

# Climate Laws and Cross-Border Mergers and Acquisitions<sup>\*</sup>

Tong Li<sup>†</sup>    Dragon Yongjun Tang<sup>‡</sup>    Fei Xie<sup>§</sup>

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## Abstract

Climate-related regulations have become increasingly prevalent in countries worldwide. However, due to the global public good nature of the climate, it is unclear to what extent these regulations are enforced by individual countries and whether they influence key corporate decisions. We shed light on this issue by examining the impact of climate laws on the international market for corporate control. We find that foreign acquirers are significantly less likely to pursue targets in countries that have enacted climate laws. This effect is stronger when targets operate in industries more exposed to climate regulations and in countries with stricter legal enforcement, but is weaker for acquirers from countries that are more concerned about climate change or experienced climate disasters. Consistent with a selective enforcement mechanism, the political affinity between the acquirer and target countries attenuates the impact of climate regulations. Furthermore, cross-border deals feature smaller synergies, lower premiums, and less post-merger operating performance improvement after target countries pass climate laws. Deals announced shortly before the enactment of climate laws are more likely to be withdrawn.

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<sup>†</sup> HKU Business School, The University of Hong Kong. Email: litong17@hku.hk.

<sup>‡</sup> HKU Business School, The University of Hong Kong. Email: yjtang@hku.hk.

<sup>§</sup> Alfred Lerner College of Business & Economics, University of Delaware; European Corporate Governance Institute (ECGI). Email: xief@udel.edu.

# 1 Introduction

Governments around the world are increasingly adopting regulations to address the pressing challenge of global climate change, requiring firms to fulfill a set of obligations such as reducing the consumption of fossil fuels. Some broad examples include the Inflation Reduction Act in the U.S. and the Carbon Border Adjustment Mechanism in the E.U., both enacted in 2022. A burgeoning literature investigates how climate policies drive firm decisions, including R&D expenditure (Brown, Martinsson, and Thomann, 2022) and capital structure (Dang, Anh, Gao, and Yu, 2022). In this paper, we examine the impact of climate regulations on the international market for corporate control.<sup>1</sup> We argue and provide evidence that national climate laws can affect the incidence, volume, and value creation of cross-border mergers and acquisitions.

Climate laws can reduce the likelihood of firms in the law-adopting country being taken over by foreign acquirers for at least three reasons. First, climate regulations may adversely affect merger synergies by imposing frictions and costs on the integration and restructuring activity and the continued operation of the merged company. Second, the costs and restrictions associated with climate regulations may eliminate inefficient domestic firms and force surviving firms to become leaner in their cost structure and more efficient in their operations. This reduces the availability of domestic firms that are attractive targets to foreign acquirers because there is less room for post-acquisition operational improvement and value creation. Third, to the extent that some cross-border acquisitions are driven by the acquirer's motive to take advantage of the target country's lax climate policies, the target country's implementation of climate laws reduces the appeal of such regulatory arbitrage attempts. However, it is also possible for the merger activities between two countries to increase after the target country adopts climate laws. For example, enacting climate laws may reduce the uncertainty about future climate policies, assuaging firms' concerns about making large, difficult-to-reverse investments such as cross-border acquisitions. Thus, the effect of climate laws on cross-border acquisitions is ultimately an empirical question.

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<sup>1</sup> This market is large in size, with the global cross-border mergers and acquisitions in 2019 alone valued at \$1.2 trillion, and important for global corporate governance (e.g., Albuquerque, Brandão-Marques, Ferreira, and Matos, 2019). Erel, Jang, and Weisbach (2022) provide an excellent review on cross-border mergers and acquisitions.

We compile a comprehensive dataset of climate laws in 157 countries or regions and link it to cross-border M&A deals. Employing a difference-in-differences (DiD) approach for the staggered enactment of climate laws, we find that climate laws have a significant chilling effect on cross-border merger activities. In particular, both the number and the dollar volume of acquisitions between two countries decrease after the target country adopts a climate law. This effect persists after controlling for a host of time-varying country determinants of cross-border acquisitions (e.g., macroeconomic factors, investment environment, institutional quality, bilateral trade relations, and valuation effects associated with local currencies) and any time-invariant country-pair-specific factor. A dynamic DiD analysis further establishes that there is no change in acquisition activities between two given countries before the target country's climate-law enactment and that the reduction in cross-border acquisitions only occurs after the target country adopts climate laws. The chilling effect remains stable both in the short term and in the long run. In addition, the effects are similar among within-industry and cross-industry acquisitions. We also obtain similar results using alternative measures of merger activities and alternative subsamples that exclude very large and/or small countries. With pseudo adoption years, we find no significant impacts of climate law adoption on cross-border acquisitions, suggesting that our baseline results are unlikely driven by chance.

We supplement the DiD analysis by examining the relation between cross-border merger activities and a continuous measure of climate policy stringency. We find that cross-border acquisition activities decrease significantly as the target country's climate policy becomes more stringent. Further results indicate that the gap in climate policy stringency between the acquirer and target countries plays an important role. In particular, the stricter the climate policies in the target country are relative to those in the acquirer country, the fewer cross-border acquisitions occur between the two countries. The evidence corroborates our baseline finding.

We demonstrate cross-sectional heterogeneities in our baseline finding to shed light on the channels through which climate laws affect cross-border M&A activities.<sup>2</sup> Consistent with climate laws imposing additional restrictions and costs on post-acquisition integration, restructuring, and operations, we find that the decline in cross-border acquisitions following

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<sup>2</sup> We also find consistent results across some subsamples. For example, the climate law effect is significant for both within-industry and across-industry merger deals.

the target country's climate-law adoption is more pronounced (1) when the target country has stronger legal enforcement, and (2) when deals involve firms that are expected to be impacted more by climate laws, such as companies in the mining, manufacturing, transportation, and public utility sectors.<sup>3</sup>

If the heightened regulatory burden arising from climate laws indeed contributes to the decline in cross-border deals, the decline should be smaller when the acquiring firms are more concerned about the climate crisis and thus are more willing to incur the additional regulatory costs. Consistent with this conjecture, our baseline results are weaker when acquirer firms come from (1) countries where more people regard climate change as a serious issue or (2) countries that have recently experienced significant climate disasters and thus are likely motivated to address climate issues. To the extent that firms from such countries are less likely to engage in carbon leakage through cross-border mergers and acquisitions, our results also suggest that climate laws deter cross-border transactions driven by regulatory arbitrage motives.

We also find a stronger negative relation between climate laws and cross-border deals when acquiring firms are from countries with low political affinity with the target country. To the extent that authorities in the target country are inclined to enforce climate laws more strictly against firms affiliated with low-affinity countries, this evidence is consistent with a selective-enforcement channel driving our main results. As further support for this view, we show that the decline in cross-border mergers and acquisitions is more pronounced among larger transactions, which are likely to generate more nationalist concerns in the target country.

In addition to the frequency of cross-border acquisitions, we relate climate laws to several important deal characteristics, including the shareholder value and operating performance impacts of acquisitions and the deal withdrawal probability. We find that after a target country adopts climate laws, both deal synergies and takeover premiums of cross-border transactions involving targets from that country fall significantly, and acquirers experience less improvement in operating performance from before to after the acquisitions. Moreover, previously announced bids are more likely to be withdrawn following the adoption of climate laws in the target country. These results are consistent with the additional frictions and costs

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<sup>3</sup> Note that mining and manufacturing industries cover firms in oil & gas extraction and petroleum & coal products, respectively.

arising from climate laws.

This paper contributes to the growing literature on the impacts of climate policies and, more broadly, environmental policies.<sup>4</sup> Existing research has documented the implications of these policies for asset pricing (Bolton and Kacperczyk, 2022) and shareholders' investment decisions (Krueger, Sautner, and Starks, 2020). Climate policies can also affect corporate decisions, such as the location of carbon emissions (Ben-David, Jang, Kleimeier, and Viehs, 2021), innovation strategies (Dai, Duan, and Ng, 2021), capital structure (Dang, Anh, Gao, and Yu, 2022), and R&D expenditure (Brown, Martinsson, and Thomann, 2022). This paper, to our best knowledge, is the first one to document that national laws aiming at mitigating climate change reduce cross-border acquisition activities.

This paper also adds to the literature on cross-border mergers and acquisitions. Compared with domestic mergers and acquisitions, cross-border transactions are more complex. One element of the complexity is that firms face frictions associated with country-level institutions when acquiring foreign companies.<sup>5</sup> Prior research highlights the role of national culture (Ahern, Daminelli, and Fracassi, 2015), bank regulations (Karolyi and Taboada, 2015), labor protection (Dessaint, Golubov, and Volpin, 2017), disclosure requirements (Bonetti, Duro, and Ormazabal, 2020), and economic policy uncertainty (Bonaime, Gulen, and Ion, 2018). Distinct from these studies, we focus on climate regulations. What distinguishes climate regulations from other regulations is that the global public good nature of climate makes it uncertain how effectively climate regulations are enforced by countries and as a result, whether these regulations will have material effects on major firm decisions. We find robust evidence that cross-border acquirers are less likely to take over targets in countries with climate laws, especially when targets are from industries more exposed to climate regulations and from countries with stronger legal enforcement. These results suggest that the frictions and costs created by climate regulations in the target country are indeed part of the consideration for

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<sup>4</sup> According to a recent survey conducted by Stroebl and Wurgler (2021), regulatory risk is ranked as the top risk associated with climate change for businesses and investors over the next five years. Another strand of literature considers the impacts of physical climate risks. Interested readers may refer to, among others, Lin, Schmid, and Weisbach (2019) and Bai, Chu, Shen, and Wan (2021).

<sup>5</sup> Cross-border mergers and acquisitions are also related to other factors such as international trade relations (e.g., Ahmad, de Bodt, and Harford, 2021; Bhagwat, Brogaard, and Julio, 2021) and firms' incentives to deploy their intangible advantages on foreign assets (Fresard, Hege, and Phillips, 2017).

firms contemplating foreign acquisitions.

Finally, this paper provides important policy implications. Climate laws are crucial for combating climate change. In a cross-country setting, climate laws may prevent the country from being a “pollution heaven” and reduce the likelihood of carbon leakage. Nevertheless, climate regulations in target countries, as our paper shows, can reduce synergies from cross-border acquisitions and discourage such transactions. Given the role of cross-border acquisitions for international capital flows and the significance of the global market for corporate control, this paper calls for more attention to the design of climate policies. In lieu of climate laws, providing subsidies for climate-friendly corporate actions could be a possible way to avoid the adverse consequences of climate regulations. For countries that already have climate laws in place, policymakers can try to attract international capital through policy reforms in other areas, such as lowering statutory tax rates, loosening product market regulations, or improving financial markets.

## **2 Background and Hypothesis Development**

### **2.1 Global Climate Laws**

Climate change, which is featured by a global warming process, has wide-ranging impacts on the physical environment, ecosystems, and human societies on our planet. The intensifying climate crisis has prompted national actions worldwide that aim to mitigate and better adapt to climate change. These actions require a solid legal basis in order to avoid the free-rider problem because individuals and organizations can benefit from a hospitable and resilient environment even if they do not contribute to it. Climate laws serve this purpose and address issues of climate change mitigation and adaptation. The broad forms of climate laws range from legislation approved by parliaments (or equivalent parties) to executive orders or policies of equal importance issued by governments. In general, climate laws cover one or more of the following dimensions: enhancing energy efficiency, promoting low-carbon energy, curbing greenhouse gas emissions through carbon pricing or other policies, encouraging research and development on green technology, regulating land use to reduce deforestation, and establishing supervisory authorities to manage domestic responses to climate change. Examples of climate

laws are as provided in the Internet Appendix.

It is common for climate laws to specify obligations for businesses, which tend to increase regulatory costs for firms. The evidence on corporate behavior supports the idea that climate policies impose significant costs on firms. For example, Bartram, Hou, and Kim (2022) show that in response to the California cap-and-trade rule, financially constrained firms shift greenhouse gas emissions and outputs from California to other states where they have similar but underutilized plants. Similarly, Ben-David, Jang, Kleimeier, and Viehs (2021) document that multinational firms choose to allocate their CO<sub>2</sub> emissions to countries with less stringent climate regulations. In addition, firms respond to indirect costs associated with climate policies. For example, in response to higher electricity prices following the NO<sub>x</sub> Budget Trading Program that requires power plants to cut emissions, manufacturing firms adopt lower financial leverage to mitigate the risk of increased operating leverage (Dang, Anh, Gao, and Yu, 2022). Brown, Matinsson, and Thomann (2022) find that higher country taxes on toxic emissions lead to increased R&D spending by firms. Moreover, evidence from equities (Bolton and Kacperczyk, 2021), bank loans (Ivanov, Kruttli, and Watugala, 2022), and corporate bonds (Seltzer, Starks, and Zhu, 2022) suggests that the exposure to climate policies affects firms' financing costs.

## **2.2 Hypothesis Development**

Climate laws can affect the process of cross-border mergers and acquisitions in various ways, making their ultimate impact difficult to predict *ex ante*. On the one hand, there are reasons to expect climate laws to reduce the intensity of cross-border M&A activities related to the law-adopting country. Mergers and acquisitions are often motivated by synergy gains that are usually realized through cost reduction and revenue enhancement.<sup>6</sup> Cost reduction can stem from economies of scale and scope, while revenue enhancement may result from improved operating efficiency or increased market power. Mergers targeting firms in countries with climate laws may generate lower synergy gains because such regulations likely create

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<sup>6</sup> Although agency problems may induce some managers to engage in value-destroying acquisitions, it has been well-documented that mergers, on average, increase the combined equity value of the acquiring and target firms. For example, Devos et al. (2009) estimate that the average synergy gains in 264 large mergers between 1980 to 2004 to be as large as 10.03% of the combined equity of the acquirer and target firms.

frictions and costs for the integration and restructuring process as well as the continued operation of the merged business. For instance, restrictions on energy use may prevent the acquiring firm from applying its production technology in the target country. In other cases, frictions and costs from climate laws may drive away potential customers and suppliers of the combined firm and thereby hurt merger synergies.

In addition, climate regulations can impose costs and restrictions on domestic firms in the law-adopting country, which can have significant implications for firm efficiency and, thereby, merger synergies. Specifically, the costs and restrictions introduced by climate regulations may cause inefficient companies to go out of business, and force the remaining firms to become more efficient and cost-effective, leaving less room for efficiency improvement and value creation if the survivors were acquired. As a result, foreign acquirers would find it harder to identify potential target companies that are attractive to them following the adoption of climate laws.

Furthermore, acquirers from countries with strict climate regulations may engage in cross-border acquisitions to take advantage of the weak climate policies in the target country. One would expect the passage of climate laws in the target country discourages cross-border acquisitions motivated by such regulatory arbitrage incentives.

Building on the arguments above, we predict that all else being equal, the adoption of climate laws in a country leads to fewer cross-border mergers that target firms in the country. This hypothesis is stated as follows:

**Hypothesis 1a:** *Climate laws in a country reduce the inbound cross-border mergers and acquisitions.*

On the other hand, the passage of climate laws in a country may increase cross-border mergers and acquisitions targeting firms in the country. First, to the extent that passing climate laws is viewed as the resolution of uncertainty about future climate policies, foreign acquirers may be more willing to buy firms in countries with climate laws than those in countries without such regulations. This is because resolved uncertainty can encourage firms to make large, irreversible investments such as mergers and acquisitions. Second, potential targets in countries with climate laws can be more attractive due to the benefits of heightened resilience to future



physical climate risks, particularly in the long run. Finally, climate regulations may provide opportunities for acquirers with advanced technologies in climate mitigation and adaptation to generate value by applying their expertise to the target country. These arguments lead to the following prediction:

**Hypothesis 1b:** *Climate laws in a country increase the inbound cross-border mergers and acquisitions.*

Climate laws primarily focus on the process of global warming that is closely related to the emission of greenhouse gas. Therefore, it is natural to expect that the climate-related regulatory risk faced by a company positively depends on the intensity of its greenhouse gas emissions, which is largely determined by the nature of the firm's business. For example, climate regulations are likely to place greater pressure on firms in high-emission industries such as steel and mining to decarbonize than firms that provide consulting services. We posit that the targets' exposure to climate laws plays an important role in firms' reactions to climate regulations when making cross-border acquisition decisions. More formally, our second hypothesis is stated as follows:

**Hypothesis 2:** *The effects of climate laws on cross-border mergers and acquisitions are more pronounced for target firms with higher exposure to climate regulations.*

The mere existence of climate regulations does not necessarily suggest that they will have an impact on corporate decisions. The extent to which climate laws are enforced should matter as well. Motivated by the variations in legal enforcement across countries (e.g., La Porta et al., 1998), we investigate the role of legal enforcement in the relation between climate regulations and cross-border acquisitions. Intuitively, climate laws are more influential if they are better enforced, which leads to the following hypothesis:

**Hypothesis 3:** *The effects of climate laws on cross-border mergers and acquisitions are more pronounced in countries with stronger legal enforcement.*

### **3 Data and Summary Statistics**

### 3.1 Climate Laws

We combine four sources to collect information on climate change-related laws. The first one is ECOLLEX, which is an official service jointly offered by the Food and Agriculture Organization of the United Nations (FAO), the International Union for Conservation of Nature (IUCN), and the United Nations Environment Programme (UNEP). We also rely on other sources, including the Climate Change Laws of the World database provided by the Grantham Research Institute, the Climate Policy Database maintained by NewClimate Institute, and the Carbon Pricing Dashboard of the World Bank.

In this paper, we focus on the first major national-level climate change laws in the following categories within each country: regulations regarding greenhouse gas emissions, national climate strategy, and the establishment of a supervisory committee for combating climate change.<sup>7</sup> A list of these laws is provided in the Internet Appendix. We find that these climate laws are effective in cutting carbon emissions (Figure IA.1 in the Internet Appendix), which is consistent with findings from prior research.<sup>8</sup>

[Insert Figure 1 Here]

There is a large cross-country variation in the adoption time of climate laws (shown in Figure 1). Early adopters introduced climate change regulations around 1990, whereas some countries passed climate laws in recent years. Such variation allows us to identify the effects of climate laws on cross-border acquisition activities in a difference-in-differences design.

### 3.2 Cross-Border Mergers and Acquisitions

We obtain deal-level information on global mergers and acquisitions from the Security Data Company (SDC) Mergers and Corporate Transactions database. We start with all M&A deals announced between 1985 and 2019 and apply several filters to create the final sample following the literature. Our sample excludes LBOs, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, and privatizations. Acquisitions involving firms in the financial industry are also excluded. We further require that the acquirer owns less than 50%

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<sup>7</sup> Other types of climate laws, such as those specifically aiming to reduce deforestation, are likely not influential for firms in the business sector.

<sup>8</sup> See e.g., Sawhney (2013), Martin, Muûls, and Wagner (2016), and Eskander and Fankhauser (2020).

of the target firm before the bid and owns more than 50% of the target firm after the deal completion, which means we focus on acquisitions of majority interests. Moreover, we only keep completed cross-border deals in our main analysis. These data filters yield a sample of 47,764 cross-border deals. For public firms in our mergers and acquisitions sample, we obtain their stock returns and accounting data from Datastream and Worldscope, respectively.

### **3.3 Measures of Country Development and Governance**

We obtain country-level GDP per capita, annual GDP growth rate, and exchange rates of local currency to US dollars from Penn World Table. The information on bilateral trade is from UN Comtrade. A bilateral import (export) in a given year is calculated as the dollar value of annual imports (exports) in the target country from (to) the acquirer country as a percent of all imports (exports) from (to) all foreign nations.

In addition, we collect data on institutions in each country from International Country Risk Guide (ICRG). Specifically, we measure a country's investment environment with the investment profile subcomponent in the ICRG political risk ratings; following Bekaert, Harvey, Lundblad, and Siegel (2007), we measure the quality of a country's institutions by the sum of three ICRG political risk subcomponents: Corruption, Law and Order, and Bureaucratic Quality.

### **3.4 Summary Statistics**

After removing observations with missing control variables, we obtain a sample of 38,447 country-pair-year observations for 105 unique countries. In the list of countries, 93 and 102 countries serve as acquirer and target countries, respectively. Table IA.2 in the Internet Appendix reports the total number of cross-border acquisitions in our sample between major target and acquirer country pairs. The United States is the country with the highest number of both inbound and outbound acquisitions.

[Insert Table 1 Here]

Table 1 presents the summary statistics. There is an average of 0.64 deals for each acquirer-target country pair in a year. The mean value is small because there are a large number of country-pair years with zero cross-border deals. Approximately 65% (66%) of the sample

are associated with target (acquirer) countries that have adopted climate laws. On average, acquirer countries have higher GDP per capita, better investment profiles, and better institutional quality than target countries. Moreover, deal-level characteristics are comparable to those of the cross-border M&A sample in previous studies. For example, the average cumulative abnormal return of the combined firm is 3.4%, in line with the existing evidence that synergy gains from international acquisitions are generally positive but moderate.

## 4 Climate Laws and Cross-Border Acquisition Activities

We start our analysis by examining how climate laws affect the frequency of cross-border mergers and acquisitions. We first present results from our baseline difference-in-differences specification. We then estimate the dynamic effects of climate laws on cross-border acquisition activities. In addition, we conduct a placebo test to show that our findings are unlikely to be driven by chance. We also confirm our findings based on alternative samples and measures. Finally, we explore the relation between cross-border merger activities and a continuous measure of climate law stringency.

### 4.1 Baseline Results

To examine how climate laws in the target and acquisition countries affect the propensity of firms from one country to acquire firms in another country, we estimate the following multivariate regression:

$$y_{i,j,t} = \alpha + \beta_1 \text{Climate Law}_{i,t} + \beta_2 \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1}\gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t}, \quad (1)$$

where  $y_{i,j,t}$  is the incidence of cross-border acquisitions between two countries in a given year, measured as the logarithm of one plus the number of cross-border mergers and acquisitions between acquirer country  $j$  and target country  $i$  in year  $t$ .<sup>9</sup>  $\text{Climate Law}_{i,t}$  ( $\text{Climate Law}_{j,t}$ ) is an indicator that equals one if the target (acquirer) country has adopted a climate law as of year  $t$ , and zero otherwise.  $\mathbf{X}$  represents a vector of control variables.  $\tau_t$  and  $\tau_{i,j}$  denote year fixed effects and acquirer-target country-pair fixed effects, respectively. Standard errors are clustered at the country-pair and year level.

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<sup>9</sup> There are concerns on using the “log1plus” method as illustrated in Cohn, Liu, and Wardlaw (2022). We address such concerns in the robustness checks (Table IA.3 in the Internet Appendix).

We include control variables commonly used to explain cross-border merger activities following Erel, Liao, and Weisbach (2012). First, macroeconomic conditions in both target and acquirer countries may affect the propensity of firms from one country to acquire firms from another country. Therefore, we include the difference in log GDP per capita of the acquirer and target countries ( $\Delta(\log GDP \text{ per capita})_{acq-tgt}$ ), as well as the difference in annual growth rates of real GDP between the two countries ( $\Delta(GDP \text{ Growth})_{acq-tgt}$ ). Second, we include the maximum of bilateral import and export between a country pair ( $Max(Import, Export)$ ) to control for the volume of general business activities between the two countries. Third, the value of the target firm for the acquiring firm may vary depending upon the relative value of their local currencies. Therefore, our regression incorporates the difference between the exchange rates of the acquirer's and target's local currencies to the US dollar ( $\Delta(Exchange \text{ Rate})_{acq-tgt}$ ). The regression also controls for country-level investment environment and institutional quality defined earlier, which are measured as differences between the acquirer and target countries ( $\Delta(Investment \text{ Profile})_{acq-tgt}$  and  $\Delta(Quality \text{ of Institution})_{acq-tgt}$ ). Finally, to control for the effects of the availability of potential acquisition targets, we incorporate the difference in the annual growth rate of the number of domestic acquisition deals between the acquirer and target countries.

Table 2 reports estimation results from Equation (1). In the first specification, we regress the incidence of cross-border acquisitions on climate law dummies, year fixed effects, and country fixed effects. Year fixed effects absorb potential time trends in aggregate merger activities, and country fixed effects control for the effects of any time-invariant country-specific factor such as language and legal origin. Column (1) of Table 2 shows the coefficient on  $Climate \text{ Law}_{tgt}$  is -0.021 ( $t$ -statistic = -2.65), suggesting that passing climate laws in a country reduces the number of cross-border deals targeting firms in this country. The result is similar after taking into account the effects of country-level development and governance (Column (2)).

[Insert Table 2 Here]

In our third specification, we replace country fixed effects with country-pair fixed effects to account for any observed or unobserved time-invariant country-pair-specific factors that may affect cross-border merger activities, such as the geographic distance between two countries.

The results from this preferred specification confirm the negative effects of climate laws in target countries on cross-border merger activities. Column (3) shows the coefficient on  $\text{Climate Law}_{\text{tgt}}$  is -0.025 ( $t$ -statistic = -2.42), indicating that the passage of climate laws in a country is associated with a 2.5% reduction in the number of inbound cross-border deals. On average, a target country receives 27 acquisition bids per year. Therefore, the average drop is roughly 0.7 deals per country per year. Overall, the evidence supports our first hypothesis. Our results also suggest that climate laws in acquirer countries do not have an impact on cross-border merger activities.

Recent studies (e.g., Baker, Larcker, and Wang, 2022) document that the two-way fixed effect (TWFE) estimates from staggered difference-in-differences (DiD) regressions could be biased if the treatment effects vary across time. This is because these estimates are variance-weighted averages of many different  $2 \times 2$  DiDs, in some of which already-treated units are used as control groups. One solution proposed in the literature is a stacked regression where event-specific “clean” observations serve as controls. We follow this suggestion and estimate a stacked regression, where we create a cohort consisting of treatment units and clean controls for each event and then stack all cohorts together. Treatment units are country pairs where the target country has adopted climate laws, and clean controls refer to units that are not yet affected by the climate laws of the target country within the  $[-3, +3]$  event window. Results from the stacked-cohort regression (Table IA.4 in the Internet Appendix) show climate laws in the target country exert negative impacts on cross-border mergers and acquisitions, suggesting that our baseline findings are unlikely to suffer from the bias arising from heterogeneous treatment effects.

## 4.2 Dynamic Effects of Climate Laws

One potential threat to our identification strategy is that the adoption of climate laws in a country is not a random event but rather correlates with some omitted factors that are related to M&A activities. To mitigate this concern, we examine the pre-trends by estimating the dynamic effects of adopting climate laws. This analysis replaces the single law adoption dummy in the target country with multiple indicator variables for each year relative to the adoption year. Specifically, we estimate the following regression:

$$\begin{aligned}
y_{i,j,t} = & \alpha + \beta_1 \text{Climate Law}_{i,t}^{-5} + \beta_2 \text{Climate Law}_{i,t}^{-4} + \beta_3 \text{Climate Law}_{i,t}^{-3} \\
& + \beta_4 \text{Climate Law}_{i,t}^{-2} + \beta_5 \text{Climate Law}_{i,t}^0 + \dots + \beta_9 \text{Climate Law}_{i,t}^{+4} \\
& + \delta \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1} \gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t},
\end{aligned} \tag{2}$$

where  $\text{Climate Law}_{i,t}^{-5}$  is equal to one for years at least five years prior to the target country  $i$ 's adoption of the climate law;  $\text{Climate Law}_{i,t}^{-4}$ ,  $\text{Climate Law}_{i,t}^{-3}$  and  $\text{Climate Law}_{i,t}^{-2}$  are equal to one for the fourth, third, and the second year, respectively, prior to the event;  $\text{Climate Law}_{i,t}^0$  is equal to one for the year when the target country  $i$  adopts the climate law;  $\text{Climate Law}_{i,t}^{+k}$  is equal to one for the  $k$ th year after the adoption, with  $k = 1, 2, 3$ ;  $\text{Climate Law}_{i,t}^{+4}$  is equal to one for years at least four years after the event. Other notations are the same as specified in Equation (1).

[Insert Figure 2 Here]

If the timing of adopting climate laws is endogenous to cross-border acquisition activities between two countries, one would expect that the indicators for pre-event years are likely statistically significant. However, as shown in Figure 2, the coefficients on pre-event year dummies are not statistically different from zero, indicating that there is almost no difference in acquisition activities between two given countries across years before the target country adopts the climate law. Cross-border acquisitions are reduced only after the adoption of climate laws in the target country. Figure 2 also reveals that the effect of climate laws on cross-border acquisition activities is long-lasting, as evidenced by the significantly negative coefficient on the indicator for four or more years after the event.

### 4.3 Placebo Tests

As another attempt to validate the empirical design, we conduct placebo tests. If our baseline results reflect a truly negative effect of climate laws on cross-border acquisition activities, we should observe no significant effects using artificial adoption time of climate laws. Therefore, in the placebo tests, we randomly assign an adoption year to each country in the sample while maintaining the initial distribution of adoption years. We construct 1,000 random samples and re-estimate the baseline regression. The coefficient of interest is the

coefficient on the target-country climate law indicator.

[Insert Figure 3 Here]

Figure 3 illustrates the histogram of coefficient estimates on the law indicator for the target country obtained from the 1,000 random samples. It shows that the distribution of these pseudo coefficient estimates is centered around zero. The mean of these coefficients is very close to zero and is statistically insignificant: the coefficient estimates have a mean of -0.0003 with a standard error of 0.0005. On the other hand, the true estimate, represented by the red dashed line, is far away from zero. The evidence suggests that our previous findings are unlikely to be driven by chance.

#### 4.4 Alternative Samples and Measures

We now examine whether our baseline findings are driven by very large/small countries. Specifically, we exclude the United States, which is both the most active acquirer country and the most popular target country in the sample. In order to avoid outliers of small countries, we re-run our baseline regression with the sample of OECD and BRICS countries, as well as the Group of Twenty (G20). The first three columns of Table 3 show that these alternative samples generate results that are consistent with our baseline findings, suggesting that our results do not come only from very large or small countries.<sup>10</sup>

[Insert Table 3 Here]

Next, we employ two alternative measures of cross-border acquisition activities. The first measure we use is the volume of cross-border acquisitions, calculated as the logarithm of one plus the total dollar amount of cross-border deals between the acquirer and target countries in a given year.<sup>11</sup> Column (4) in Table 3 shows that the estimated coefficient on  $\text{Climate Law}_{\text{tgt}}$  from the regression of acquisition volume is -0.106 ( $t$ -statistic = -2.53), indicating a 10.6% decrease in the volume of cross-border mergers following the target country's adoption of climate laws. Second, we consider the likelihood of cross-border mergers and acquisitions.

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<sup>10</sup> Our conclusions remain the same after eliminating potential impacts of confounding events such as the initiation of takeover laws (Lel and Miller, 2015) or reforms of labor protection laws (Dessaint, Golubov, and Volpin, 2017). The results are presented in Table IA.5 in the Internet Appendix. Information about takeover laws and labor reforms is from Lel and Miller (2015) and Simintzi, Vig, and Volpin (2015), respectively.

<sup>11</sup> Dollar values in this paper are in 2017 constant dollar.



Specifically, we replace the outcome in Equation (1) with an indicator for whether any cross-border deal occurs between two countries in a given year. This specification yields a negative coefficient estimate on  $\text{Climate Law}_{\text{tgt}}$  (Column (5)). The evidence suggests a negative impact of climate laws in the target country and the likelihood of cross-border acquisitions, which is consistent with our baseline results.

## 4.5 Climate Law Stringency and Cross-Border Mergers

In this subsection, we consider a continuous measure of the stringency of climate policies in a country, which enables us to evaluate not only the effects of the level of climate law stringency in the target or acquirer countries but also the effect of the distance in regulatory stringency between the two countries. Specifically, we exploit the revised environmental policy stringency index for OECD countries proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).<sup>12</sup> The composite index, ranging from zero (least stringent) to six (most stringent), is constructed based on thirteen policy instruments. These policies are closely related to climate change, and according to Kruse, Dechezleprêtre, Saffar, and Robert (2022), a higher stringency index is associated with lower CO<sub>2</sub> emissions intensity.<sup>13</sup> We re-estimate our baseline specifications with the law indicators replaced by the policy stringency index.

[Insert Table 4 Here]

The first two columns of Table 4 show that the coefficients on the target country's climate policy stringency are negative, suggesting that stricter climate policies in target countries are associated with declined cross-border acquisition activities. This result corroborates our main finding. In Columns (3) and (4), we regress the incidence of cross-border acquisitions on the difference in climate policy stringency between the target and acquirer countries. We find negative and significant coefficient estimates on the stringency difference measure ( $\text{Climate Law Stringency}_{\text{tgt-acq}}$ ). The evidence suggests that the more stringent the climate policies in the target country compared to those in the acquirer country, the fewer cross-border acquisitions

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<sup>12</sup> The index is available for OECD countries (excluding Colombia, Costa Rica, Latvia, and Lithuania) and six non-OECD countries (Brazil, China, India, Indonesia, Russia, and South Africa). We thank Tobias Kruse for sharing the data with us.

<sup>13</sup> The policy instruments include CO<sub>2</sub> trading schemes, renewable energy trading scheme, CO<sub>2</sub> tax, NO<sub>x</sub> tax, SO<sub>x</sub> tax, diesel fuel tax, the emission limit value (ELV) for NO<sub>x</sub>, the ELV for SO<sub>x</sub>, the ELV for particulate matter, sulphur content limit for diesel, R&D expenditures on low-carbon energy technologies, support for wind energy technologies, and support for solar energy technologies.

between the two countries. For example, the coefficient estimate of -0.023 in Column (4) indicates that one standard deviation (1.243) increase in the stringency difference measure is associated with a 2.86% decline in the number of cross-border acquisitions.

## 5 Mechanisms

In this section, we conduct a set of analyses to explore the mechanisms through which climate laws affect cross-border mergers and acquisitions. First, we consider the variation in firms' exposure to climate laws. We then examine the role of legal enforcement. We also provide evidence for selective enforcement and government discretions. In addition, we investigate the role of acquiring firms' attitudes towards climate change and their experience of climate disasters.

### 5.1 Law Exposure

The extent to which climate laws affect acquisition activities is likely to vary with firms' exposure to these regulations, which is greatly determined by the nature of firms' business. For example, companies operating coal power plants tend to be more exposed to climate regulations than firms in the service industry, because coal power plants usually emit a huge amount of greenhouse gas. Since a greater exposure to climate laws typically indicates higher frictions and costs associated with such regulations, it is natural to expect that climate laws exert more significant impacts on acquisitions involving firms with higher law exposure. To identify the role of law exposure, we classify firms into high- and low-law-exposure categories. High-law-exposure companies refer to firms in mining, manufacturing, transportation, and public utilities industries, which emit a high level of greenhouse gas. The remaining firms are categorized as low-law-exposure companies. In our sample, approximately sixty-two percent of the mergers and acquisitions target firms with high exposure to climate regulations.

[Insert Table 5 Here]

Table 5 reports results from regressions of cross-border acquisition incidence based on the two categories of firms separately. Column (1) (Column (2)) replaces the outcome variable in our baseline regression with one plus the number of cross-border mergers and acquisitions involving targets with high (low) exposure to climate laws. The variable of our interest is the

indicator for climate laws in the target country,  $Climate\ Law_{tgt}$ . Although coefficients on this indicator are negative in both regressions, the estimate based on firms with high climate-law exposure is larger in magnitude and stronger in statistical significance. This finding suggests more pronounced effects of climate laws on cross-border acquisitions involving high-law-exposure target firms, consistent with our second hypothesis.

## 5.2 Law Enforcement

The effectiveness of climate laws in shaping corporate acquisition decisions may also depend on how strictly they are enforced. We now consider the variation in the degree of legal enforcement across countries and estimate the following regression:

$$y_{i,j,t} = \alpha + \beta_1 Climate\ Law_{i,t} \times Strong\ Enforcement_i + \beta_2 Climate\ Law_{i,t} + \beta_3 Climate\ Law_{j,t} + X_{i,j,t-1}\gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t}, \quad (3)$$

where  $Strong\ Enforcement_i$  is an indicator that takes one if the legal enforcement measure in the target country is above the sample median, and zero otherwise. In our analysis, we consider three measures of law enforcement strength. These measures are a) the rule of law from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998); b) the average of regulation quality, rule of law, and control of corruption scores from Worldwide Governance Indicators; and c) the regulatory enforcement score from the World Justice Project.<sup>14</sup>

[Insert Table 6 Here]

Our variable of interest in this analysis is the interaction term between the target country's climate law indicator and the indicator for strong legal enforcement ( $Climate\ Law_{tgt} \times Strong\ Enforcement_{tgt}$ ). Column (1) of Table 6 measures legal enforcement with the rule of law from La Porta Lopez-de-Silanes, Shleifer, and Vishny (1998). It shows that the estimated coefficient on the interaction term is negative (-0.057) and statistically significant ( $t$ -statistic = -2.60), meaning that the acquisition-reducing effect of the target country's climate laws is more evident in countries with stronger legal enforcement. In fact, we find an insignificant coefficient on  $Climate\ Law_{tgt}$  ( $t$ -statistic = 0.90), indicating that climate laws in target countries do not affect cross-border acquisition activities if these laws are not effectively enforced. We obtain similar

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<sup>14</sup> The data from Worldwide Governance Indicators and the World Justice Project are available after 1996 and 2012 respectively. We take the average of annual values during the periods between 1996 (2012) and 2019 for each country and apply it to all years in the sample. The number of observations varies with different law enforcement measures due to the different coverage of the datasets.

results from estimations using the other two measures of legal enforcement (Columns (2) and (3)). Overall, the evidence supports our third hypothesis.

### 5.3 Political Affinity

Even within a single target country, the degree of law enforcement can still vary. One plausible reason for within-country variations is selective enforcement due to national relations between the acquirer and target countries. If target countries choose to enforce their climate laws less strictly when acquirers are from more affinitive countries, we expect less pronounced impacts of climate laws on cross-border merger activities between two affinitive countries. To test this conjecture, we consider political affinity, which is one of the most important dimensions of national relations. Specifically, we follow Bertrand, Betschinger, and Settles (2016) and measure political affinity with the similarity of the voting decisions made by the acquirer and target countries in the UN General Assembly. The affinity measure ranges from minus one to one. A value of one (minus one) corresponds to a complete (opposite) alignment of voting behavior between two countries and, therefore, indicates the strongest (weakest) political affinity.

[Insert Table 7 Here]

In Columns (1) and (2) of Table 7, the affinity measure is constructed based on votes in the year before the acquisition announcements. For each target country, we rank all other countries based on the political affinity measure in a given year and separately estimate the effects of climate laws for acquisitions completed by companies from close and hostile countries. We find greater negative impacts of climate laws among acquirer countries that do not have a close relation with the target country, that is, acquirer countries with a below-median affinity for a given target country and year. The coefficients on  $\text{Climate Law}_{\text{tgt}}$  are -0.044 and -0.02, respectively, in the low- and high-affinity group. We obtain similar results using an affinity measure constructed based on votes in three years prior to the announcement of acquisitions (Columns (3) and (4)). The results suggest that selective enforcement plays a role in the negative relation between climate laws and cross-border merger activities.

### 5.4 Government Discretions

Discretions of the government in target countries may also influence the impacts of climate laws. Governments are known to exhibit economic nationalism toward mergers and acquisitions, meaning that they prefer to support domestic acquirers over foreign ones (e.g., Dinc and Erel, 2013). Climate laws in a target country may offer nationalists a weapon to oppose acquisition attempts from foreign firms, leading to a decrease in cross-border acquisitions. If this mechanism is at play, we expect a stronger decrease in deals involving target firms that are more likely to be protected by nationalism. Presumably, governments tend to intervene in transactions with high deal value because target firms in these deals are typically more important to the domestic economy. Therefore, we examine whether climate laws result in a greater reduction in cross-border deals with a larger value.

[Insert Table 8 Here]

To identify relatively larger deals for a target country, we rank all inbound cross-border mergers and acquisitions of each target country in a given year and regard transactions with an above-median (below-median) deal value as large (small) deals.<sup>15</sup> Table 8 reestimates Equation (1), with the dependent variable replaced by the logarithm of one plus the number of large/small cross-border deals between the target and acquirer countries in a year. Column (1) shows that in the regression of the incidence of large cross-border deals, the coefficient on the climate law indicator for the target country is -0.023 ( $t$ -statistic = -3.02), indicating that climate laws in the target country are associated with a 2.3% decrease in the number of large cross-border acquisitions. By contrast, the coefficient on  $\text{Climate Law}_{\text{tgt}}$  in the regression of the frequency of small deals (Column (2)) is only -0.007 ( $t$ -statistic = -1.04), suggesting that the decline in the number of small deals is weak. These results support the view that government discretions help explain the drop in cross-border acquisitions after a target country adopts climate laws.

## 5.5 Acquirers' Climate Change Attitudes

Our baseline results show that climate laws reduce the number of inbound cross-border acquisition deals. One potential reason for this relation is that the increased regulatory costs associated with climate laws keep foreign acquirers away. Following this argument, one may expect that the impacts of climate laws on acquisitions become weaker if the acquiring firm is more concerned about the global climate crisis and is more willing to take on these regulatory

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<sup>15</sup> Our conclusion holds with alternative thresholds (e.g., quartiles and quintiles).

costs. To test this conjecture, we measure acquirers' attitudes about climate change using the attitudes of people in the acquirer country. Specifically, for each country, we calculate people's average perception of the seriousness of global warming using the World Values Survey.<sup>16</sup> We then estimate the following regression:

$$y_{i,j,t} = \alpha + \beta_1 \text{Climate Law}_{i,t} \times \text{High Concerns}_j + \beta_2 \text{Climate Law}_{i,t} + \beta_3 \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1}\gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t}, \quad (4)$$

where *High Concerns<sub>j</sub>* is an indicator variable that takes one if the climate concern measure in the acquirer country is above the sample median, and zero otherwise. We expect  $\beta_1$  to be positive.

[Insert Table 9 Here]

Columns (1) and (2) of Table 9 show that coefficients on the target-country climate law indicator are significantly negative (-0.061 and -0.065), suggesting that climate laws in the target country lead to a more than 6% reduction in cross-border acquisitions if the acquirers have low concerns about climate change. The magnitude of this effect is two and a half times our baseline estimate. On the other hand, we find that estimated coefficients on the interaction term ( $\hat{\beta}_1$ ) are positive and statistically significant, consistent with our expectation. This finding shows that the impacts of climate laws on acquisition decisions are less pronounced if the acquirer is more concerned about the global climate crisis.

## 5.6 Acquirers' Climate Disaster Experience

Another test for the regulatory cost channel is to exploit acquirers' experience of climate disasters. The idea is that recent experience of significant climate catastrophes may increase firms' motivation to address climate change and thus their willingness to accept higher regulatory costs. We examine whether the effects of climate laws vary with acquirers' disaster experiences by estimating the following model:

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<sup>16</sup> World Values Survey Wave 5 asked the respondents whether they think global warming is very serious, somewhat serious, not very serious or not serious at all. This survey does not provide panel data regarding the relevant question. We therefore apply a constant measure to all years in the sample.

$$\begin{aligned}
y_{i,j,t} = & \alpha + \beta_1 \text{Climate Law}_{i,t} \times \text{Climate Disasters}_{j,t} + \beta_2 \text{Climate Law}_{i,t} \\
& + \beta_3 \text{Climate Disasters}_{j,t} + \beta_4 \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1} \gamma + \tau_t + \tau_{i,j} \\
& + \epsilon_{i,j,t},
\end{aligned} \tag{5}$$

where  $\text{Climate Disasters}_{j,t}$  is an indicator variable that takes one if the acquirer country experienced significant climate disasters within three years before the deal announcement. Climate disasters refer to natural disasters that can be attributable to climate change.<sup>17</sup> We only consider significant climate disasters that brought total damage of more than \$100 million. Other notations are the same as specified in Equation (1).

Columns (3) and (4) in Table 9 report the results from Equation (5). The coefficients on the target-country climate law indicator are significantly negative (-0.050 and -0.048), which again confirms our main finding. The results also show that coefficients on the interaction term between the law indicator for the target country and the climate disaster indicator for the acquirer country,  $\text{Climate Law}_{\text{tgt}} \times \text{Climate Disasters}_{\text{acq}}$ , are 0.029 ( $t$ -statistic = 2.65) and 0.032 ( $t$ -statistic = 2.93). The results indicate that the acquisition-reducing effect of the target country's climate laws is mitigated after acquiring firms experienced major climate disasters, in line with climate laws reducing cross-border acquisitions due to regulatory costs.

## 6 Climate Laws and Deal Outcomes

This section presents the impacts of climate laws on the outcomes of cross-border acquisition deals. Specifically, we examine how climate laws affect the likelihood of deal withdrawals, merger synergies, takeover premiums, and changes in firms' operating performance following the acquisition.

### 6.1 Likelihood of Deal Withdrawal

We have shown that the number of completed acquisition deals declines after the target country adopts climate laws. In reality, merger negotiations typically last for some time and announced bids might be withdrawn during the course of negotiations. We now include deals that are canceled after the announcement to investigate whether climate laws affect the likelihood of withdrawals. Specifically, we consider deals that are announced before the

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<sup>17</sup> The information on worldwide climate disasters is from EM-DAT. The types of climate disasters include drought, extreme temperature, flood, landslide, storm, and wildfire.

adoption date of climate laws in the target country and become complete or withdrawn after the adoption date. For each deal in this sample, we identify a matched deal where the target country has not adopted climate laws based on propensity score matching. Deals are matched on the target country's characteristics, including the logarithm of GDP per capita, GDP growth, the sum of total imports and exports scaled by GDP, exchange rate, investment profile, quality of institution, and the annual growth rate of the number of domestic deals. We further require that the treated deal and the matched control deal share the same target industry, acquirer industry, acquirer country, and announcement year.

[Insert Table 10 Here]

Table 10 presents the results from the linear probability model of the likelihood of a withdrawn bid using the matched sample. We find a positive and significant coefficient on the target-country climate law indicator. Compared to the control group, the likelihood of withdrawal experiences an increase of roughly 19 percentage points after a target country adopts climate laws. This effect is economically significant given that the average probability of deal withdrawal before the adoption of climate laws is around 16%. The evidence shows that firms are more likely to cancel announced bids after the target country adopts climate laws. This finding is consistent with our baseline result that climate laws reduce cross-border merger activities.

## 6.2 Merger Synergies

Climate change laws could also have significant implications for expected merger synergies. The synergy gains generated by mergers and acquisitions are supposed to enhance the value of the combined firm. Assuming equity market participants could correctly anticipate the change in firm value, prior studies (e.g., Dessaint, Golubov, and Volpin, 2017) use combined cumulative abnormal returns (CAR) to measure expected synergies. In our analysis, cumulative abnormal returns of the combined firm are calculated as the weighted average of  $CAR[-3, +3]$  of the acquirer and the target firms, where the weight is the market capitalization of the acquirer and target firms four trading days prior to the deal announcement. Abnormal returns are firms' stock returns adjusted by returns of the market index in the corresponding country. Since this test requires information about stock returns, the sample is restricted to deals



involving both public acquirer and public target.

Table 11 reports the estimation results. Column (1) shows that the passage of climate laws in the target country is associated with a 5.6 percentage point reduction in merger synergies. The coefficient estimate is statistically significant. The magnitude is also economically significant compared with the mean value of combined cumulative abnormal returns (3.4%). These results are obtained after absorbing factors that are specific to a year, an acquirer-target country pair, the acquirer's industry, or the target's industry. Column (2) controls for deal characteristics that are relevant to merger synergies, including deal size, deal value relative to the value of the acquirer's total assets, whether the acquirer and the target share the same two-digit SIC industry, whether all the consideration offered by the acquirer to the target is in the form of cash, whether the target employs defensive tactics, whether the merger is friendly, whether the merger is friendly, and whether the acquisition is in the form of a tender offer. Column (3) further incorporates country-level control variables as specified in the baseline regression. It turns out that the inclusion of additional control variables does not materially change the negative relationship between climate laws in the target country and merger synergies.

[Insert Table 11 Here]

Overall, the results in Table 11 suggest that synergy gains from cross-border mergers and acquisitions become lower after the target country passes climate change laws. As we discussed when developing the hypothesis, the reduction in merger synergies could result from increased operational frictions, the loss of potential customers and suppliers, the increase in financial costs, and/or the rise in tax costs. Since firms typically merge to seek synergy gains, the negative effects of climate laws on merger synergies are consistent with our baseline finding that climate laws in the target country reduce cross-border acquisition activities.

### **6.3 Offer Premium**

Merger synergy is divided between the acquirer and the target. In the case of lower expected synergy gains, the acquiring firm is likely to obtain smaller benefits from the acquisition. Hence, the acquirer may only be willing to buy the target at a lower price or premium when merger synergy is reduced by climate laws. To test this conjecture, we regress

offer premium on climate law dummies and control variables, where offer premium is calculated as the offer price scaled by the target firm's stock price one day prior to the deal announcement. In Column (1) of Table 12, the regression controls for a set of deal-level characteristics: whether the acquirer and the target share the same two-digit SIC industry, whether all the consideration offered by the acquirer to the target is in the form of cash, whether the merger is friendly, whether the acquisition is in the form of a tender offer, and whether there exists a competing bidder. The regression also incorporates acquirer-target country pair fixed effects, acquirer firm's industry by year fixed effects, and target firm's industry by year fixed effects. The coefficient estimate on the indicator for climate laws in the target country ( $Climate\ Law_{tgt}$ ) is negative and significant, consistent with climate laws resulting in lower offer premiums.

[Insert Table 12 Here]

Column (2) in Table 12 adds firm-level control variables such as the firm size of the acquirer and the target, as well as an indicator for whether the acquirer firm is publicly traded. In Column (3), we further incorporate country-level control variables that are specified in the baseline regression. The alternative specifications yield similar results. Even after controlling for deal-level, firm-level, and country-level characteristics, the implementation of climate laws in the target country continues to have a significantly negative effect on offer premiums. The economic magnitude is large: adopting climate laws in the target country reduces offer premiums by 8.1 percentage points, which corresponds to 23% of the average offer premiums. The reduction in offer premiums is consistent with the decline in the number and synergy gains of cross-border acquisitions.

## 6.4 Acquirers' Performance Improvement

Our findings based on deal withdrawal probability, stock market reactions, and the amount of offer premium suggest acquirer firms and investors expect cross-border acquisitions following the adoption of climate laws in target countries would generate lower value. Another way to capture the values generated by acquisitions is to examine changes in firms' operating performance around cross-border transactions. One challenge for this analysis is that the target firm may or may not exist after the transaction. Following prior studies, we avoid this issue by

considering only changes in the operating performance of acquirers. In particular, we measure changes in an acquirer's operating performance with the difference between its return on assets (ROA) in three years following the acquisition and the ROA in the year before the transaction. To account for potential changes in acquirers' performance related to industry trends, we subtract the median ROA of the acquirer's peers from the acquirer's ROA, where peer firms are those in the same industry and country as the acquirer.

[Insert Table 13 Here]

Columns (1) and (2) in Table 13 report the effects of climate laws on the change in acquirers' operating performance. Control variables include firm-level, deal-level, and country-level characteristics. Specifically, firm-level variables are firm size, book-to-market ratio, financial leverage, and cash holdings of the acquirer firm; deal-level and country-level controls are the same as in Table 11. The regressions also control for year, country-pair, and industry fixed effects. The results show that climate laws in the target country are associated with lower improvement in acquirers' operating performance. Compared to acquirers that buy a target in a country with no climate laws, those acquiring a target in a country with climate laws achieve a 1.98% lower improvement in profitability within three years following the transaction. Such a negative impact of climate laws remains over five years after the acquisition (Columns (3) and (4)). Overall, acquirers experience less improvement in operating performance from before to after the acquisitions if the target country has adopted climate laws.

## 7 Conclusion

This paper examines how climate laws aiming at climate change mitigation and adaptation affect cross-border mergers and acquisitions. Exploiting cross-country variations in the adoption time of climate laws, we show that the passage of climate regulations in a country significantly reduces cross-border acquisitions targeting firms in the country. This relation is robust to using a continuous climate policy stringency index. The negative effect is more pronounced for target firms with higher exposure to climate regulations and countries with stronger legal enforcement. We further find a stronger reduction in larger cross-border deals, which may be subject to more government discretion. On the other hand, the effect is weaker

when the target and acquirer countries are politically closer, supporting selective enforcement of climate regulations. We also show that acquirers' climate change concerns and their experience of climate disasters mitigate the effects of climate regulations. In line with the reduction in merger activities, the passage of climate laws in target countries is associated with an increased withdrawal likelihood for announced bids, smaller synergy gains, lower offer premiums, and less improvement in the operating performance of acquirers after the merger.

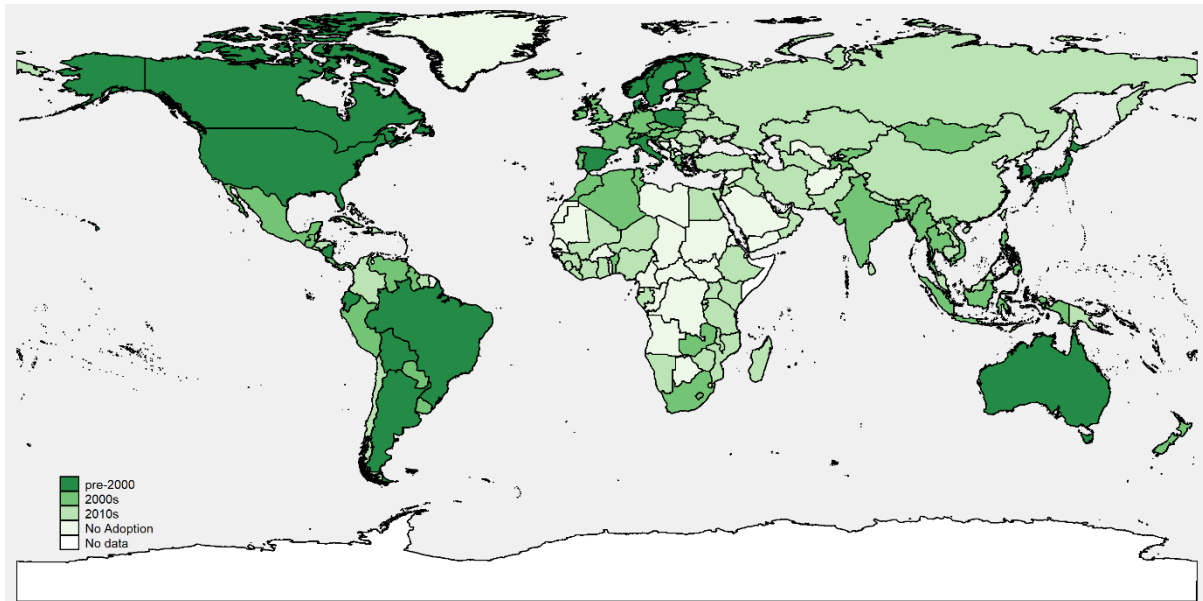
Our findings suggest that firms take into account climate regulations when making cross-border acquisition decisions. Importantly, our results are more pronounced in recent years when public awareness about climate issues is higher. This implies that the importance of climate regulations in cross-border acquisitions and, thereby, international capital and resource reallocation will likely continue to grow as climate change is attracting more and more attention. Our findings suggest that countries with lax climate regulations attract more foreign acquirers than those with stringent climate policies. Therefore, homogenized climate regulations across countries may be necessary to prevent regulatory arbitrage and carbon leakage.

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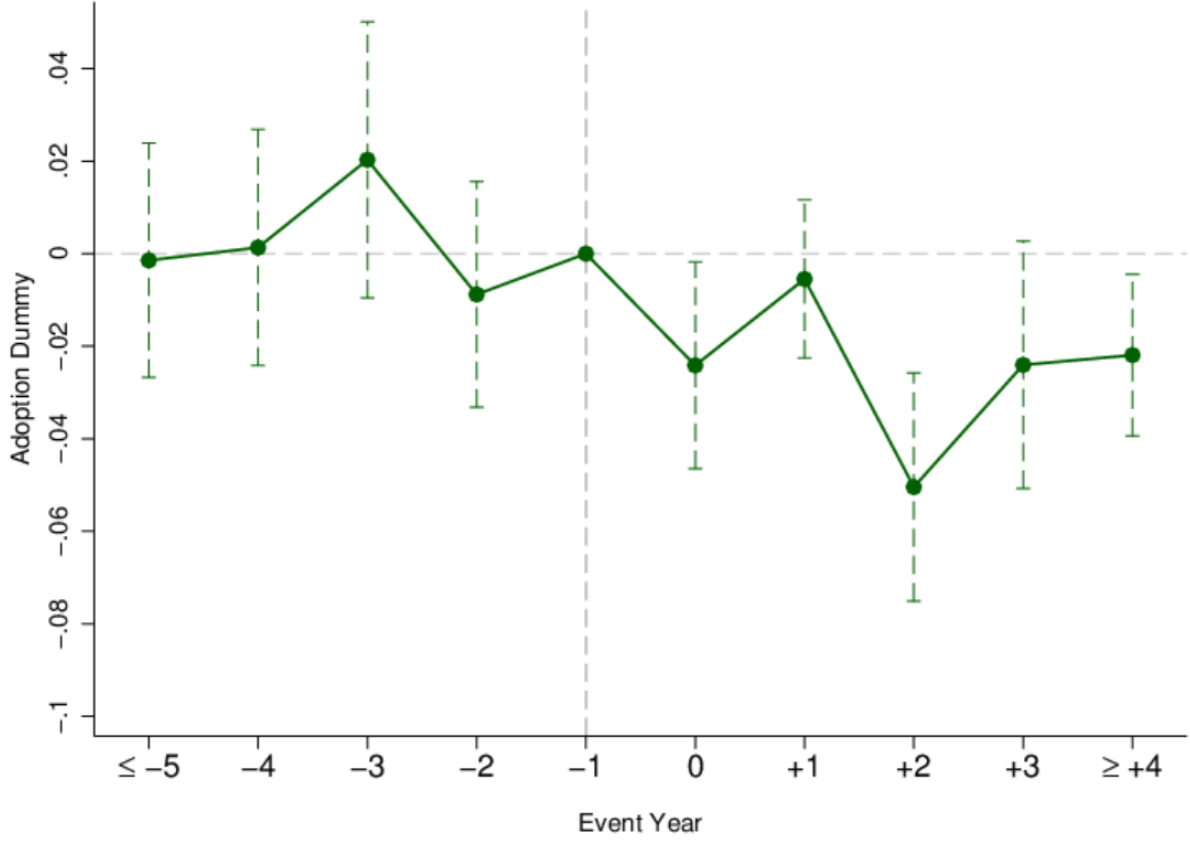
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**Figure 1 Adoption Time of Climate Laws**

This graph illustrates the adoption year of national-level climate change-related laws for countries around the world. Darker color indicates earlier adoption. Information on climate change laws is collected from ECOLEX, Climate Change Laws of the World, the Climate Policy Database, and the World Bank.



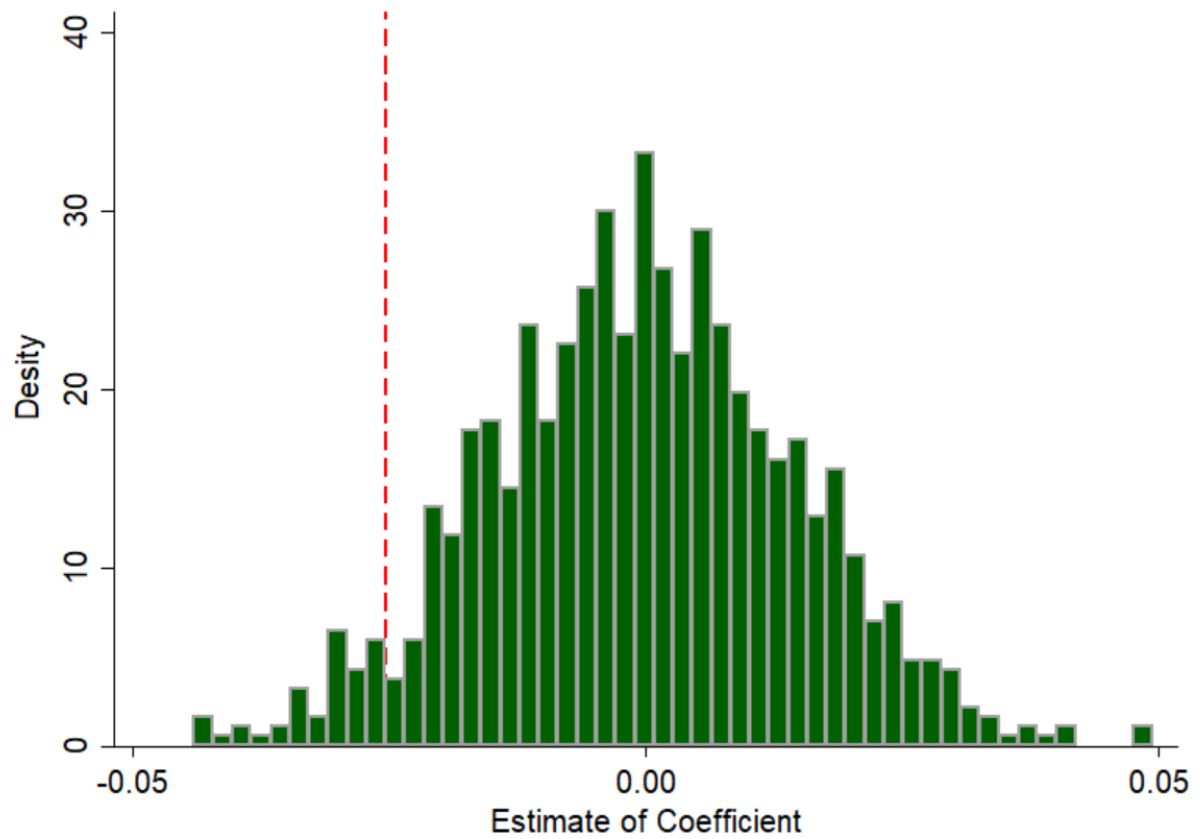


**Figure 2 Dynamic Effects of Climate Laws on Cross-Border Merger Activities**

This figure demonstrates the responses in cross-border merger activities around the adoption of climate laws in target countries. Specifically, it plots the  $\hat{\beta}$ s (dots) and the corresponding 90% confidence intervals (dashed lines) estimated from the following regression:

$$y_{i,j,t} = \alpha + \beta_1 \text{Climate Law}_{i,t}^{-5} + \beta_2 \text{Climate Law}_{i,t}^{-4} + \beta_3 \text{Climate Law}_{i,t}^{-3} + \beta_4 \text{Climate Law}_{i,t}^{-2} + \beta_5 \text{Climate Law}_{i,t}^0 + \dots + \beta_9 \text{Climate Law}_{i,t}^{+4} + \delta \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1} \gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t},$$

where  $i$  denotes the target country,  $j$  denotes the acquirer country, and  $t$  denotes year.  $y_{i,j,t}$  is the logarithm of one plus the total number of cross-border deals between acquirer country  $j$  and target country  $i$  in year  $t$ .  $\text{Climate Law}_{i,t}^{-5}$  is equal to one for years at least five years prior to the target country  $i$ 's adoption of the climate law;  $\text{Climate Law}_{i,t}^{-4}$ ,  $\text{Climate Law}_{i,t}^{-3}$ , and  $\text{Climate Law}_{i,t}^{-2}$  are equal to one for the fourth, third, and the second year, respectively, prior to the adoption;  $\text{Climate Law}_{i,t}^0$  is equal to one for the year when the target country  $i$  adopts the climate law;  $\text{Climate Law}_{i,t}^{+k}$  is equal to one for the  $k$ th year after the adoption, with  $k = 1, 2, 3$ ;  $\text{Climate Law}_{i,t}^{+4}$  is equal to one for years at least four years after the adoption.  $\text{Climate Law}_{j,t}$  is an indicator variable that equals one if the acquirer country  $j$  has adopted a climate change-related law in year  $t$ , and zero otherwise.  $\mathbf{X}$  represents the set of control variables.  $\tau_t$  and  $\tau_{i,j}$  denote year fixed effects and acquirer-target country-pair fixed effects, respectively. Standard errors are clustered at the country-pair and year level. The sample period is from 1985 to 2019.



**Figure 3 Distribution of Coefficient Estimates from Placebo Tests**

This figure plots a histogram of the distribution of the estimated coefficient on the climate law indicator in the target country from 1,000 placebo tests. The regression specification is the same as in Equation (1). The x-axis represents the coefficient estimates from the placebo tests that randomly assign an adoption year to each country in the sample while maintaining the initial distribution of adoption years. The red dashed line represents the true coefficient estimate using the correct adoption time of climate laws. The sample period is from 1985 to 2019.

**Table 1 Summary Statistics**

This table reports the summary statistics. Country pairs are included if there is at least one cross-border merger between the acquirer country and the target country over the period from 1985 to 2019. Detailed definitions are provided in Appendix Table A.1. Continuous variables are winsorized at the 1% and 99% level.

	Mean	SD	Q1	Median	Q3
Number of Cross-border Deals	0.643	1.483	0.000	0.000	1.000
Climate Law <sub>tgt</sub>	0.649	0.477	0.000	1.000	1.000
Climate Law <sub>acq</sub>	0.664	0.472	0.000	1.000	1.000
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.148	1.062	-0.429	0.126	0.792
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	-0.001	0.039	-0.024	-0.002	0.021
$\text{Max}(\text{Import, Export})_{\text{acq,tgt}}$	0.033	0.053	0.005	0.012	0.036
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.185	1.364	-0.006	0.000	0.005
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.299	2.339	-1.000	0.083	1.708
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	0.682	4.215	-2.083	0.500	3.917
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	0.013	1.201	-0.500	0.017	0.571
Climate Law Stringency <sub>tgt</sub>	1.878	1.127	0.889	1.778	2.833
Climate Law Stringency <sub>acq</sub>	1.952	1.120	1.000	1.889	2.889
Climate Law Stringency <sub>tgt-acq</sub>	-0.073	1.243	-0.861	-0.056	0.694
Combined CAR[-3, +3]	0.034	0.077	-0.009	0.023	0.070
Offer Premium (%)	35.123	32.967	11.590	28.890	51.970
Log(Deal Value)	5.612	2.180	4.166	5.577	7.222
Relative Size	0.541	1.813	0.028	0.122	0.415
Target Size	5.159	1.703	3.862	5.040	6.409
Acquirer Size	7.655	2.030	6.164	7.858	9.236
Public Acquirer	0.632	0.482	0.000	1.000	1.000
Acquirer B/M	1.764	2.263	0.464	0.856	1.953
Acquirer Leverage	0.189	0.165	0.025	0.167	0.307
Acquirer Cash Holdings	0.195	0.185	0.061	0.129	0.266
Related Industry	0.620	0.486	0.000	1.000	1.000
All Cash	0.613	0.487	0.000	1.000	1.000
Friendly Merger	0.936	0.246	1.000	1.000	1.000
Tender Offer	0.497	0.500	0.000	0.000	1.000
Defensive Tactics	0.015	0.121	0.000	0.000	0.000
Competing Bidder	0.064	0.245	0.000	0.000	0.000

**Table 2 Climate Laws and Cross-Border Merger Activities: Baseline Results**

This table reports the effects of climate laws on cross-border merger activities. The dependent variable is the incidence of cross-border deals between the acquirer and target countries in a given year, which is defined as the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. The control variables include the difference in the acquirer and target countries' log GDP per capita, GDP growth, exchange rates of local currencies to the US dollar, investment profile, quality of institutions, and annual growth rate of the number of domestic acquisitions. The maximum of bilateral import and export between the acquirer and target countries is also included as a control variable. Detailed definitions are provided in Appendix Table A.1. Columns (1) and (2) include both year fixed effects and country fixed effects, while Column (3) includes year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-0.021*** (-2.65)	-0.020** (-2.36)	-0.025** (-2.42)
Climate Law <sub>acq</sub>	0.011 (0.97)	-0.008 (-0.76)	-0.008 (-0.80)
$\Delta(\log\text{ GDP per capita})_{acq-tgt}$		0.037 (1.31)	0.081*** (2.99)
$\Delta(\text{GDP Growth})_{acq-tgt}$		0.035 (0.40)	0.005 (0.05)
Max(Import, Export) <sub>acq,tgt</sub>		3.116*** (14.68)	1.173*** (2.99)
$\Delta(\text{Exchange Rate})_{acq-tgt}$		-0.017* (-1.83)	-0.015 (-1.41)
$\Delta(\text{Investment Profile})_{acq-tgt}$		0.004* (1.85)	0.002 (1.12)
$\Delta(\text{Quality of Institution})_{acq-tgt}$		-0.000 (-0.18)	-0.001 (-0.52)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$		-0.003** (-2.57)	-0.003** (-2.11)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	38,447	38,447	38,447
Adjusted R <sup>2</sup>	0.333	0.393	0.608

**Table 3 Alternative Samples and Measures**

This table presents results based on alternative samples and alternative measures of cross-border acquisition activities. The dependent variable in Columns (1) to (3) is the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country. The sample in Column (1) excludes deals involving firms from the United States. The sample in Column (2) only includes deals that involve firms from the OECD countries and the BRICS countries. The sample in Column (3) only includes deals that involve firms from the Group of Twenty (G20). The dependent variable in Column (4) is the logarithm of one plus the total dollar amount of cross-border deals between the acquirer country and the target country in a given year. The dependent variable in Column (5) is an indicator variable that equals one if any cross-border deal occurs between an acquirer country and a target country in a given year, and zero otherwise. *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019. *t*-statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log(1+ Number of Cross-border Deals)			Log(1+\$ Amou nt of Cross- border Deals)	I(Cross- border Deals)
	Non-US (1)	OECD and BRICS (2)	G20 (3)		
Climate Law <sub>tgt</sub>	-0.021** (-2.32)	-0.061*** (-3.70)	-0.047*** (-3.04)	-0.106** (-2.53)	-0.020** (-2.57)
Climate Law <sub>acq</sub>	-0.009 (-0.91)	-0.014 (-0.92)	-0.012 (-0.70)	-0.001 (-0.02)	-0.004 (-0.41)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.073*** (2.86)	0.098** (2.63)	0.100** (2.53)	0.358*** (3.46)	0.073*** (3.29)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	-0.020 (-0.23)	0.034 (0.26)	-0.011 (-0.08)	0.377 (0.93)	0.044 (0.50)
Max(Import, Export) <sub>acq,tgt</sub>	1.020** (2.38)	1.931*** (3.15)	2.063*** (3.01)	4.538*** (3.22)	1.033*** (4.50)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.017 (-1.62)	-0.062 (-0.71)	0.001 (0.05)	-0.016 (-0.57)	-0.007 (-0.89)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.003 (1.33)	0.005* (1.80)	0.006* (1.91)	0.004 (0.47)	0.002 (1.03)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	-0.001 (-0.55)	0.002 (0.45)	-0.000 (-0.04)	-0.005 (-0.47)	-0.001 (-0.51)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.002* (-1.74)	-0.003 (-1.45)	-0.002 (-1.03)	-0.012** (-2.09)	-0.003** (-2.36)
Year FE	Yes	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes	Yes
Obs	35,804	23,323	20,237	38,447	38,447
Adjusted R <sup>2</sup>	0.500	0.680	0.683	0.477	0.384

**Table 4 Climate Law Stringency and Cross-Border Merger Activities**

This table reports the results from regressing cross-border acquisition activities on climate law stringency. The dependent variable is the incidence of cross-border deals between the acquirer and target countries in a given year, which is defined as the logarithm of one plus the annual number of cross-border deals between the acquirer and target countries.  $Climate\ Law\ Stringency_{tgt}$  ( $Climate\ Law\ Stringency_{acq}$ ) is a measure of the stringency of climate policies in the target (acquirer) country based on an environmental policy stringency index.  $Climate\ Law\ Stringency_{tgt-acq}$  is the difference between the stringency index in the target and acquirer countries. The index is available for OECD countries (excluding Colombia, Costa Rica, Latvia, and Lithuania) and six non-OECD countries (Brazil, China, India, Indonesia, Russia, and South Africa). Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Columns (1) and (3) include year and country fixed effects, while Columns (2) and (4) include year and acquirer-target country-pair fixed effects. The sample period starts from 1990 due to the availability of the stringency index.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)			
	(1)	(2)	(3)	(4)
Climate Law Stringency <sub>tgt</sub>	-0.030*** (-2.92)	-0.028** (-2.44)		
Climate Law Stringency <sub>acq</sub>	0.010 (0.85)	0.018 (1.43)		
Climate Law Stringency <sub>tgt-acq</sub>			-0.020** (-2.75)	-0.023*** (-2.97)
$\Delta(\log GDP\ per\ capita)_{acq-tgt}$	0.055 (1.21)	0.113*** (2.79)	0.055 (1.24)	0.114*** (2.84)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.130 (1.05)	0.119 (0.84)	0.127 (1.02)	0.117 (0.83)
Max(Import, Export) <sub>acq,tgt</sub>	4.024*** (11.77)	1.906*** (2.85)	4.022*** (11.78)	1.896*** (2.85)
$\Delta(Exchange\ Rate)_{acq-tgt}$	0.003 (0.31)	0.009 (0.85)	0.002 (0.19)	0.009 (0.79)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.006** (2.27)	0.004 (1.42)	0.006** (2.28)	0.004 (1.42)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	0.003 (0.85)	0.002 (0.57)	0.003 (0.86)	0.002 (0.57)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.003** (-2.31)	-0.003 (-1.61)	-0.003** (-2.30)	-0.003 (-1.61)
Year FE	Yes	Yes	Yes	Yes
Acquirer Country FE	Yes	No	Yes	No
Target Country FE	Yes	No	Yes	No
Country-pair FE	No	Yes	No	Yes
Obs	22,819	22,819	22,819	22,819
Adjusted R <sup>2</sup>	0.511	0.682	0.511	0.682

**Table 5 Law Exposure**

This table presents how firms' exposure to climate laws affects the impacts of climate laws on cross-border acquisition activities. In Columns (1) and (2), the dependent variable is the logarithm of one plus the number of cross-border mergers and acquisitions targeting firms with high and low exposure to climate laws, respectively. High-exposure firms refer to companies in mining, manufacturing, and transportation & public utilities industries.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals with High-exposure Targets)	Log (1+ Number of Cross-border Deals with Low-exposure Targets)
	(1)	(2)
Climate Law <sub>tgt</sub>	-0.021** (-2.29)	-0.010 (-1.54)
Climate Law <sub>acq</sub>	-0.007 (-0.77)	-0.005 (-0.79)
$\Delta(\log GDP\ per\ capita)_{acq-tgt}$	0.066*** (3.22)	0.027* (1.84)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.010 (0.13)	-0.003 (-0.07)
Max(Import, Export) <sub>acq,tgt</sub>	1.098*** (3.49)	0.279 (1.19)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.011 (-1.66)	-0.005 (-0.84)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.001 (0.70)	0.002 (1.24)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.001 (-0.26)	0.000 (0.28)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.002* (-1.85)	-0.001 (-0.82)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	38,447	38,447
Adjusted R <sup>2</sup>	0.534	0.508

**Table 6 Law Enforcement**

This table presents how the strength of law enforcement affects the impacts of climate laws on cross-border acquisition activities. The dependent variable is the logarithm of one plus the total number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise.  $Strong\ Enforcement_{tgt}$  is an indicator that takes one if the law enforcement measure in the target country is above the sample median, and zero otherwise. In Column (1), the law enforcement measure is the rule of law from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). In Column (2), the law enforcement measure is the average of regulation quality, rule of law, and control of corruption scores from Worldwide Governance Indicators. In Column (3), the law enforcement measure is the regulatory enforcement score from World Justice Project. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)		
	La Porta et al. (1998) (1)	Worldwide Governance Indicators (2)	World Justice Project (3)
$Climate\ Law_{tgt} \times Strong\ Enforcement_{tgt}$	-0.057*** (-2.60)	-0.036** (-2.09)	-0.049*** (-2.68)
$Climate\ Law_{tgt}$	0.016 (0.90)	-0.002 (-0.12)	0.003 (0.19)
$Climate\ Law_{acq}$	-0.015 (-1.22)	-0.009 (-0.79)	-0.010 (-0.91)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.130*** (3.62)	0.094*** (3.39)	0.093*** (3.12)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.097 (0.87)	0.016 (0.16)	0.027 (0.26)
$Max(Import, Export)_{acq,tgt}$	1.290*** (2.75)	1.147*** (2.92)	1.276*** (2.93)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.012 (-1.20)	-0.012 (-1.15)	-0.011 (-1.05)
$\Delta(Investment\ Profile)_{acq-tgt}$	-0.000 (-0.11)	0.002 (0.99)	0.002 (0.94)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.003 (-0.94)	-0.002 (-0.68)	-0.001 (-0.32)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.004** (-2.08)	-0.003* (-1.89)	-0.003* (-1.78)
Year FE	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes
Obs	30,067	38,079	34,888
Adjusted R <sup>2</sup>	0.623	0.609	0.610



**Table 7 Political Affinity**

This table presents how the political affinity between the acquirer and target countries affects the impacts of climate laws on cross-border acquisition activities. The dependent variable is the logarithm of one plus the total number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Political affinity is measured by the similarity of the voting decisions made by the acquirer and target countries in the UN General Assembly. The affinity measure is constructed based on votes in one year or three years prior to the announcement of acquisitions, with higher values indicating closer political relations between two nations. For each target country, all other countries are ranked based on the political affinity measure in a given year. The odd-numbered (even-numbered) columns present the results using subsamples where the affinity measure between the acquirer country and the target country is below (above) the sample median for a given target country and year. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)			
	1-year UN Votes		3-year UN Votes	
	Low Affinity (1)	High Affinity (2)	Low Affinity (3)	High Affinity (4)
$Climate\ Law_{tgt}$	-0.044** (-2.46)	-0.020 (-1.53)	-0.040** (-2.28)	-0.022* (-1.71)
$Climate\ Law_{acq}$	0.003 (0.16)	-0.015 (-1.15)	0.011 (0.61)	-0.026* (-2.02)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.115*** (2.93)	0.037 (1.13)	0.122*** (3.15)	0.026 (0.89)
$\Delta(GDP\ Growth)_{acq-tgt}$	-0.097 (-0.78)	0.214** (2.09)	-0.086 (-0.70)	0.196* (2.04)
$Max(Import,\ Export)_{acq,tgt}$	1.387** (2.42)	0.477 (1.24)	1.383** (2.41)	0.333 (0.87)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.001 (-0.10)	-0.058** (-2.40)	0.001 (0.12)	-0.061** (-2.54)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.002 (0.64)	0.004 (1.49)	0.003 (0.97)	0.004 (1.38)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.009** (-2.20)	0.004 (0.97)	-0.012*** (-2.84)	0.005 (1.31)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.005* (-1.96)	-0.001 (-0.57)	-0.004* (-1.72)	-0.001 (-0.58)
Year FE	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes
Obs	15,183	20,477	15,173	20,487
Adjusted R <sup>2</sup>	0.561	0.644	0.564	0.643

**Table 8 Government Discretions**

This table presents how the impacts of climate laws on cross-border acquisition activities are influenced by the possibility of government discretions as measured by deal size. In Columns (1) and (2), the dependent variable is the logarithm of one plus the number of cross-border mergers and acquisitions calculated based on large and small deals, respectively. Large (small) deals refer to acquisitions whose deal value is above (below) the median value of all cross-border acquisitions in a given target country and year.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Large Cross-border Deals)	Log (1+ Number of Small Cross-border Deals)
	(1)	(2)
Climate Law <sub>tgt</sub>	-0.023*** (-3.02)	-0.007 (-1.04)
Climate Law <sub>acq</sub>	-0.000 (-0.01)	-0.009 (-1.34)
$\Delta(\log GDP\ per\ capita)_{acq-tgt}$	0.052** (2.49)	0.041*** (2.96)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.049 (0.73)	-0.052 (-0.94)
Max(Import, Export) <sub>acq,tgt</sub>	0.829** (2.59)	0.636*** (2.83)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.005 (-0.91)	-0.012* (-1.72)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.001 (0.61)	0.002 (1.48)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.001 (-0.63)	-0.000 (-0.20)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.001 (-1.50)	-0.002* (-1.75)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	38,447	38,447
Adjusted R <sup>2</sup>	0.527	0.482

**Table 9 Acquirers' Climate Change Attitudes and Experience**

This table presents how acquiring firms' attitudes about climate change and their experience of climate disasters affect the relation between climate laws and cross-border acquisition activities. The dependent variable is the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country. *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. In Columns (1) and (2), *High Concerns<sub>acq</sub>* is an indicator that equals one if the climate concern measure in the acquirer country is above the sample median. The degree of climate concerns in the acquirer country is measured by people's average perception of the seriousness of global warming using the World Values Survey. In Columns (3) and (4), *Climate Disasters<sub>acq</sub>* is an indicator that equals one if the acquirer country experienced significant climate disasters with total damage exceeding \$100 million within three years before the deal announcement. Climate disasters include drought, extreme temperature, flood, landslide, storm, and wildfire. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019. *t*-statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)			
	Climate Concerns		Climate Disaster Experience	
	(1)	(2)	(3)	(4)
Climate Law <sub>tgt</sub> ×High Concerns <sub>acq</sub>	0.039** (2.33)	0.063*** (3.69)		
Climate Law <sub>tgt</sub> ×Climate Disasters <sub>acq</sub>			0.029*** (2.65)	0.032*** (2.93)
Climate Law <sub>tgt</sub>	-0.061*** (-3.80)	-0.065*** (-4.09)	-0.050*** (-4.54)	-0.048*** (-4.13)
Climate Disasters <sub>acq</sub>			-0.003 (-0.38)	-0.008 (-0.90)
Climate Law <sub>acq</sub>	0.049** (2.43)	0.027 (1.58)	-0.003 (-0.27)	-0.012 (-1.08)
Δ(log GDP per capita) <sub>acq-tgt</sub>		0.138*** (4.42)		0.079*** (2.94)
Δ(GDP Growth) <sub>acq-tgt</sub>		-0.081 (-0.61)		0.005 (0.05)
Max(Import, Export) <sub>acq,tgt</sub>		1.159** (2.65)		1.187*** (3.03)
Δ(Exchange Rate) <sub>acq-tgt</sub>		-0.015 (-1.04)		-0.015 (-1.40)
Δ(Investment Profile) <sub>acq-tgt</sub>		0.002 (0.71)		0.002 (1.10)
Δ(Quality of Institution) <sub>acq-tgt</sub>		-0.001 (-0.23)		-0.001 (-0.34)
Δ(Growth of Domestic Deals) <sub>acq-tgt</sub>		-0.001 (-0.76)		-0.003** (-2.21)
Year FE	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes
Obs	22,765	22,765	38,447	38,447
Adjusted R <sup>2</sup>	0.600	0.603	0.607	0.609

**Table 10 Climate Laws and Likelihood of Deal Withdrawals**

This table reports the effects of climate laws on the likelihood of deal withdrawals. The sample includes deals announced before the adoption date of climate laws in the target country and become complete or withdrawn after the adoption date. For each deal in this sample, we identify a matched deal where the target country has not adopted climate laws using propensity score matching. Deals are matched on the target country's characteristics, including logarithm of GDP per capita, GDP growth, total imports and exports scaled by GDP, exchange rate, investment profile, quality of institution, and the annual growth rate of the number of domestic deals. The treated and matched deals are further required to share the same target industry, acquirer industry, acquirer country, and announcement year. The dependent variable is a dummy that equals one if a deal is withdrawn, and zero otherwise.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are defined in Appendix Table A.1. Regressions include year fixed effects, acquirer and target country fixed effects, acquirer firm's industry (two-digit SIC codes level) and target firm's industry fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the acquirer country and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Withdrawal Likelihood		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	0.233*** (4.20)	0.132*** (2.78)	0.190** (2.18)
Climate Law <sub>acq</sub>	-0.174 (-0.96)	-0.090 (-0.60)	-0.010 (-0.07)
log(Deal Value)		0.051*** (4.73)	0.050*** (3.19)
Related Industry		-0.122 (-0.98)	-0.144 (-1.20)
All Cash		-0.120 (-1.31)	-0.095 (-0.85)
Friendly Merger		-0.519** (-2.19)	-0.595** (-2.26)
Tender Offer		-0.090 (-0.91)	-0.150 (-0.91)
Competing Bidder		0.315 (0.75)	0.283 (0.88)
$\Delta(\log\text{ GDP per capita})_{acq-tgt}$			1.271* (1.84)
$\Delta(\text{GDP Growth})_{acq-tgt}$			-1.255 (-0.46)
$\text{Max}(\text{Import, Export})_{acq,tgt}$			0.296 (0.57)
$\Delta(\text{Exchange Rate})_{acq-tgt}$			5.232 (1.04)
$\Delta(\text{Investment Profile})_{acq-tgt}$			0.046 (1.24)
$\Delta(\text{Quality of Institution})_{acq-tgt}$			-0.079 (-1.00)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$			0.036 (0.59)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	Yes
Target Country FE	Yes	Yes	Yes
Acquirer Industry FE	Yes	Yes	Yes
Target Industry FE	Yes	Yes	Yes
Obs	216	216	216
Adjusted R <sup>2</sup>	0.116	0.261	0.300

**Table 11 Climate Laws and Combined Cumulative Abnormal Returns**

This table presents the estimated effects of climate change laws on combined firms' cumulative abnormal returns (CAR) around a seven-day window around the deal announcement. The dependent variable is the weighted average of CAR[-3, +3] of the acquirer and the target firms, where the weight is the market capitalization of the acquirer and the target firms four trading days prior to the deal announcement. Abnormal returns are firms' stock returns adjusted by returns of the market index of the corresponding country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate law in the deal announcement year, and zero otherwise. Control variables are defined in Appendix Table A.1. Regressions include year fixed effects, acquirer-target country-pair fixed effects, acquirer firm's industry (two-digit SIC codes level) and target firm's industry fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Combined CAR[-3, +3]		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-0.056** (-2.31)	-0.041** (-2.19)	-0.061** (-2.30)
Climate Law <sub>acq</sub>	-0.087** (-2.47)	-0.089** (-2.59)	-0.040 (-0.79)
log(Deal Value)		0.003 (1.45)	0.004 (1.54)
Relative Size		0.004 (0.93)	0.004 (0.78)
Related Industry		-0.003 (-0.33)	-0.000 (-0.05)
All Cash		0.009 (0.72)	0.010 (0.82)
Defensive Tactics		-0.011 (-0.42)	-0.009 (-0.28)
Friendly Merger		-0.040** (-2.26)	-0.041 (-1.67)
Tender Offer		-0.002 (-0.28)	-0.003 (-0.30)
$\Delta(\log GDP\ per\ capita)_{acq-tgt}$			-0.009 (-0.08)
$\Delta(GDP\ Growth)_{acq-tgt}$			-0.228 (-0.89)
$Max(Import, Export)_{acq,tgt}$			-0.683* (-2.14)
$\Delta(Exchange\ Rate)_{acq-tgt}$			0.352 (1.63)
$\Delta(Investment\ Profile)_{acq-tgt}$			0.009** (2.83)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$			-0.003 (-0.20)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$			-0.001 (-0.10)
Year FE	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes
Acquirer Industry FE	Yes	Yes	Yes
Target Industry FE	Yes	Yes	Yes
Obs	643	643	643
Adjusted R <sup>2</sup>	0.061	0.059	0.065

**Table 12 Climate Laws and Offer Premium**

This table presents the effects of climate change laws on offer premium. Offer premium (in percentage points) is calculated as the offer price scaled by the target firm's stock price one day prior to the deal announcement.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate law in the deal announcement year, and zero otherwise. Control variables are defined in Appendix Table A.1. Regressions include acquirer-target country-pair fixed effects, acquirer firm's industry by year fixed effects and target firm's industry by year fixed effects. Industries are defined at the two-digit SIC codes level. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Offer Premium		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-9.179*** (-2.65)	-8.017** (-2.00)	-8.069** (-2.01)
Climate Law <sub>acq</sub>	-2.158 (-0.38)	-2.405 (-0.43)	-2.703 (-0.47)
Related Industry	0.758 (0.21)	3.727 (1.17)	3.486 (1.02)
All Cash	-0.224 (-0.08)	-0.979 (-0.32)	-0.904 (-0.29)
Friendly Merger	0.117 (0.02)	-1.328 (-0.19)	-1.890 (-0.26)
Tender Offer	7.613** (2.63)	6.205** (2.10)	6.488** (2.12)
Competing Bidder	26.597*** (3.44)	27.953*** (3.93)	27.986*** (3.75)
Target Size		-4.849*** (-4.01)	-4.876*** (-3.89)
Acquirer Size		1.216 (1.44)	1.258 (1.43)
Public Acquirer		16.686*** (3.36)	16.646*** (3.33)
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$			-4.575 (-0.15)
$\Delta(\text{GDP Growth})_{acq-tgt}$			-18.274 (-0.17)
$\text{Max}(\text{Import, Export})_{acq,tgt}$			-22.536 (-0.34)
$\Delta(\text{Exchange Rate})_{acq-tgt}$			0.497 (0.98)
$\Delta(\text{Investment Profile})_{acq-tgt}$			-1.072 (-0.53)
$\Delta(\text{Quality of Institution})_{acq-tgt}$			0.568 (0.20)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$			2.931 (0.83)
Country-pair FE	Yes	Yes	Yes
Acquirer Industry-Year FE	Yes	Yes	Yes
Target Industry-Year FE	Yes	Yes	Yes
Obs	1,741	1,741	1,741
Adjusted R <sup>2</sup>	0.149	0.099	0.112

**Table 13 Climate Laws and Acquirers' Performance Improvement**

This table presents the effects of climate change laws on improvement in the operating performance of acquirers following the acquisition. The change in acquirers' operating performance is defined as the acquirer's return-on-assets in year  $t + 3$  or year  $t + 5$  minus its return on assets in year  $t - 1$ , where  $t = 0$  is the effective year of the acquisition. Return-on-assets is the ratio of net income to total assets, which is adjusted by the median value in a given country-industry and year.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate law in the year of the acquisition, and zero otherwise. Control variables are defined in Appendix Table A.1. Regressions include acquirer-target year fixed effects, country-pair fixed effects, acquirer and target firms' industry fixed effects. Industries are defined at the two-digit SIC codes level. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	$\Delta ROA_{t-1 \rightarrow t+3}$		$\Delta ROA_{t-1 \rightarrow t+5}$	
	(1)	(2)	(3)	(4)
Climate Law <sub>tgt</sub>	-2.562*** (-2.71)	-2.375*** (-2.68)	-3.063** (-2.50)	-3.489** (-2.43)
Climate Law <sub>acq</sub>	-0.885 (-0.81)	-0.647 (-0.51)	-3.611*** (-3.36)	-2.918** (-2.33)
Acquirer Size		0.176 (0.74)		0.149 (0.76)
Acquirer B/M		0.021 (0.14)		0.107 (0.43)
Acquirer Leverage		4.072* (1.76)		5.893** (2.36)
Acquirer Cash Holdings		4.020* (2.06)		3.669** (2.17)
log(Deal Value)		-0.478** (-2.41)		-0.619*** (-4.03)
Relative Size		3.478*** (3.08)		4.798*** (3.73)
Related Industry		-0.587* (-1.77)		-0.265 (-0.97)
All Cash		0.160 (0.32)		-0.465 (-1.03)
Defensive Tactics		4.125* (1.83)		4.491 (1.04)
Friendly Merger		1.668* (1.88)		1.307 (0.99)
Tender Offer		1.219 (1.16)		0.514 (0.38)
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$		-1.861 (-0.42)		-5.762 (-0.76)
$\Delta(\text{GDP Growth})_{acq-tgt}$		-3.915 (-0.35)		20.165 (1.29)
$\text{Max}(\text{Import, Export})_{acq,tgt}$		-6.520 (-0.87)		1.429 (0.10)
$\Delta(\text{Exchange Rate})_{acq-tgt}$		-0.045 (-1.02)		-0.066 (-1.07)
$\Delta(\text{Investment Profile})_{acq-tgt}$		-0.391* (-2.11)		-0.564*** (-3.53)
$\Delta(\text{Quality of Institution})_{acq-tgt}$		0.125 (0.31)		-0.900** (-2.20)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$		0.546 (1.53)		0.359 (1.20)
Year FE	Yes	Yes	Yes	Yes
Contry-pair FE	Yes	Yes	Yes	Yes
Acquiror Industry FE	Yes	Yes	Yes	Yes
Target Industry FE	Yes	Yes	Yes	Yes
Obs	3,743	3,743	2,921	2,921
Adjusted R <sup>2</sup>	0.034	0.053	0.029	0.055

## Appendix

**Table A.1 Variable Definitions**

This table describes detailed variable definitions and corresponding data sources.

Variable	Definition	Sources
<i>Cross-border M&amp;A Activities</i>		
$\text{Log}(1 + \text{Number of Cross-border Deals}_{ijt})$	Logarithm of one plus the total number of cross-border deals between acquirer country $j$ and target country $i$ in year $t$	SDC
$\text{Log}(1 + \$ \text{Amount of Cross-border Deals}_{ijt})$	Logarithm of one plus the total dollar amount of cross-border deals between acquirer country $j$ and target country $i$ in year $t$	SDC
$I(\text{Cross-border Deals}_{ijt})$	A dummy variable that takes one if any cross-border deal occurs between acquirer country $j$ and target country $i$ in year $t$ , and zero otherwise	SDC
<i>Country-level Variables</i>		
$\text{Climate Law}_{tgt}$	A dummy variable that takes one if the target country has adopted climate laws in a given year, and zero otherwise	CCLW, CPD, ECOLEX, World Bank
$\text{Climate Law}_{acq}$	A dummy variable that takes one if the acquirer country has adopted climate laws in a given year, and zero otherwise	CCLW, CPD, ECOLEX, World Bank
$\Delta(\log \text{GDP per capita})_{acq-tgt}$	Difference in log GDP per capita between the acquirer and target countries	Penn World Table
$\Delta(\text{GDP Growth})_{acq-tgt}$	Difference in annual growth rates of real GDP between the acquirer and target countries	Penn World Table
$\text{Max}(\text{Import, Export})_{acq,tgt}$	The maximum of bilateral import and export between a country pair, where bilateral import (export) is calculated as the value of imports (exports) by the target country from (to) the acquirer country as a percentage of total imports (exports) by the target country	UN Comtrade
$\Delta(\text{Exchange Rate})_{acq-tgt}$	Difference in exchange rates of local currencies to the US dollar between the acquirer and target countries	Penn World Table
$\Delta(\text{Investment Profile})_{acq-tgt}$	Difference in investment profile between the acquirer and target countries, where the investment profile is a ICRG Political Risk component, and is calculated based on an assessment of three factors affecting the risk to investment: contract viability/expropriation, profits repatriation, and payment delays. Each subcomponent is scored on a scale from zero to four, with a higher score indicating	ICRG



	lower risk.	
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	Difference in the quality of institution between the acquirer and target countries, where the quality of institution is measured by the sum of three ICRG Political Risk subcomponents: Corruption, Law and Order, and Bureaucratic Quality	ICRG
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	Difference in the annual growth rate of the number of domestic acquisition deals between the acquirer country and the target country	SDC
Climate Law Stringency <sub>tgt</sub>	Measure of the stringency of climate policies in the target country based on the environmental policy stringency index proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).	Kruse et al. (2022)
Climate Law Stringency <sub>acq</sub>	Measure of the stringency of climate policies in the acquirer country based on the environmental policy stringency index proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).	Kruse et al. (2022)
<i>Deal-level Variables</i>		
Combined CAR[-3, +3]	Cumulative abnormal returns of the combined firm over a seven-day window around the deal announcement. It is calculated as the weighted average of CAR[-3, +3] of the acquirer and target firms where the weight is the market capitalization of the acquirer and the target firms four trading days prior to the deal announcement. Abnormal returns are firms' stock returns adjusted by returns of the market index of the corresponding country.	Datastream
Offer Premium	Offer price relative to the target firm's stock price one day prior to the deal announcement	SDC
Log(Deal Value)	Logarithm of the dollar value (in millions USD) of acquisition deals	SDC
Relative Size	Deal value divided by the value of the acquirer firm's total assets	SDC
Related Industry	A dummy variable that equals one if the acquirer and the target share the same two-digit SIC industry, and zero otherwise	SDC
All Cash	A dummy variable that equals one if all the consideration offered by the acquirer to the target is in the form of cash, and zero otherwise	SDC
Defensive Tactics	A dummy variable that equals one if SDC classifies the target as employing defensive tactics, and zero otherwise	SDC
Friendly Merger	A dummy variable that equals one if SDC classifies the merger as friendly, and zero otherwise	SDC
Tender Offer	A dummy variable that equals one if the acquisition is in the form of a tender offer, and zero otherwise	SDC
Competing Bidder	A dummy variable that equals one if there exists a competing bidder in an acquisition deal, that is, a third party launched an offer for the target while this original bid was pending, and zero otherwise	SDC
<i>Firm-level Variables</i>		
Target Size	Logarithm of the book value of the target firm's total assets before the acquisition	SDC

Public Acquirer	A dummy variable that equals one if the acquirer firm is a public firm, and zero otherwise	SDC
Acquirer Size	Logarithm of book value of the acquirer firm's total assets	Worldscope
Acquirer B/M	Ratio of book value of acquirer firm's total assets to the market value of its total assets	Worldscope
Acquirer Leverage	Ratio of book value of acquirer firm's total debt to the book value of its total assets	Worldscope
Acquirer Cash Holdings	Ratio of cash and short-term investments held by the acquirer firm to the book value of its total assets	Worldscope
$\Delta ROA$	The change in an acquirer's return-on-assets from the year before the acquisition to three or five years following the acquisition. Return-on-assets is the ratio of net income to total assets, which is adjusted by the median value in a given country-industry and year.	Worldscope

## Internet Appendix:

### Climate Laws and Cross-Border Mergers and Acquisitions

*Online Posting; Not for Publication*

**Table IA.1 List of Climate Laws**

Panel A of this table lists the first climate law in each country. The information is collected from Climate Change Laws of the World, the Climate Policy Database, ECOLEX, and the World Bank. Panel B of this table shows examples of national climate laws.

Panel A

Country/Region	Year	Title of Climate Law
Albania	2014	Regulation on the Reduction and Stabilization of Discharges of Fluorinated Greenhouse Gases
Algeria	2003	National Plan of Action and Adaptation to Climate Change
Andorra	2014	Andorra's Adaptation Process to Climate Change (PAACC)
Argentina	1991	Establishment of the National Commission for Global Change of the Terrestrial Climate System
Australia	1989	Ozone Protection and Synthetic Greenhouse Gas Management Act
Austria	2002	Climate Strategy
Bahamas	2005	National Policy for the Adaptation to Climate Change
Bahrain	2007	Establishment of the Joint Committee on Climate Change
Bangladesh	2009	Bangladesh Climate Change Strategy and Action Plan
Barbados	2012	National Climate Change Policy
Belarus	2010	Regulation on Some GHG Emission Reduction Issues
Belgium	2010	National Climate Change Adaptation Strategy
Belize	2014	National Climate Change Policy, Strategy and Action Plan
Benin	2003	Establishment, powers and functioning of the National Committee on Climate Change
Bhutan	2012	National Strategy and Action Plan for Low Carbon Development
Bolivia	1999	Establishment of the Interinstitutional Council on Climate Change
Brazil	1991	National Programme for Energy Efficient Use of Petroleum and Natural Gas Derivatives
Brunei Darussalam	2019	Brunei Darussalam National Climate Change Policy

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Bulgaria	2014	Climate Change Mitigation Act
Burundi	2013	National Strategy and Action Plan on Climate Change
Cabo Verde	2017	Implement of the Agreement on Climate Change
Cambodia	2013	Cambodia Climate Change Strategic Plan
Canada	1999	GHG Emission Reduction Trading Pilot
Chile	2014	National Climate Change Adaptation Plan
China	2013	The National Strategy for Climate Change Adaptation
Colombia	2012	National Plan for Climate Change Adaptation
Cook Islands	2013	Climate and Disaster Compatible Development Policy
Costa Rica	2009	National Climate Change Strategy
Côte d'Ivoire	2014	National Climate Change Program
Croatia	2013	Regulation on the Adoption of the Plan for the Air Protection, Protection the Ozone layer and Climate Change Mitigation
Cuba	2017	Tarea Vida Plan to Face Climate Change
Cyprus	2020	Cyprus' Integrated National Energy and Climate Plan
Czechia	2004	National Programme to Abate the Climate Change Impacts
Denmark	1992	The CO2 Tax Act
Dominica	2002	National Climate Change Adaptation Policy
Dominican Republic	2011	Strategic Plan for Climate Change
Ecuador	1999	Establishment of the National Climate Committee
Egypt	2011	Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Management
El Salvador	2013	The National Climate Change Strategy
Estonia	2000	Pollution Charge Act
Eswatini	2014	National Climate Change Strategy and Action Plan
Ethiopia	2010	Ethiopian Programme of Adaptation to Climate Change
Fiji	2012	National Climate Change Policy
Finland	1990	Amendment of the Act on Fuel Tax
France	2004	Climate Plan France
Gabon	2012	National Climate Plan
Gambia	2016	Climate Change National Policy
Georgia	2021	Georgia's Action Plan for Climate Change Mitigation
Germany	2000	National Climate Protection Program
Ghana	2012	National Climate Change Adaptation Strategy

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Greece	2003	National Program for the Reduction of Greenhouse Gas Emissions
Grenada	2007	National Climate Change Policy and Action Plan
Guatemala	2009	Climate Change Policy
Guinea	2019	National Strategy on Climate Change of Guinea
Guyana	2001	Climate Change Action Plan
Haiti	2019	National Policy to Fight Climate Change
Honduras	2010	National Climate Change Strategy
Hungary	2005	Act No. XV of 2005 on Greenhouse Gas Emission Allowance Trading
Iceland	2007	Act no. 65/2007 on the Emission of Greenhouse Gases
India	2008	National Action Plan on Climate Change
Indonesia	2005	Regulation 206/2005 Establishing National Committee For Clean Development Mechanism
Iran	2015	Regulation on Measures Regarding a Common National Program to Reduce Greenhouse Gas Emissions
Iraq	2013	Oil and Gas Corporate Tax
Ireland	2000	National Climate Change Strategy
Israel	2008	The Israeli' Emissions Reduction National Plan
Italy	1998	Provisions on GHG Emissions Reduction
Jamaica	2015	Climate Change Policy Framework for Jamaica
Japan	1998	Act on Promotion of Global Warming Countermeasures
Jordan	2013	National Climate Change Policy of the Hashemite Kingdom of Jordan
Kazakhstan	2012	Regulation on Issuance of Quotas for Emissions of Greenhouse Gases
Kenya	2012	National Climate Change Response Strategy
Kiribati	2013	National Framework for Climate Change and Climate Change Adaptation
Korea	1999	First Comprehensive Action Plan for Climate Change Policy
Kosovo	2014	Strategy on Climate Change
Kyrgyzstan	2007	State Regulation and Policy in the Field of Emission and Absorption of Greenhouse Gases
Laos	2010	National Strategy on Climate Change
Latvia	2004	Tax on Carbon Dioxide
Lesotho	2018	National Climate Change Policy
Liberia	2018	National Policy and Response Strategy on Climate Change
Liechtenstein	2007	Climate Protection Strategy
Lithuania	2012	The Strategy for the National Climate Change Management Policy
Luxembourg	2000	National Strategy to Reduce GHG Emissions

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Madagascar	2010	National Climate Change Policy
Malawi	2012	National Climate Change Policy
Malaysia	2010	National Policy on Climate Change
Maldives	2010	Strategic National Action Plan for Disaster Risk Reduction and Climate Change Adaptation
Mali	2011	National Policy on Climate Change
Malta	2009	National Strategy for Policy and Abatement Measures Relating to the Reduction of Greenhouse Gas Emissions
Marshall Islands	2006	Climate Change Strategic Plan
Mauritius	2020	Climate Change Act
Mexico	2007	National Climate Change Strategy
Micronesia	2009	Nationwide Climate Change Policy
Moldova	2014	Climate Change Adaptation Strategy
Mongolia	2000	National Action Programme on Climate Change
Montenegro	2015	National Strategy in the Field of Climate Change
Morocco	2009	National Plan Against Climate Change
Mozambique	2010	National Strategy for Climate Change
Myanmar	2009	National Sustainable Development Strategy
Namibia	2010	National Policy on Climate Change for Namibia
Nauru	2015	Framework for Climate Change Adaptation and Disaster Risk Reduction
Nepal	2011	Climate Change Policy
Netherlands	2007	National Programme for Spatial Adaptation to Climate Change
New Zealand	2002	Climate Change Response Act
Nicaragua	1999	Establishment of the Climate Change Commission
Niger	2012	National Policy on Climate Change
Nigeria	2012	Nigeria Climate Change Policy Response and Strategy
Niue	2009	National Climate Change Policy
Norway	1991	CO2 Tax
Oman	2016	Regulations on Climate Change Management
Pakistan	2012	National Climate Change Policy
Palau	2015	Palau Climate Change Policy
Panama	2007	National Climate Change Policy
Papua New Guinea	2014	National Climate Change Compatible Development Management Policy
Paraguay	2001	National Climate Change Program

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Peru	2003	National Strategy on Climate Change
Philippines	2009	The Climate Change Act
Poland	1990	Environmental Protection Act
Portugal	2004	Government Resolution No. 119/2004 on Climate Change National Programme
Romania	2013	National Climate Change Strategy
Russia	2013	Regulation on Greenhouse Gas Emission Reduction
Rwanda	2011	Green Growth and Climate Resilience National Strategy on Climate Change and Low Carbon Development
Saint Lucia	2005	National Climate Change Adaptation Policy
Samoa	2007	National Policy of Combating Climate Change
Seychelles	2009	Seychelles National Climate Change Strategy
Sierra Leone	2015	Climate Change Strategy and Action Plan
Singapore	2016	Climate Action Plan
Slovakia	2004	Act on Trading of Emission Quotas
Slovenia	1996	CO2 Tax Charged For the Use of Fossil Fuels
Solomon Islands	2012	National Climate Change Policy
Somalia	2020	National Climate Change Policy
South Africa	2004	A National Climate Change Response Strategy
Spain	1998	Establishment of the National Climate Council
Sri Lanka	2010	National Climate Change Policy
Suriname	2015	National Climate Change Policy, Strategy and Action Plan
Sweden	1991	Carbon Tax and Related Regulations
Switzerland	2000	CO2 Act
Taiwan	2015	Greenhouse Gas Emission Reduction and Administration Act
Tajikistan	2003	National Action Plan for Climate Change Mitigation
Tanzania	2012	National Climate Change Strategy
Thailand	2007	Establishment of the Greenhouse Gas Management Organization
Timor-Leste	2011	National Programme for the Adaptation to Climate Changes
Tonga	2010	Joint National Action Plan on Climate Change Adaptation and Disaster Risk Management
Trinidad and Tobago	2006	National Environmental Policy
Tunisia	2007	National Sustainable Development Strategy
Turkey	2010	National Climate Change Strategy
Turkmenistan	2012	National Climate Change Strategy

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Tuvalu	2012	Te Kaniva: Tuvalu National Climate Change Policy
Ukraine	2011	Tax Code of Ukraine Amendments of 2011
United Arab Emirates	2015	UAE Green Growth Strategy
United Kingdom	2000	UK Climate Change Programme
United States	1990	Clean Air Act Amendments of 1990
Uruguay	2005	Environmental Impact Assessment Uruguay
Vanuatu	2015	Vanuatu Climate Change and Disaster Risk Reduction Policy
Venezuela	2008	Tax on Oil Sales
Viet Nam	2006	Organic Law of Environment No 5833
Zambia	2006	Zambia Vision 2030
Zimbabwe	2015	National Climate Change Response Strategy

#### Panel B

Country	Summary of First National Climate Law
China	The Chinese government released its first National Climate Change Adaptation Plan in 2013. Not only does the Plan provide clear guidelines and principles for climate change adaptation, but it also proposes specific adaptation objectives. The Plan was replaced by the National Strategy on Climate Adaptation 2035 published in 2022.
Finland	The 1990 Amendment of the Act on Fuel Tax in Finland introduced a carbon tax of EUR1.12 (USD1.41) per tonne of CO2 equivalent. As a result, Finland became the first country worldwide to implement a carbon tax. The carbon tax law in Finland was amended several times, and in 2021 the carbon tax in Finland was EUR62 (USD73) per ton of CO2 equivalent.
Mexico	The National Climate Change Strategy in Mexico was introduced in 2007. The goal of the Strategy is to reduce emissions by 30% by 2020 with respect to the business-as-usual scenario, and by 50% by 2050, as compared with emissions in 2000. To facilitate the reduction of greenhouse gas emissions, the Strategy sets out multiple measures such as reducing power consumption intensity and accelerating energy transition towards green energy sources.
New Zealand	Climate Change Response Act 2002 in New Zealand established a national inventory agency to record and report greenhouse gas emissions. According to this act, any corporate that fails to provide the required information to the inventory agency is liable on conviction to a fine up to NZD30,000. The 2008 Amendment to this Act launched the Emissions Trading Scheme (ETS) in New Zealand.
United States	The Clean Air Act Amendments of 1990 in the U.S. required electric utilities to monitor and report their CO2 emissions to the federal Environmental Protection Agency (EPA). Utilities are also required to make such information available to the general public. In addition, the Amendment introduced a market-based cap and trade program, where the program imposes a permanent cap on the total amount of SO2 that electric power plants nationwide may emit. The Amendment also encouraged development and sale of alternative fuels such as renewable fuels that do not produce carbon dioxide.



**Table IA.2 Number of Cross-Border Mergers by Country Pair of Top Target and Acquirer Countries**

This table presents the total number of cross-border acquisition deals from 1985 to 2019 by country pair of top target and acquirer countries. The columns represent the top 20 target countries in terms of the total number of inbound mergers and acquisitions. For each of the top target countries, we identify the top 20 acquirer countries based on the total number of cross-border deals. The rows list countries that are among the top 20 acquirer countries for at least one of the top target countries. The data filters used to create our test sample are described in Section 3.2.

Acquirer Country	Top Target Countries																			
	AUS	BRA	CAN	CHE	CHN	DEU	DNK	ESP	FRA	GBR	HKG	IND	ITA	MEX	NLD	NOR	NZL	SGP	SWE	USA
Argentina (ARG)	0	24	0	0	0	1	0	1	0	0	0	0	2	1	0	0	0	0	0	9
Australia (AUS)		29	133	8	43	41	10	16	29	204	23	20	11	9	20	12	233	51	20	529
Austria (AUT)	3	4	4	7	1	36	1	7	8	17	0	4	7	0	6	1	2	1	7	27
Bahamas (BHS)	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	4	0	0	0	13
Belgium (BEL)	11	9	13	4	6	27	5	16	66	59	2	4	10	4	36	4	1	2	4	95
Brazil (BRA)	8		14	0	1	2	0	6	4	14	1	0	5	4	3	3	0	0	0	41
Canada (CAN)	204	82		23	51	69	10	36	83	272	19	15	20	207	39	17	34	6	42	2621
Chile (CHL)	2	32	6	0	1	1	1	2	0	1	0	0	0	5	1	0	0	0	0	11
China (CHN)	106	11	55	14		60	7	17	33	45	179	4	34	9	20	4	10	50	10	182
Colombia (COL)	0	4	4	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	10
Cyprus (CYP)	1	0	0	1	0	3	2	1	0	7	0	1	2	0	0	5	0	1	1	5
Denmark (DNK)	9	8	9	16	4	26		11	20	64	4	5	9	5	23	26	1	5	51	82
Finland (FIN)	7	7	9	6	8	42	22	3	21	39	3	7	11	1	20	35	2	3	98	91
France (FRA)	49	68	81	31	34	111	15	122		331	9	33	84	5	52	18	7	11	32	508
Germany (DEU)	51	23	36	47	16		20	53	105	237	5	45	45	6	51	25	6	7	45	434
Greece (GRC)	1	0	1	0	1	4	0	7	1	10	3	0	8	1	2	3	0	0	1	23
Hong Kong (HKG)	65	11	24	4	634	17	7	4	12	49		7	5	2	7	1	6	33	5	111
Iceland (ISL)	0	0	4	0	2	2	4	1	6	11	0	0	0	0	2	0	0	0	3	9
India (IND)	32	12	21	12	5	34	3	12	23	107	3		16	3	14	2	2	26	5	258
Indonesia (IDN)	6	0	1	0	7	0	0	0	1	5	2	0	1	0	0	0	0	13	0	5
Ireland (IRL)	28	11	23	2	7	26	6	11	26	363	1	6	7	7	43	3	2	2	11	283
Israel (ISR)	3	5	13	9	3	17	4	9	14	31	2	3	11	3	9	3	2	1	1	241
Italy (ITA)	15	38	16	17	8	59	3	67	94	94	1	10		7	25	6	0	3	10	139
Japan (JPN)	108	31	45	25	82	76	12	29	50	170	34	48	36	4	26	6	15	70	17	859
Luxembourg (LUX)	3	4	13	3	3	9	1	8	22	17	1	2	20	1	12	5	0	2	7	45
Malaysia (MYS)	52	1	11	3	40	10	1	1	1	36	29	20	5	0	10	3	10	112	1	34

Acquirer Country	Top Target Countries																			
	AUS	BRA	CAN	CHE	CHN	DEU	DNK	ESP	FRA	GBR	HKG	IND	ITA	MEX	NLD	NOR	NZL	SGP	SWE	USA
Mexico (MEX)	2	32	10	1	0	3	0	16	3	2	0	1	0		1	2	0	1	0	75
Netherlands (NLD)	37	19	39	11	11	59	12	40	51	167	2	13	36	3		14	7	5	26	272
New Zealand (NZL)	105	2	9	1	3	2	1	2	3	15	1	0	1	1	2	0		1	0	33
Norway (NOR)	11	14	14	6	1	22	68	16	22	71	1	6	4	0	10		2	9	155	81
Philippines (PHL)	10	1	2	0	6	2	0	3	0	6	3	1	0	5	0	1	2	6	1	18
Poland (POL)	0	2	5	1	1	19	3	7	1	4	0	1	3	0	2	1	0	1	3	4
Portugal (PRT)	0	32	0	0	1	5	0	36	7	4	0	1	1	0	0	1	0	0	1	3
Singapore (SGP)	132	6	7	9	139	11	3	2	5	63	60	23	4	1	8	8	20		4	110
South Africa (ZAF)	76	4	19	7	1	8	1	1	4	100	4	4	4	0	7	0	5	5	1	63
South Korea (KOR)	7	4	12	2	56	9	1	1	5	12	14	12	2	0	2	3	1	7	1	107
Spain (ESP)	13	63	8	5	6	27	2		60	60	1	7	49	23	13	3	0	1	7	102
Sweden (SWE)	28	9	24	27	10	82	107	34	68	186	5	13	31	5	54	134	2	9		272
Switzerland (CHE)	46	16	44		14	67	8	14	53	86	3	16	37	0	25	10	5	4	19	313
Taiwan (TWN)	0	2	7	2	77	11	2	0	2	10	12	1	2	2	3	1	0	13	1	75
Thailand (THA)	15	1	2	0	7	3	0	1	6	10	4	3	1	0	2	2	5	16	0	13
U.A.E (ARE)	4	1	8	0	1	4	1	3	0	15	0	11	2	1	5	0	1	4	0	7
U.K. (GBR)	468	71	332	82	66	511	102	235	515		60	75	203	25	381	121	54	55	191	3249
United States (USA)	607	242	1768	148	218	615	98	152	496	2154	114	174	201	157	254	119	91	77	208	

**Table IA.3 Climate Laws and Cross-Border Merger Activities: Poisson Regressions**

This table reports the effects of climate laws on cross-border merger activities based on Poisson regressions. The dependent variable is the annual number of cross-border deals between the acquirer country and the target country. Column (1) exploits an indicator for the adoption of climate laws. *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Columns (2) and (3) exploit a continuous stringency measure of climate laws. *Climate Law Stringency<sub>tgt</sub>* (*Climate Law Stringency<sub>acq</sub>*) is a measure of the stringency of climate policies in the target (acquirer) country based on an environmental policy stringency index. *Climate Law Stringency<sub>tgt-acq</sub>* is the difference between the stringency index in the target and acquirer countries. The index is available for OECD countries (excluding Colombia, Costa Rica, Latvia, and Lithuania) and six non-OECD countries (Brazil, China, India, Indonesia, Russia, and South Africa). The control variables are the same as in our baseline specification. Detailed definitions are provided in Appendix Table A.1. Regressions include year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019 in Column (1) and starts from 1990 in Columns (2) and (3). *t*-statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Number of Cross-border Deals		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-0.0548** (-2.34)		
Climate Law <sub>acq</sub>	-0.051** (-2.02)		
Climate Law Stringency <sub>tgt</sub>		-0.101** (-2.38)	
Climate Law Stringency <sub>acq</sub>		0.018 (0.39)	
Climate Law Stringency <sub>tgt-acq</sub>			-0.061** (-2.39)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.398*** (6.42)	0.493** (2.22)	0.495** (2.26)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	0.081 (0.30)	-0.011 (-0.02)	-0.014 (-0.02)
$\text{Max}(\text{Import, Export})_{\text{acq,tgt}}$	3.095*** (7.99)	3.174** (2.54)	3.048** (2.50)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.154*** (-5.24)	-0.124* (-1.96)	-0.128* (-2.01)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.016*** (3.03)	0.013 (1.23)	0.013 (1.25)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	-0.012 (-1.46)	0.007 (0.44)	0.008 (0.49)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.011 (-1.51)	-0.007 (-0.86)	-0.007 (-0.85)
Year FE	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes
Obs	34,693	21,748	21,748
Adjusted R <sup>2</sup>	0.480	0.588	0.588

**Table IA.4 Climate Laws and Cross-Border Merger Activities: Stack-Cohort Approach**

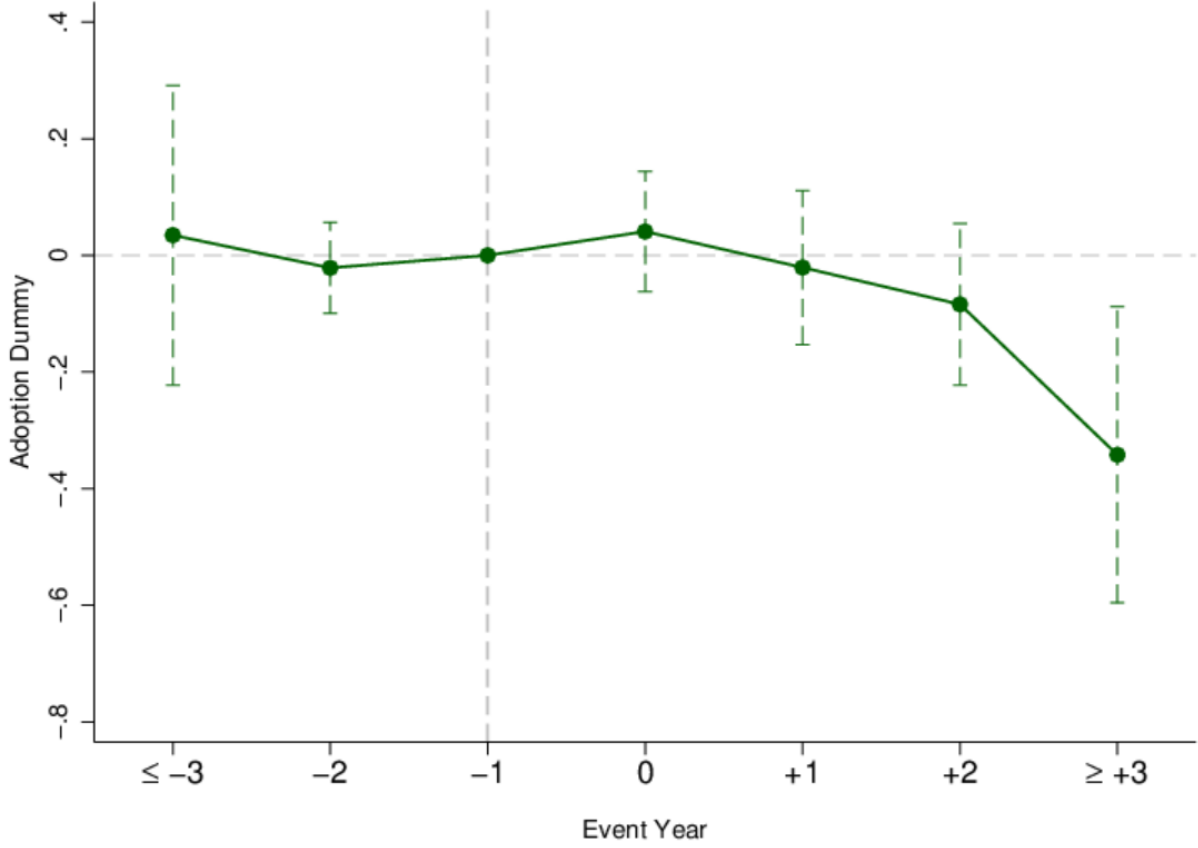
This table estimates the effects of climate laws on cross-border merger activities using the stack-cohort approach. A cohort consisting of treatment units and clean controls are created for each event, and all cohorts are stacked together for the regression. Treatment units are country pairs where the target country has adopted climate laws, and clean controls refer to units that are not yet affected by climate laws of the target country within the  $[-3, +3]$  event window. The dependent variable is the incidence of cross-border deals between the acquirer and target countries in a given year, which is defined as the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Columns (1) and (2) include both year fixed effects and country fixed effects, while Column (3) includes year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-0.060*** (-4.43)	-0.067*** (-4.33)	-0.059*** (-3.46)
Climate Law <sub>acq</sub>	-0.024 (-0.89)	-0.031 (-1.41)	-0.003 (-0.15)
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$		-0.032 (-0.34)	-0.087 (-0.83)
$\Delta(\text{GDP Growth})_{acq-tgt}$		0.349 (1.62)	0.301 (1.45)
Max(Import, Export) <sub>acq,tgt</sub>		4.367*** (13.86)	0.448 (0.36)
$\Delta(\text{Exchange Rate})_{acq-tgt}$		0.130* (2.02)	0.137* (1.91)
$\Delta(\text{Investment Profile})_{acq-tgt}$		0.005 (1.04)	0.004 (0.74)
$\Delta(\text{Quality of Institution})_{acq-tgt}$		0.004 (1.38)	0.004 (1.23)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$		-0.008*** (-7.03)	-0.007*** (-3.65)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	27,027	27,027	27,027
Adjusted R <sup>2</sup>	0.331	0.440	0.614

**Table IA.5 Climate Laws and Cross-Border Merger Activities: Effects of Confounding Events**

This table presents the effects of climate laws on cross-border merger activities after eliminating the impacts of confounding events. The dependent variable is the incidence of cross-border deals between the acquirer and target countries in a given year, which is defined as the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate change-related law in a given year, and zero otherwise. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Observations are excluded from the regressions if the target country initiated takeover laws or experienced labor reforms in the  $[-2, +2]$  event window around its adoption of climate laws. Information about takeover laws and labor reforms is from Lel and Miller (2015) and Simintzi, Vig, and Volpin (2015), respectively. Columns (1) and (2) include both year fixed effects and country fixed effects, while Column (3) includes year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019.  $t$ -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law <sub>tgt</sub>	-0.029*** (-3.24)	-0.029*** (-3.08)	-0.027** (-2.48)
Climate Law <sub>acq</sub>	0.008 (0.70)	-0.012 (-1.15)	-0.007 (-0.62)
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$		0.016 (0.56)	0.059** (2.19)
$\Delta(\text{GDP Growth})_{acq-tgt}$		-0.003 (-0.03)	-0.055 (-0.56)
Max(Import, Export) <sub>acq,tgt</sub>		2.935*** (13.92)	1.064** (2.62)
$\Delta(\text{Exchange Rate})_{acq-tgt}$		-0.018* (-1.87)	-0.016 (-1.52)
$\Delta(\text{Investment Profile})_{acq-tgt}$		0.003 (1.46)	0.002 (0.80)
$\Delta(\text{Quality of Institution})_{acq-tgt}$		-0.002 (-0.69)	-0.004 (-1.36)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$		-0.002 (-1.64)	-0.002 (-1.38)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	31,863	31,863	31,863
Adjusted R <sup>2</sup>	0.290	0.355	0.564



**Figure IA.1 Dynamic Effects of Climate Laws on Carbon Emissions**

This figure demonstrates the responses in country-level CO<sub>2</sub> emissions around the adoption of climate laws. Specifically, it plots the  $\hat{\beta}$ s (dots) and the corresponding 90% confidence intervals (dashed lines) estimated from the following regression:

$$y_{i,t} = \alpha + \beta_1 \text{Climate Law}_{i,t}^{-3} + \beta_2 \text{Climate Law}_{i,t}^{-2} + \beta_3 \text{Climate Law}_{i,t}^0 + \beta_4 \text{Climate Law}_{i,t}^{+1} + \beta_5 \text{Climate Law}_{i,t}^{+2} + \beta_6 \text{Climate Law}_{i,t}^{+3} + \mathbf{X}_{i,t-1}\gamma + \tau_t + \tau_i + \epsilon_{i,t},$$

where  $i$  denotes country and  $t$  denotes year.  $y_{i,t}$  is the CO<sub>2</sub> emissions per capita in country  $i$  and year  $t$ .  $\text{Climate Law}_{i,t}^{-3}$  is equal to one for years at least three years prior to country  $i$ 's adoption of the climate law;  $\text{Climate Law}_{i,t}^{-2}$  is equal to one for the second year prior to the adoption;  $\text{Climate Law}_{i,t}^0$  is equal to one for the year when country  $i$  adopts the climate law;  $\text{Climate Law}_{i,t}^{+1}$  and  $\text{Climate Law}_{i,t}^{+2}$  are equal to one for the first and the second year after the adoption, respectively.  $\text{Climate Law}_{i,t}^{+3}$  is equal to one for years at least three years after the adoption.  $\mathbf{X}$  represents the set of control variables, which include GDP per capita, squared GDP per capita, growth rate of GDP, and the difference between total exports and total imports scaled by GDP.  $\tau_t$  and  $\tau_i$  denote year fixed effects and country fixed effects, respectively. Standard errors are clustered at the country level. The sample period is from 1985 to 2019. The data on CO<sub>2</sub> emissions is from the Our World in Data database.