assets (field 02999).	Worldscope
ROA	Operating income (field 18191) divided by Total assets (field 02999).	Worldscope
Sales growth	Change in sales (field 07240).from year t-1 to year t.	Worldscope
Ln_sales	Natural logarithm of total sales (field 07240).	Worldscope
Leverage	Book value of long term debt (field 03251) and short term debt (field 03051) divided by total assets (field 02999).	Worldscope
Country institutional quality variables		
Anti-self-dealing Index	An index of the strength of minority shareholder protection against self-dealing by the controlling shareholder.	Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008).
Common Law	Indicator variable set to one when the country's legal system is based on British Common law system and to zero otherwise.	World Bank

Table 1 Distribution of firms in global markets

This table presents the distribution of firms across 29 different countries in all the event years of US securities class action lawsuits launched against US listed foreign firms between 1996 and 2012. Panel A reports the distribution of lawsuits and corresponding peer firms by country. Panel B reports the distribution of lawsuits, firm-year observations for peer firms, firm-year observations for matched non-peer firms, and total firm-year observations by year.

Panel A: Distribution of lawsuits and peer firms by country

Nation	N of Lawsuits in US	N of Peer Firms
ARGENTINA	1	2
AUSTRALIA	1	0
BELGIUM	1	5
BRAZIL	1	1
CANADA	59	2527
CHINA	78	4889
FINLAND	3	30
FRANCE	10	323
GERMANY	15	294
GREECE	4	50
HONG KONG	12	240
INDIA	1	122
INDONESIA	1	7
IRELAND	11	53
ISRAEL	22	251
JAPAN	2	259
KOREA (SOUTH)	3	466
LUXEMBOURG	1	0
MEXICO	2	20
NETHERLANDS	12	50
RUSSIAN FEDERATION	1	30
SINGAPORE	2	36
SOUTH AFRICA	2	34
SPAIN	2	1
SWEDEN	1	20
SWITZERLAND	27	31
TAIWAN	1	514
TURKEY	1	0
UNITED KINGDOM	29	957
Total	306	11212

Panel B: Distribution of Observations by year in the matched regression sample

Year	N of Lawsuits in US	Total Obs	Obs of Peer Firms	Obs of Non-peer Firms
1995	N/A	40	21	19
1996	6	177	90	87
1997	6	504	259	245
1998	13	499	250	249
1999	7	944	470	474
2000	10	747	400	347
2001	12	1613	796	817
2002	19	1064	524	540
2003	18	2137	1055	1082
2004	27	1256	616	640
2005	15	2015	981	1034
2006	9	3368	1661	1707
2007	24	2285	1146	1139
2008	19	3746	1900	1846
2009	17	2882	1395	1487
2010	22	4993	2471	2522
2011	51	4757	2387	2370
2012	31	3729	1879	1850
2013	N/A	2764	1377	1387
Total	306	39520	19678	19842

Table 2 Summary statistics of main variables

The table presents descriptive statistics of main variables used in the study. Detailed variable definitions are presented in the Appendix.

Variable	mean	median	sd	p5	p95	N
<i>All firms</i>						
Tobin's Q	1.875	1.427	1.241	0.649	5.304	39520
Adjusted Tobin's Q	1.024	0.804	0.638	0.370	2.773	39520
Cash holding	0.198	0.141	0.182	0.004	0.631	39473
Investment	0.072	0.042	0.078	0.002	0.277	38850
Payout	0.012	0.000	0.020	0.000	0.069	39520
Size	11.861	11.876	1.941	8.628	15.099	39520
ROA	-0.005	0.052	0.267	-0.450	0.216	39520
Sale growth	0.183	0.116	0.384	-0.408	1.122	39520
Ln_sale	11.267	11.425	2.260	7.121	14.762	39520
Leverage	0.198	0.159	0.186	0.000	0.565	39520
<i>Peer firms</i>						
Tobin's Q	2.028	1.586	1.296	0.677	5.361	19678
Adjusted Tobin's Q	1.072	0.849	0.661	0.368	2.813	19678
Cash holding	0.211	0.155	0.186	0.004	0.648	19645
Investment	0.081	0.050	0.082	0.003	0.277	19389
Payout	0.011	0.000	0.020	0.000	0.067	19678
Size	11.863	11.921	1.869	8.621	14.923	19678
ROA	-0.009	0.051	0.274	-0.470	0.217	19678
Sale growth	0.186	0.128	0.382	-0.397	1.122	19678
Ln_sale	11.278	11.449	2.209	7.069	14.593	19678
Leverage	0.199	0.160	0.188	0.000	0.572	19678
<i>Matched non-peer firms</i>						
Tobin's Q	1.724	1.297	1.166	0.647	4.780	19842
Adjusted Tobin's Q	0.976	0.764	0.612	0.375	2.648	19842
Cash holding	0.184	0.127	0.176	0.005	0.614	19828
Investment	0.062	0.034	0.073	0.001	0.263	19461
Payout	0.013	0.000	0.020	0.000	0.071	19842
Size	11.858	11.817	2.009	8.629	15.264	19842
ROA	-0.001	0.053	0.259	-0.429	0.215	19842
Sale growth	0.179	0.105	0.385	-0.418	1.122	19842
Ln_sale	11.256	11.394	2.310	7.177	14.936	19842
Leverage	0.196	0.159	0.183	0.000	0.559	19842

Table 3: The impact of US class action lawsuits on the valuation of home peer firms

This table presents the impact of US class action lawsuits against US listed foreign firms on the valuations of home peer firms. The dependent variables are the valuation measures including *Tobin's Q* and *adjusted Tobin's Q*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. Panel A reports the regression results of a difference-in-difference test on the impact of US class action lawsuits on the valuation of home peer firms. Panel B reports the regression results of a dynamic difference-in-difference test on the impact of US class action lawsuits on the valuation of home peer firms. *Before*⁻¹ is a dummy that equals one if a firm-year observation is from the year before the lawsuit and zero otherwise. *Current* is a dummy that equals one if a firm-year observation is from the lawsuit year (year 0) and zero otherwise. *After*¹ is a dummy that equals one if a firm-year observation is from the year immediately after the lawsuit (year 1) and zero otherwise. *After*² is a dummy that equals one if a firm-year observation is from two years after the lawsuit (year 2) and zero otherwise. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Difference-in-Difference test

VARIABLES	Tobin's Q (1)	Adjusted Tobin's Q (2)
Peer*Post	-0.117*** (-6.971)	-0.059*** (-6.588)
Peer	0.175*** (8.792)	0.090*** (8.679)
Post	0.056*** (4.243)	0.022*** (3.201)
Size	-0.495*** (-26.388)	-0.257*** (-26.605)
ROA	0.054 (1.175)	0.036 (1.508)
Sale growth	0.338*** (18.540)	0.175*** (18.193)
Ln_sale	0.013 (0.892)	0.009 (1.239)
Leverage	-0.226*** (-3.370)	-0.122*** (-3.463)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	39,520	39,520
R-squared	0.756	0.744

Panel B: Dynamic Difference-in-Difference test

VARIABLES	Tobin's Q	Adjusted Tobin's Q
	(1)	(2)
Peer *Before ⁻¹	0.039 (1.628)	0.018 (1.386)
Peer *Current	-0.067** (-2.472)	-0.026* (-1.794)
Peer *After ¹	-0.096*** (-3.440)	-0.046*** (-3.043)
Peer * After ²	-0.076** (-2.540)	-0.034** (-2.107)
Before ⁻¹	-0.071*** (-4.580)	-0.038*** (-4.450)
Current	-0.080*** (-4.297)	-0.044*** (-4.290)
After ¹	-0.026 (-1.298)	-0.027** (-2.505)
After ²	-0.056*** (-2.602)	-0.040*** (-3.365)
Peer	0.174*** (6.369)	0.092*** (6.285)
Size	-0.820*** (-30.407)	-0.443*** (-29.965)
ROA	-0.187*** (-3.381)	-0.109*** (-3.618)
Sale growth	0.393*** (20.714)	0.212*** (20.676)
Ln_sale	0.029* (1.662)	0.019** (2.034)
Leverage	-0.152* (-1.941)	-0.072* (-1.680)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	91,512	91,512
R-squared	0.688	0.679

Table 4: The impact of US class action lawsuits on the valuation of home peer firms - interaction with cross-listing

This table presents the role of cross-listing status in the impact of US class action lawsuits on the valuation of home peer firms. The dependent variables are the valuation measures including *Tobin's Q* and *adjusted Tobin's Q*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. Cross-listed firms refer to the firms listed at home and simultaneously cross-listed in the US market. Home only firms refer to the firms that only listed at home markets. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	Tobin's Q			Adjusted Tobin's Q		
	(1)	(2)	(3)	(4)	(5)	(6)
	All	Cross-listed firms	Home only firms	All	Cross-listed firms	Home only firms
Peer*Post	-0.145*** (-7.481)	-0.080** (-2.507)	-0.146*** (-7.475)	-0.076*** (-7.256)	-0.033** (-1.983)	-0.076*** (-7.215)
Peer*Post *Cross-list	0.084** (2.215)			0.051** (2.556)		
Peer	0.216*** (9.095)	0.087** (2.571)	0.205*** (8.552)	0.112*** (8.896)	0.045** (2.553)	0.106*** (8.357)
Post	0.045*** (3.095)	0.047* (1.920)	0.053*** (3.391)	0.016** (2.105)	0.017 (1.296)	0.022*** (2.652)
Peer*Cross-list	-0.119*** (-2.784)			-0.062*** (-2.794)		
Post*Cross-list	0.037 (1.438)			0.020 (1.444)		
Size	-0.495*** (-26.403)	-0.406*** (-13.812)	-0.545*** (-22.843)	-0.257*** (-26.616)	-0.209*** (-13.930)	-0.286*** (-23.092)
ROA	0.055 (1.208)	-0.078 (-1.215)	0.141** (2.212)	0.037 (1.542)	-0.047 (-1.387)	0.094*** (2.798)
Sale growth	0.340***	0.363***	0.319***	0.175***	0.177***	0.171***

	(18.621)	(12.184)	(13.932)	(18.280)	(11.556)	(13.965)
Ln_sale	0.012	0.008	0.015	0.009	0.005	0.011
	(0.817)	(0.312)	(0.877)	(1.163)	(0.398)	(1.260)
Leverage	-0.226***	-0.038	-0.267***	-0.122***	-0.029	-0.137***
	(-3.363)	(-0.343)	(-3.164)	(-3.454)	(-0.515)	(-3.082)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39,520	11,992	27,528	39,520	11,992	27,528
R-squared	0.757	0.729	0.778	0.745	0.739	0.755

Table 5: The impact of US class action lawsuits on the valuation of home peer firms - interaction with governance

This table presents the role of country institutional quality in the impact of US class action lawsuits on the valuation of home peer firms. The measures of country level institutional quality include *Anti-self-dealing index* and *Common law dummy*. The dependent variables are the valuation measures including *Tobin's Q* and *adjusted Tobin's Q*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	Interaction with Anti-self-dealing index		Interaction with <i>Common law dummy</i>	
	Tobin's Q	Adjusted Tobin's Q	Tobin's Q	Adjusted Tobin's Q
	(1)	(2)	(3)	(4)
Peer*Post	-0.235*** (-3.676)	-0.157*** (-4.375)	-0.154*** (-7.624)	-0.081*** (-7.483)
Peer*Post*Governance	0.173* (1.879)	0.143*** (2.789)	0.110*** (3.024)	0.064*** (3.340)
Peer	0.034 (0.402)	0.042 (0.914)	0.233*** (9.490)	0.121*** (9.394)
Post	0.105*** (3.199)	0.043** (2.323)	0.047*** (2.966)	0.019** (2.285)
Peer*Governance	0.192 (1.636)	0.064 (0.994)	-0.146*** (-3.521)	-0.078*** (-3.610)
Post*Governance	-0.079* (-1.689)	-0.033 (-1.277)	0.007 (0.317)	0.000 (0.013)
Size	-0.492*** (-25.911)	-0.256*** (-26.185)	-0.492*** (-25.942)	-0.256*** (-26.176)
ROA	0.066 (1.417)	0.043* (1.770)	0.067 (1.439)	0.044* (1.787)
Sale growth	0.337*** (18.266)	0.173*** (17.912)	0.339*** (18.360)	0.175*** (18.009)
Ln_sale	0.006 (0.422)	0.005 (0.706)	0.006 (0.388)	0.005 (0.689)
Leverage	-0.226*** (-3.309)	-0.120*** (-3.363)	-0.224*** (-3.285)	-0.120*** (-3.360)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Observations	38,597	38,597	38,597	38,597
R-squared	0.756	0.745	0.756	0.745

Table 6: The impact of US class action lawsuits on the corporate policies of home peer firms

This table presents the regression results of a difference-in-difference test on the impact of US class action lawsuits against US listed foreign firms on the corporate policies of home peer firms. The dependent variables are the corporate policies measures including *Cash holding*, *Investment* and *Payout*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. Panel A reports the regression results of a difference-in-difference test on the impact of US class action lawsuits on the corporate policies of firms in other countries. Panel B reports the regression results of a dynamic difference-in-difference test on the impact of US class action lawsuits on the corporate policies of firms in other countries. *Before*¹ is a dummy that equals one if a firm-year observation is from the year before the lawsuit and zero otherwise. *Current* is a dummy that equals one if a firm-year observation is from the lawsuit year (year 0) and zero otherwise. *After*¹ is a dummy that equals one if a firm-year observation is from the year immediately after the lawsuit (year 1) and zero otherwise. *After*² is a dummy that equals one if a firm-year observation is from two years after the lawsuit (year 2) and zero otherwise. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Difference-in-Difference test

VARIABLES	Cash holding	Investment	Payout
	(1)	(2)	(3)
Peer* Post	-0.004* (-1.741)	-0.003** (-2.504)	0.003*** (8.761)
Peer	0.008*** (3.100)	-0.000 (-0.068)	-0.002*** (-5.770)
Post	-0.001 (-0.831)	-0.003*** (-3.111)	-0.001*** (-5.337)
Size	0.006* (1.919)	0.019*** (14.782)	0.000 (0.913)
ROA	0.038*** (6.124)	0.018*** (7.698)	0.003*** (5.818)
Sale growth	-0.008*** (-3.287)	0.023*** (17.844)	-0.003*** (-10.600)
Ln_sale	-0.015*** (-6.777)	-0.005*** (-5.587)	0.001*** (8.165)
Leverage	-0.172*** (-18.682)	-0.005 (-1.234)	-0.007*** (-7.647)
Tobin's Q	0.017***	0.009***	0.000***

	(13.892)	(15.139)	(2.678)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	39,473	38,850	39,520
R-squared	0.808	0.694	0.717

Panel B: Dynamic Difference-in-Difference test

VARIABLES	Cash holding	Investment	Payout
	(1)	(2)	(3)
Peer *Before ⁻¹	0.004** (2.397)	0.002 (1.413)	-0.000 (-0.356)
Peer *Current	0.002 (0.956)	0.001 (0.612)	0.001** (2.123)
Peer *After ¹	-0.001 (-0.302)	-0.002 (-1.519)	0.003*** (9.082)
Peer * After ²	-0.007*** (-2.682)	-0.003* (-1.955)	0.003*** (9.154)
Before ⁻¹	-0.002* (-1.875)	-0.001 (-0.827)	-0.000 (-0.247)
Current	-0.003** (-2.215)	-0.002*** (-2.859)	-0.000 (-1.483)
After ¹	-0.003 (-1.485)	-0.003*** (-3.019)	-0.001*** (-5.358)
After ²	0.000 (0.248)	-0.002** (-2.544)	-0.002*** (-7.131)
Peer	0.003 (1.638)	-0.002 (-1.608)	-0.002*** (-6.039)
Size	0.006*** (2.925)	0.019*** (21.818)	-0.000** (-2.006)
ROA	0.038*** (9.898)	0.017*** (11.878)	0.004*** (11.111)
Sale growth	-0.004*** (-2.813)	0.023*** (29.270)	-0.003*** (-19.206)
Ln_sale	-0.016*** (-10.187)	-0.006*** (-9.386)	0.002*** (13.154)
Leverage	-0.174*** (-27.921)	-0.006** (-2.175)	-0.007*** (-12.923)
Tobin's Q	0.009*** (16.052)	0.005*** (20.709)	0.000*** (2.963)
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	91,407	90,235	91,512
R-squared	0.777	0.634	0.668

Table 7: The impact of US class action lawsuits on the corporate policies of home peer firms - cross-listed VS home only firms

This table presents the role of cross-listing status in the impact of US class action lawsuits on the corporate policies of home peer firms. Cross-listed firms refer to the firms listed at home and simultaneously cross-listed in the US market. Home only firms refer to the firms that only listed at home markets. The dependent variables are the corporate policies measures including *Cash holding, Investment and Payout*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	All			Cross-listed firms			Home only firms		
	Cash Holding	Investment	Payout	Cash Holding	Investment	Payout	Cash Holding	Investment	Payout
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Peer* Post	-0.004 (-1.637)	-0.003* (-1.912)	0.004*** (10.518)	-0.004 (-0.880)	-0.004* (-1.658)	-0.000 (-0.163)	-0.005* (-1.868)	-0.003** (-1.983)	0.004*** (10.047)
Peer* Post*Cross-list	0.001 (0.181)	-0.001 (-0.344)	-0.003*** (-4.892)						
Peer*	0.006* (1.859)	-0.000 (-0.002)	-0.002*** (-5.537)	0.014*** (3.182)	0.000 (0.169)	-0.000 (-0.772)	0.005* (1.676)	-0.000 (-0.106)	-0.002*** (-6.671)
Post	-0.004* (-1.907)	-0.004*** (-3.106)	-0.000* (-1.806)	0.001 (0.182)	-0.002 (-1.049)	-0.000 (-0.005)	-0.002 (-0.757)	-0.003*** (-2.888)	-0.002*** (-5.882)
Peer*Cross-list	0.006 (1.176)	-0.000 (-0.055)	0.000 (0.765)						
Post*Cross-list	0.008** (2.259)	0.002 (0.821)	-0.002*** (-5.117)						
Size	0.006* (1.932)	0.019*** (14.781)	0.000 (0.941)	0.005 (1.208)	0.018*** (8.892)	-0.001* (-1.838)	0.007 (1.633)	0.019*** (11.807)	0.000 (1.081)
ROA	0.038*** (6.134)	0.018*** (7.698)	0.003*** (5.749)	0.030*** (3.445)	0.019*** (5.135)	0.003*** (3.892)	0.047*** (5.480)	0.018*** (5.972)	0.003*** (4.273)
Sale growth	-0.008***	0.023***	-0.003***	-0.010**	0.025***	-0.002***	-0.007**	0.022***	-0.004***

	(-3.247)	(17.861)	(-10.943)	(-2.539)	(11.640)	(-5.285)	(-2.221)	(13.533)	(-11.044)
Ln_sale	-0.015***	-0.006***	0.001***	-0.023***	-0.006***	0.001***	-0.012***	-0.006***	0.002***
	(-6.800)	(-5.607)	(8.381)	(-7.100)	(-3.462)	(4.722)	(-3.815)	(-4.589)	(6.577)
Leverage	-0.171***	-0.005	-0.007***	-0.164***	-0.011	-0.009***	-0.179***	-0.002	-0.005***
	(-18.687)	(-1.234)	(-7.721)	(-11.119)	(-1.604)	(-6.647)	(-15.360)	(-0.429)	(-4.303)
Tobin's Q	0.017***	0.009***	0.000***	0.022***	0.010***	0.001***	0.013***	0.008***	0.000
	(13.833)	(15.127)	(3.089)	(10.884)	(10.340)	(4.093)	(8.908)	(10.860)	(0.906)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39,473	38,850	39,520	11,961	11,879	11,992	27,512	26,971	27,528
R-squared	0.808	0.694	0.720	0.820	0.723	0.745	0.802	0.676	0.717

Table 8: The impact of US class action lawsuits on the corporate policies of home peer firms - interaction with governance

This table presents the role of country institutional quality in the impact of US class action lawsuits on the corporate policies of home peer firms. The measures of country level institutional quality include *Anti-self-dealing index* and *Common law dummy*. The dependent variables are the corporate policy measures including *Cash holding*, *Investment* and *Payout*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	Interaction with <i>Anti-self-dealing index</i>			Interaction with <i>Common law dummy</i>		
	Cash holding	Investment	Payout	Cash holding	Investment	Payout
	(4)	(5)	(6)	(7)	(8)	(9)
Peer*Post	0.008 (0.965)	-0.011** (-2.269)	0.001 (0.514)	-0.006** (-2.097)	-0.004** (-2.476)	0.003*** (7.833)
Peer*Post* <i>Governance</i>	-0.017 (-1.409)	0.011* (1.667)	0.003 (1.572)	0.008 (1.594)	0.003 (1.046)	-0.002*** (-3.828)
Peer	0.015 (1.361)	0.005 (1.053)	-0.002 (-1.266)	0.009*** (2.864)	-0.001 (-0.360)	-0.001*** (-3.645)
Post	0.003 (0.639)	-0.006** (-2.434)	-0.001 (-0.824)	-0.004* (-1.914)	-0.003*** (-2.659)	0.000 (1.207)
Peer* <i>Governance</i>	-0.011 (-0.679)	-0.008 (-1.093)	0.000 (0.109)	-0.004 (-0.815)	0.001 (0.402)	-0.000 (-0.034)
Post* <i>Governance</i>	-0.006 (-0.885)	0.005 (1.375)	-0.001 (-0.964)	0.006* (1.818)	0.001 (0.439)	-0.003*** (-7.496)
Size	0.005* (1.781)	0.019*** (14.598)	0.000 (0.765)	0.005* (1.772)	0.019*** (14.699)	0.000 (0.605)
ROA	0.037*** (5.908)	0.018*** (7.618)	0.003*** (5.583)	0.037*** (5.960)	0.018*** (7.612)	0.003*** (5.457)
Sale growth	-0.008*** (-3.149)	0.023*** (17.689)	-0.003*** (-10.586)	-0.007*** (-3.006)	0.023*** (17.749)	-0.003*** (-11.126)
Ln_sale	-0.015*** (-6.420)	-0.005*** (-5.486)	0.001*** (8.001)	-0.015*** (-6.488)	-0.005*** (-5.471)	0.001*** (8.288)
Leverage	-0.172*** (-18.526)	-0.005 (-1.146)	-0.007*** (-7.393)	-0.172*** (-18.541)	-0.005 (-1.188)	-0.007*** (-7.523)
Tobin's Q	0.016*** (13.667)	0.009*** (15.254)	0.000*** (3.139)	0.016*** (13.544)	0.009*** (15.215)	0.000*** (3.482)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	38,550	37,929	37,677	38,550	37,929	37,677
R-squared	0.806	0.693	0.723	0.806	0.693	0.726

Table 9: The impact of US class action lawsuits on the corporate policies of home peer firms - interaction with equity dependence

This table presents the role of equity dependence in the impact of US class action lawsuits on the corporate policies of home peer firms. The measures of equity dependence include *SA index* and *Age*. The *SA index* is a combination of asset size and firm age defined in Hadlock and Pierce (2010), .by construction, the index is higher for firms that depend more on equity financing. *Age* is the number of years a firm is recorded on Datastream, which is lower for firms that depend more on equity financing. The dependent variables are the corporate policy measures including *Cash holding*, *Investment and Payout*. *Peer* is an indicator equal to 1 for firms in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. *Post* is an indicator equal to 1 for the year after the event year, and equal to 0 for the year before the event year. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the pair level. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	Interaction with SA			Interaction with Age		
	Cash holding	Investment	Payout	Cash holding	Investment	Payout
	(1)	(2)	(3)	(4)	(5)	(6)
Peer*Post	-0.018*	-0.010*	0.007***	-0.008**	-0.005**	0.003***
	(-1.868)	(-1.726)	(3.949)	(-2.176)	(-2.484)	(5.516)
Peer*Post* <i>Equity Dependence</i>	-0.005	-0.002	0.001**	0.001***	0.000**	-0.000
	(-1.402)	(-1.242)	(2.493)	(2.596)	(2.009)	(-1.217)
Peer	-0.003	0.006	-0.007***	0.008**	0.001	-0.002***
	(-0.283)	(1.026)	(-4.202)	(2.100)	(0.583)	(-4.296)
Post	-0.010*	-0.012***	0.002**	-0.015***	-0.006***	-0.000
	(-1.698)	(-3.344)	(2.176)	(-5.379)	(-3.930)	(-0.447)
Peer* <i>Equity Dependence</i>	-0.004	0.002	-0.002***	-0.000	-0.000	0.000
	(-0.904)	(1.069)	(-3.224)	(-0.595)	(-1.095)	(1.108)
Post* <i>Equity Dependence</i>	-0.003	-0.003**	0.001***	0.001***	0.000***	-0.000***
	(-1.432)	(-2.528)	(3.358)	(7.441)	(2.959)	(-3.760)
<i>Equity Dependence</i>	0.046***	-0.002	0.002*	-0.001	-0.003***	0.001***
	(3.476)	(-0.403)	(1.678)	(-0.227)	(-3.260)	(2.925)
Size	-0.003	0.020***	-0.000	0.006*	0.019***	0.000
	(-0.637)	(10.756)	(-0.945)	(1.952)	(14.888)	(0.746)
ROA	0.042***	0.018***	0.003***	0.038***	0.018***	0.003***
	(6.733)	(7.477)	(6.152)	(6.087)	(7.603)	(5.930)
Sale growth	-0.008***	0.023***	-0.003***	-0.009***	0.023***	-0.003***
	(-3.267)	(17.738)	(-10.401)	(-3.694)	(17.565)	(-10.157)
Ln_sale	-0.016***	-0.005***	0.001***	-0.015***	-0.005***	0.001***
	(-7.194)	(-5.464)	(7.895)	(-6.488)	(-5.314)	(7.727)
Leverage	-0.175***	-0.005	-0.007***	-0.169***	-0.005	-0.007***

	(-19.008)	(-1.101)	(-7.925)	(-18.453)	(-1.114)	(-7.799)
Tobin's Q	0.016***	0.009***	0.000**	0.016***	0.008***	0.000***
	(13.531)	(15.099)	(2.551)	(13.498)	(14.901)	(2.997)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	39,473	38,850	39,520	39,473	38,850	39,520
R-squared	0.808	0.695	0.718	0.809	0.695	0.718

Table 10: The outcome of peer firms' corporate policy adjustments

This table presents the outcome of firms' policy adjustments, namely, the impact of firms' policy adjustments on the future valuations of those firms. The dependent variables are the valuation change at future years relative to $t+1$, the year after the event year. The valuation measures include *Tobin's Q* and *Adjusted Tobin's Q*. We report the second- and third-year valuation changes relative to the first year after the event. The valuation change for second year is defined as *Tobin's Q* _{$t+2$} -*Tobin's Q* _{$t+1$} . *Adjusted Tobin's Q* _{$t+2$} -*Adjusted Tobin's Q* _{$t+1$} , respectively. The valuation change for the third year is defined as *Tobin's Q* _{$t+3$} -*Tobin's Q* _{$t+1$} . *Adjusted Tobin's Q* _{$t+3$} -*Adjusted Tobin's Q* _{$t+1$} , respectively. The policy adjustment measures are the change of a firm's policy level on the year before and after and event. Specifically, *Cash change* is defined as *Cash holding* _{$t+1$} - *Cash holding* _{$t-1$} . *Investment change* is defined as *Investment* _{$t+1$} - *Investment* _{$t-1$} . *Payout change* is defined as *Payout* _{$t+1$} -*Payout* _{$t-1$} . *Peer* is an indicator equal to 1 for firm in the treatment sample, in which firms are domiciled in the same country and industry of the target firm in a US class action lawsuit; and equal to 0 otherwise. All other variable definitions are presented in details in the Appendix. All continuous variables are winsorized at the 1% level on both tails. All regressions control for firm and year fixed effects. Standard errors are clustered by pair. The t-statistics are in parenthesis. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

VARIABLES	Change in Tobin's Q						Change in adjusted Tobin's Q					
	Tobin's Q _{$t+2$} - Tobin's Q _{$t+1$}		Tobin's Q _{$t+3$} - Tobin's Q _{$t+1$}				<i>Adjusted Tobin's Q</i> _{$t+2$} - <i>Adjusted Tobin's Q</i> _{$t+1$}		<i>Adjusted Tobin's Q</i> _{$t+3$} - <i>Adjusted Tobin's Q</i> _{$t+1$}			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Cash change*Peer	-0.283**			-0.121			-0.126**			0.051		
	(-2.365)			(-0.690)			(-1.995)			(0.690)		
Investment change*Peer		0.016			0.042			0.038			0.032	
		(0.087)			(0.162)			(0.383)			(0.294)	
Payout change*Peer			1.719**			2.108*			0.804**			0.868*
			(2.435)			(1.920)			(2.094)			(1.938)
Cash change	-0.255***			-0.386***			-0.140***			-0.112**		
	(-2.779)			(-2.962)			(-2.874)			(-2.021)		
Investment change		-0.700***			-0.792***			-0.370***			-0.048	
		(-4.886)			(-3.992)			(-4.950)			(-0.603)	
Payout change			-1.202**			-1.998**			-0.735**			-0.448

			(-2.248)			(-2.493)			(-2.527)			(-1.449)
Peer	-0.035*	-0.030	-0.040**	-0.085***	-0.059**	-0.087***	-0.021**	-0.018*	-0.024**	-0.021*	-0.012	-0.021*
	(-1.884)	(-1.554)	(-2.144)	(-3.731)	(-2.536)	(-3.837)	(-2.157)	(-1.788)	(-2.403)	(-1.905)	(-1.027)	(-1.878)
Size	0.160***	0.140***	0.180***	0.312***	0.272***	0.332***	0.084***	0.074***	0.095***	0.098***	0.089***	0.103***
	(6.268)	(5.044)	(7.036)	(9.051)	(7.404)	(9.652)	(6.263)	(5.043)	(7.025)	(7.431)	(6.176)	(7.841)
ROA	-0.080	-0.044	-0.104*	-0.016	0.053	-0.032	-0.034	-0.016	-0.045	0.031	0.033	0.026
	(-1.306)	(-0.665)	(-1.692)	(-0.191)	(0.594)	(-0.370)	(-1.056)	(-0.459)	(-1.399)	(0.924)	(0.913)	(0.773)
Sale growth	-0.120***	-0.112***	-0.112***	-0.181***	-0.156***	-0.173***	-0.070***	-0.066***	-0.065***	-0.024*	-0.015	-0.024*
	(-5.085)	(-4.506)	(-4.737)	(-5.330)	(-4.340)	(-5.061)	(-5.574)	(-4.997)	(-5.216)	(-1.706)	(-1.013)	(-1.677)
Ln_sale	-0.002	-0.010	-0.010	-0.044	-0.053*	-0.055**	0.000	-0.003	-0.004	-0.030***	-0.030***	-0.033***
	(-0.119)	(-0.461)	(-0.522)	(-1.640)	(-1.818)	(-1.983)	(0.006)	(-0.298)	(-0.397)	(-2.861)	(-2.619)	(-3.049)
Leverage	0.091	0.081	0.049	0.224*	0.277**	0.195	0.047	0.041	0.023	0.026	0.064	0.028
	(1.085)	(0.894)	(0.583)	(1.804)	(2.022)	(1.562)	(1.063)	(0.867)	(0.525)	(0.514)	(1.161)	(0.545)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30,561	28,277	30,509	24,931	22,907	24,876	30,561	28,277	30,509	25,311	22,830	25,209
R-squared	0.431	0.442	0.427	0.452	0.463	0.450	0.444	0.456	0.441	0.455	0.480	0.454