

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

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## Abstract

Climate-related regulations have become increasingly prevalent worldwide. However, the nature of climate as a global public good makes it unclear to what extent these regulations are enforced by individual countries and whether they influence key corporate decisions. We examine the impact of climate laws on the international market for corporate control. We find that foreign acquirers are less likely to pursue targets in countries that have enacted climate laws and that deals announced shortly before the enactment of climate laws are more likely to be withdrawn. Furthermore, cross-border deals feature smaller synergies, lower premiums, and less post-merger operating performance improvement after target countries enact climate laws. We uncover support for three potential mechanisms through which climate regulations affect cross-border acquisitions, including impeding synergy creation, deterring carbon leakage through regulatory arbitrage, and selective enforcement.

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# 1 Introduction

Governments around the world are increasingly adopting regulations to address the urgent issue of global climate change, requiring firms to meet various obligations such as reducing their reliance on fossil fuels. Notable examples of these regulations include the Inflation Reduction Act in the U.S. and the Carbon Border Adjustment Mechanism in the E.U., both of which were enacted in 2022. A burgeoning literature investigates how national climate policies influence corporate decision-making, such as 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 foreign acquirers taking over firms in countries that have implemented these laws for several reasons. First, climate regulations can impede merger synergies by introducing frictions and costs associated with integrating and restructuring activities, as well as maintaining the operations of the merged entity. Second, the costs and restrictions imposed by climate regulations may eliminate inefficient domestic firms and force surviving firms to become leaner in their cost structure and more efficient in their operations. Consequently, there may be fewer domestic firms that foreign acquirers find appealing, as there is limited potential for post-acquisition operational improvement and value creation. Third, the implementation of climate laws in the target country diminishes the attractiveness of regulatory arbitrage attempts, where some cross-border acquisitions are driven by the acquirer's desire to exploit lax climate policies in the target country. However, it is also plausible that the adoption of climate laws by the target country could result in increased cross-border mergers and acquisitions. For example, enacting climate laws may reduce the uncertainty about future climate policies, alleviating firms' concerns about making significant and difficult-to-reverse investments like 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 encompassing climate laws in 157 countries or regions and link it to cross-border M&A deals. Employing a difference-in-differences (DiD) approach that utilizes 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 even after controlling for a wide range 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. We obtain stronger results after taking into account potential heterogeneous treatment effects. A dynamic DiD analysis further establishes that there is no change in acquisition activities between two given countries prior to the target country's enactment of climate laws, and the reduction in cross-border acquisitions only emerges post-enactment. The chilling effect remains stable in both the short and long term. In addition, we observe similar effects across within-industry and cross-industry acquisitions. Robustness checks using alternative measures of merger activities and excluding very large and/or small countries yield similar findings. With pseudo adoption years, we find no significant impacts of climate law adoption on cross-border acquisitions, suggesting that our baseline results are unlikely to be driven by chance.

We explore cross-sectional variations in our baseline finding to shed light on the channels through which climate laws affect cross-border M&A activities. Our results align with the notion that climate laws impose additional restrictions and costs on post-acquisition integration, restructuring, and operations. Specifically, we document a more substantial decline in cross-border acquisitions subsequent to the target country's adoption of climate laws when (1) the target country has a higher level of legal enforcement and (2) the deals involve firms that are expected to be impacted more by climate laws, such as those operating in the mining, manufacturing, transportation, and public utility sectors.<sup>2</sup> Moreover, the reduction in cross-border deals is concentrated among countries that have adopted substantive laws rather than cosmetic regulations. We further confirm our baseline findings and emphasize the importance

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<sup>2</sup> Note that mining and manufacturing industries cover firms in oil & gas extraction and petroleum & coal products, respectively.

of law enforcement using a continuous measure of climate policy stringency. In particular, cross-border acquisition activities decrease significantly as the target country's climate policy becomes more stringent.

We also document evidence that is consistent with a selective-enforcement channel driving our main results. We show that the negative relation between climate laws and cross-border deals is more pronounced for acquiring firms from countries that have low political affinity with the target country. The results suggest that authorities in the target country are inclined to enforce climate regulations more strictly against firms affiliated with low-affinity countries. In addition, we provide suggestive evidence that governments in target countries choose to implement climate laws more vigorously against foreign acquirers that target domestically important firms.

If the heightened regulatory burden arising from climate legislation does indeed contribute to the decline in cross-border deals, the decline should be smaller when the acquiring firms are more concerned about the climate crisis and are thus more willing to bear the additional regulatory costs. Consistent with this conjecture, our baseline results are weaker when acquirer firms come from (1) countries where a larger portion of the population considers climate change a significant concern, or (2) countries that have recently experienced significant climate disasters and are thus 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 discourage cross-border transactions driven by regulatory arbitrage motives.

In addition to examining the frequency of cross-border acquisitions, we also investigate the relationship between climate laws and several crucial characteristics of these deals. This includes assessing the impact of climate laws on shareholder value, operating performance, and the likelihood of deal withdrawals. 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. Furthermore, 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 notion that climate laws introduce additional frictions and costs

to these transactions.

This paper contributes to the growing literature on the impacts of climate policies and, more broadly, environmental policies.<sup>3</sup> Existing research has documented the implications of these policies for asset pricing (Bolton and Kacperczyk, 2022; Bolton, Lam, and Muûls, 2023), shareholders' investment decisions (Krueger, Sautner, and Starks, 2020), and banks' cross-border lending to fossil fuel companies (e.g., Benincasa, Kabas, and Ongena, 2023; Laeven and Popov, 2022). Climate policies can also affect corporate decisions, such as abatement behavior (Ramadorai and Zeni, 2023), total carbon emissions (Bai and Ru, 2022), the location of carbon emissions (Ben-David, Jang, Kleimeier, and Viehs, 2021), capital structure (Dang, Anh, Gao, and Yu, 2022), innovation strategies (Dai, Duan, and Ng, 2021), 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>4</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,

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<sup>3</sup> According to a recent survey conducted by Stroebel 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>4</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).

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 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 consider attracting 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, characterized by the process of global warming, 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. The effectiveness of these actions relies on a solid legal basis in order to avoid the free-rider problem, whereby individuals and organizations may benefit from a hospitable and resilient environment without contributing to its preservation. Climate laws serve this purpose and address issues of climate change mitigation and adaptation. These laws can take various forms, ranging 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 provided in the Internet Appendix.

It is common for climate laws to specify obligations for businesses, which tend to increase regulatory costs for firms. Extensive evidence suggests that climate policies indeed impose significant financial burdens on companies. 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) and Ng, Wang, and Yu (2023) 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, Dang, Anh, Gao, and Yu (2022) show that manufacturing firms adopt lower financial leverage to mitigate the risk of increased operating leverage after electricity prices increase due to the NO<sub>x</sub> Budget Trading Program that requires power plants to cut emissions. Brown, Matinsson, and Thomann (2022) find that higher country taxes on toxic emissions lead firms to increase their R&D spending. Moreover, evidence from equities (Bolton and Kacperczyk, 2021), bank loans (Ivanov, Kruttli, and Watugala, 2023), and corporate bonds (Seltzer, Starks, and Zhu, 2022) suggests that firms' exposure to climate policies influences their 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 law-adopting countries. Mergers and acquisitions are often motivated by synergy gains, typically achieved through cost reduction and revenue enhancement.<sup>5</sup> Cost reduction can stem

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<sup>5</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.

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 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 arising from climate laws may drive away potential customers and suppliers of the combined firm, thereby undermining merger synergies.

In addition, climate regulations can impose costs and restrictions on domestic firms in law-adopting countries, which can have significant implications for firm efficiency and, consequently, 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. This would leave less room for efficiency improvement and value creation if these surviving firms were to be 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 originating from countries with stringent climate regulations may pursue cross-border acquisitions to take advantage of the comparatively lenient climate policies in the target country. It is reasonable to expect that the passage of climate laws in the target country would deter 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 can be formulated 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, the enactment of climate laws can be perceived as a resolution to uncertainties surrounding future climate policies. This, in



turn, may enhance the willingness of foreign acquirers to purchase firms operating in countries with established climate regulations, as the elimination of uncertainty can incentivize companies to undertake significant and 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 can provide opportunities for acquirers possessing advanced technologies in climate mitigation and adaptation to generate value by applying their expertise in the target country. Collectively, 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 issue of global warming, which is closely linked to greenhouse gas emissions. Therefore, it is natural to expect that a company's exposure to climate-related regulatory risk positively depends on the intensity of its greenhouse gas emissions, which is largely determined by the nature of the firm's business. For example, industries with high emissions such as steel and mining are likely to face greater pressure from climate regulations to decarbonize than consulting firms. In light of this, 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 presence of climate regulations does not necessarily suggest that they will influence corporate decision-making. 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 when they are more effectively enforced. Thus, we propose 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 ECOLEX, 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>6</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 other studies.<sup>7</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. The first climate-related law in our sample was adopted by Australia in 1989, shortly after the establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988.<sup>8</sup> In 1990, United States revised the Clean Air Act, which incorporated regulations on greenhouse gas emissions. Over the past decades, a growing number of countries started adopting climate-related regulations. The staggered adoption of these regulations allows us to identify the effects of climate laws on

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<sup>6</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>7</sup> See e.g., Sawhney (2013), Martin, Muûls, and Wagner (2016), and Eskander and Fankhauser (2020).

<sup>8</sup> The objective of IPCC is to provide governments with scientific information that they can use to develop climate policies.

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% 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. We also conduct a placebo test to show that our findings are unlikely to be driven by chance. In addition, we confirm our findings are robust to alternative samples, measures, and estimation approaches.

### 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:

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

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  $t$ .  $Climate\ Law_{i,t}$  ( $Climate\ Law_{j,t}$ ) 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.

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 ( $\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$ ), as well as the difference in annual growth rates of real GDP between the two countries ( $\Delta(\log\ GDP\ Growth)_{acq-tgt}$ ). Second, we include the maximum of bilateral imports and exports between a country pair ( $Max(Import, Export)_{acq,tgt}$ ) 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 ( $\Delta(Exchange\ Rate)_{acq-tgt}$ ). 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 ( $\Delta(Investment\ Profile)_{acq-tgt}$  and  $\Delta(Quality\ of\ Institution)_{acq-tgt}$ ). 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 ( $\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$ ).

Table 2 reports the 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) in Table 2 shows the coefficient on  $Climate\ Law_{tgt}$  is -0.021 ( $t$ -statistic = -2.65), suggesting that the enactment of climate laws in a country reduces the number of cross-border deals targeting firms in the country. The result is similar after considering 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 geographic distance between two countries. The results obtained 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  $Climate\ Law_{tgt}$  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.<sup>9</sup> On average, a target country receives 27 acquisition bids per year. Therefore, the average drop is roughly 0.7 deals per country per year. Our results also suggest that climate laws in acquirer countries do not have an impact on cross-border merger activities.

We further distinguish between within-industry and diversifying acquisitions. Within-industry (diversifying) acquisitions refer to deals where the acquirer and target firms (do not) share the same primary three-digit SIC code. As discussed above, climate regulations can reduce cross-border mergers and acquisitions by increasing operational costs. Since there is typically more room for within-industry acquisitions to cut costs and improve efficiency by consolidating or shutting down inefficient operations (e.g., Guo, Kong, and Masulis, 2021), we expect these transactions to be less affected by climate laws. Table IA.3 in the Internet Appendix reports the results. Consistent with our conjecture, the decrease in within-industry acquisitions following climate laws is much smaller than the decline in diversifying deals and is only marginally significant.

## 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:

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<sup>9</sup> We are aware of potential concerns on using the “log1 plus” method. In Section 4.4., we show that our results are robust to alternative measures of acquisition activities.

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

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. This indicates that there is almost no difference in acquisition activities between two given countries across years before the target country adopts the climate law. The reduction in cross-border acquisitions only occurs only after the adoption of climate laws in the target country. Furthermore, Figure 2 illustrates 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 Robustness Checks**

In this subsection, we conduct several robustness tests. First, we exclude the United States, which is both the most active acquirer country and the most popular target country in our sample. In another test, we exclude the European Union where countries may take collaborative actions against climate issues. The first two columns of Table 3 show that the results based on these alternative samples are similar to our baseline findings. To rule out the possibility that our results are driven by countries with few cross-border deals, we re-run our baseline regression with the sample of OECD and BRICS countries, as well as the Group of Twenty (G20). As shown in Table IA.4 in the Internet Appendix, our conclusions hold in these alternative samples.

[Insert Table 3 Here]

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 can be biased if the treatment effects vary over time. This is because TWFE estimates are variance-weighted averages of many  $2 \times 2$  DiDs, some of which employ already-treated units as control groups. The literature proposes a stacked regression approach to address this issue, where event-specific “clean” observations serve as controls. We follow this suggestion and estimate a stacked regression. We create a cohort consisting of treatment units (country pairs where the target country has adopted climate laws) and clean controls (units not yet affected



by the target country's climate laws within the  $[-3, +3]$  event window) for each event. We then stack all cohorts together. Column (3) in Table 3 presents results from the stacked-cohort regression. It shows that the coefficient on  $Climate\ Law_{tgt}$  remains negative (-0.059) and statistically significant ( $t$ -statistic = -3.46). Notably, the magnitude of this coefficient estimate is over twice that of the coefficient estimated from our baseline specification. Our stacked DiD analysis suggests that climate laws in target countries exert significantly negative impacts on cross-border mergers and acquisitions even after taking into account potential heterogeneous treatment effects.

Next, we employ two alternative measures of cross-border acquisition activities.<sup>10</sup> The first measure is the likelihood of cross-border mergers and acquisitions. 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 significantly negative coefficient estimate on  $Climate\ Law_{tgt}$  (Column (4)). The evidence indicates that climate laws in target countries reduce the likelihood of cross-border acquisitions, which is consistent with our baseline results. Second, we consider 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 (5) in Table 3 shows that the estimated coefficient on  $Climate\ Law_{tgt}$  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.<sup>12</sup>

## 5 Mechanisms

In this section, we explore the mechanisms through which climate laws affect cross-border mergers and acquisitions. First, we consider the role of firms' exposure to climate laws. We

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<sup>10</sup> Our conclusion remains the same when we run regressions with ratio-based measures of acquisition activities between two countries, such as the number of cross-border deals between a given country pair divided by the number of domestic deals in the acquirer country plus the numerator, or the number of cross-border deals divided by the number of all domestic and outbound deals in the acquirer country. Results from these regressions suggest that climate laws reduce cross-border acquisitions relative to domestic deals.

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

<sup>12</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.

then examine variations in legal enforcement across countries and provide supporting evidence for selective enforcement. 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 4 Here]

Table 4 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<sub>tgt</sub>*. 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. The results indicate that climate laws have more pronounced effects on cross-border acquisitions involving high-law-exposure target firms. This finding is consistent with our second hypothesis.

## 5.2 Law Enforcement

### 5.2.1 Variations in Legal 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:

$$y_{i,j,t} = \alpha + \beta_1 \text{Climate Law}_{i,t} \times \text{Strong Enforcement}_i + \beta_2 \text{Climate Law}_{i,t} + \beta_3 \text{Climate Law}_{j,t} + \mathbf{X}_{i,j,t-1}\gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t}, \quad (3)$$

where *Strong Enforcement*<sub>*i*</sub> 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>13</sup>

[Insert Table 5 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*<sub>*tgt*</sub> × *Strong Enforcement*<sub>*tgt*</sub>). In Column (1), we measure legal enforcement with the rule of law from La Porta Lopez-de-Silanes, Shleifer, and Vishny (1998). 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 pronounced in countries with stronger legal enforcement. In fact, we find an insignificant coefficient on *Climate Law*<sub>*tgt*</sub> (*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 results from estimations using the other two measures of legal enforcement (Columns (2) and (3)). Overall, the evidence supports our third hypothesis.

Climate regulations vary significantly in terms of their scale and substantive nature. While certain laws are specific, others appear to be more general and superficial. For instance, countries like Finland and New Zealand introduced market-based mechanisms to manage and reduce greenhouse gas emissions, representing specific actions to fight against climate change. On the other hand, some countries merely outlined broad strategies or plans for their climate

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<sup>13</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.

actions.<sup>14</sup> We examine whether the impacts of climate regulations vary across different types of climate regulations and report the results in Table 6. We find that cosmetic climate laws in target countries, including the establishment of climate regulatory committees and the introduction of national climate strategies or plans, do not affect cross-border mergers and acquisitions. In contrast, the implementation of carbon taxes and other substantive climate laws in a country substantially reduce cross-border deals targeting firms in that country.

[Insert Table 6 Here]

### 5.2.2 Climate Law Stringency

In this subsection, we consider a continuous measure of the stringency of climate policies in a country. Specifically, we exploit the revised environmental policy stringency index for OECD countries proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).<sup>15</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 the developers, a higher stringency index is associated with lower carbon emission intensity.<sup>16</sup> We re-estimate our baseline specifications with the law indicators replaced by the policy stringency index. Table 7 shows that the coefficients on the target country's climate policy stringency are negative and statistically significant, suggesting that stricter climate policies in target countries are associated with declined cross-border acquisition activities. This result corroborates our main finding.

[Insert Table 7 Here]

### 5.2.3 Selective Enforcement of Climate Laws

We have so far shown that the enactment of climate laws discourages potential foreign acquirers and that acquirers are not affected by climate laws adopted in their own country. One plausible explanation for this discrepancy is the selective enforcement of climate regulations. That is, national governments may not enforce climate laws as vigorously against domestic

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<sup>14</sup> Our untabulated results show that countries with substantive climate laws have experienced greater reductions in carbon emissions.

<sup>15</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>16</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.

firms as they do against foreign firms. In a cross-country setting, the relationship between two nations can potentially influence the level of law enforcement. 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. Following Bertrand, Betschinger, and Settles (2016), we measure political affinity based on 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, with a value of one (minus one) indicating complete (opposite) alignment of voting behavior and representing the strongest (weakest) political affinity between the countries.

[Insert Table 8 Here]

In Columns (1) and (2) of Table 8, 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  $Climate\ Law_{tgt}$  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.

In an additional test, we find that the reduction in cross-border mergers and acquisitions following the adoption of climate laws is primarily concentrated in large deals (Table IA.6 in the Internet Appendix). One potential reason is that governments may choose to enforce climate regulations more vigorously against foreign acquirers that target large firms in their country. The targets in large deals are typically more important to the domestic economy. Therefore, these deals are likely to be subjected to more severe government intervention.

## 5.3 Attitudes and Experience of Acquirers

### 5.3.1 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 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>17</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  $\text{High Concerns}_j$  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  $\text{Climate Law}_{igt}$  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.

### 5.3.2 Climate Disaster Experience

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<sup>17</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.

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:

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

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>18</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  $\text{Climate Law}_{tgt}$  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,  $\text{Climate Law}_{tgt} \times \text{Climate Disasters}_{acq}$ , 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 deals. Specifically, we examine how climate laws affect the likelihood of deal withdrawals, merger synergies, takeover premiums, and changes in acquiring firms' operating performance following the transaction. Finally, we discuss the policy implications of our results.

### 6.1 Likelihood of Deal Withdrawals

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<sup>18</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.

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 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 average of CAR[-1, +1] of the acquirer and the target firms. Abnormal returns are firms' stock returns adjusted by the market model, where returns of the market index of the corresponding country are used as the market return. The estimation window is a forty-day period starting from fifty days prior to deal announcements. We require at least twenty valid observations in the estimation. 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.

[Insert Table 11 Here]

### 6.3 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 12 Here]

Columns (1) and (2) in Table 12 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 country-pair and industry

by year 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, firms that acquire a target in a country with climate laws achieve a 2.89% 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.

#### **6.4 Discussions on Policy Implications**

Climate laws play a vital role in our battle against the global climate crisis. The enforcement of these regulations helps reduce carbon emissions. Without proper climate regulations, our goal to slow down the trend of global warming is likely to fail. If countries implement climate laws with different stringency, there exist regulatory arbitrage opportunities and carbon leakage is likely to occur. The countries without climate regulations or with less stringent climate laws may become the "pollution heavens" where foreign firms emit carbon dioxide. Therefore, it is necessary for all countries to implement climate regulations strictly.

Nevertheless, implementing climate regulations is not free of cost, and the costs can take various forms. In our paper, we demonstrate that the implementation of climate regulations in a country can impede the synergies derived from cross-border acquisitions that target companies in the country. This, in turn, disincentivizes such transactions, potentially disturbing the international flow of capital and the functioning of the global market for corporate control. It is difficult to determine whether these costs outweigh the benefits because the answer could vary across countries.

Considering the urgency of addressing the global climate crisis, policymakers should focus on improving the design of regulations in order to mitigate their potential costs as opposed to delaying climate action. For instance, granting subsidies for corporations that adopt environmentally friendly operations may serve as a potential solution.<sup>19</sup> This shift in strategy would foster a more supportive atmosphere for companies aiming to reduce their carbon

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<sup>19</sup> Our analysis shows that the negative effects of climate laws on cross-border deals are mitigated if certain subsidies are specified in these regulations (Table IA.7 in the Internet Appendix).

footprint. Moreover, countries with climate laws may find other ways to attract international capital without compromising environmental standards. Potential examples include lowering statutory tax rates, relaxing product market regulations, or enhancing the robustness of domestic financial markets.

## **7 Conclusion**

This paper examines how climate laws, which aim to mitigate and adapt to climate change, 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. 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 more substantial decline in cross-border deals if the target country adopts more substantive or more stringent climate regulations. Conversely, the effect is weaker when the target and acquirer countries share closer political ties, suggesting selective enforcement of climate regulations. We also document evidence consistent with climate laws reducing cross-border deals motivated by regulatory arbitrage. In particular, the chilling effect becomes weaker when acquirers are less likely to engage in carbon leakage, that is, when acquirer firms are highly concerned about climate change or when they experience climate disasters. In line with the reduction in merger activities, the passage of climate laws in target countries is associated with an increased likelihood of bid withdrawal, smaller synergy gains, lower offer premiums, and less improvement in the operating performance of acquirers following the transaction.

Our findings indicate that firms consider climate regulations as a significant factor in their cross-border acquisition decisions. As public awareness of climate issues continues to increase, we anticipate a heightened significance of climate regulations in cross-border acquisitions in the future. Our findings also highlight that countries with lax climate regulations tend to attract more foreign acquirers than those with stringent climate policies. Therefore, homogenized climate regulations across countries are crucial to prevent regulatory arbitrage and carbon leakage.

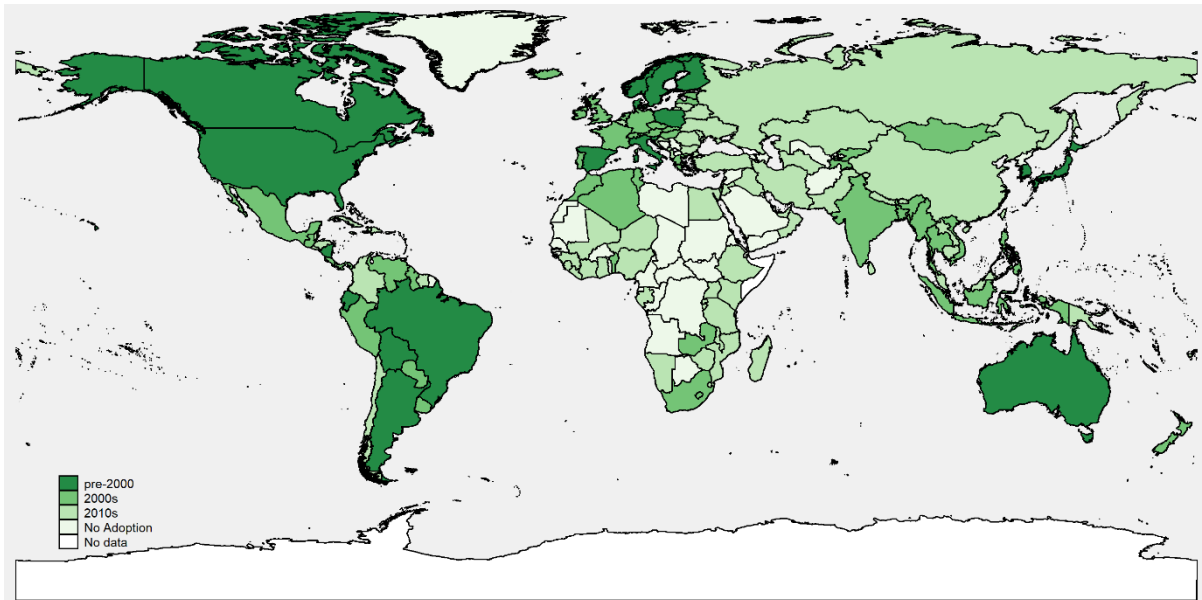
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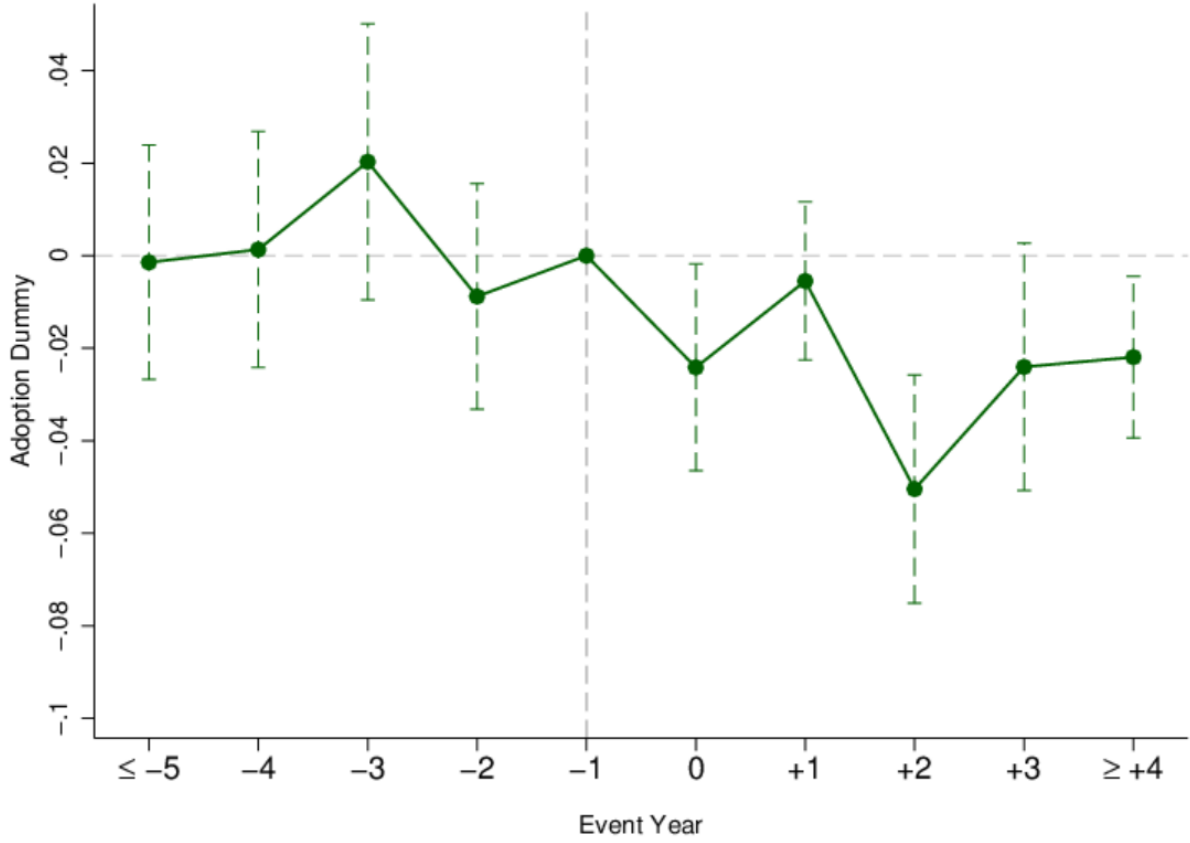
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**Figure 1 Adoption Time of Climate Laws**

This graph illustrates the adoption year of national-level climate change-related laws for countries worldwide. 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.



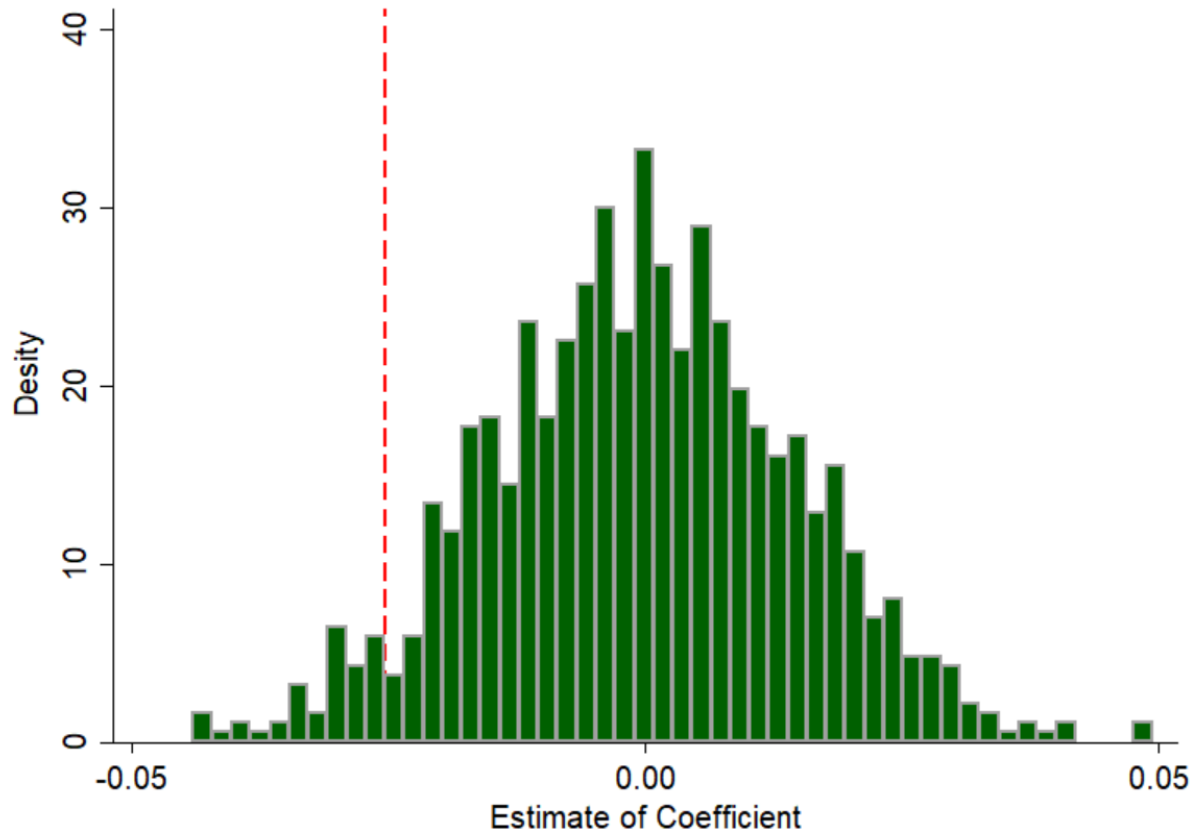
**Figure 2 Dynamic Effects of Climate Laws on Cross-Border Merger Activities**

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% levels.

	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
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$	0.148	1.062	-0.429	0.126	0.792
$\Delta(\text{GDP Growth})_{acq-tgt}$	-0.001	0.039	-0.024	-0.002	0.021
Max(Import, Export) <sub>acq,tgt</sub>	0.033	0.053	0.005	0.012	0.036
$\Delta(\text{Exchange Rate})_{acq-tgt}$	-0.185	1.364	-0.006	0.000	0.005
$\Delta(\text{Investment Profile})_{acq-tgt}$	0.299	2.339	-1.000	0.083	1.708
$\Delta(\text{Quality of Institution})_{acq-tgt}$	0.682	4.215	-2.083	0.500	3.917
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$	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
Combined CAR	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
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
Competing Bidder	0.064	0.245	0.000	0.000	0.000
Target Size	5.159	1.703	3.862	5.040	6.409
Acquirer Size	7.655	2.030	6.164	7.858	9.236
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

**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, defined as 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. 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 rates of the number of domestic acquisitions. The maximum of bilateral imports and exports 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. Column (3) includes year 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #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)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$		0.037 (1.31)	0.081*** (2.99)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$		0.035 (0.40)	0.005 (0.05)
Max(Import, Export) <sub>acq,tgt</sub>		3.116*** (14.68)	1.173*** (2.99)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$		-0.017* (-1.83)	-0.015 (-1.41)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$		0.004* (1.85)	0.002 (1.12)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$		-0.000 (-0.18)	-0.001 (-0.52)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$		-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 Climate Laws and Cross-Border Merger Activities: Robustness**

This table presents results based on alternative samples, an alternative estimation approach, and alternative measures of merger 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) excludes deals involving firms from the European Union. Column (3) 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 is 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 in Column (4) 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. The dependent variable in Column (5) 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. Estimations in these two columns employ the full sample.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Cross-border Deals)			I(Cross-border Deals)	Log (1+ \$Cross-border Deals)
	Non-US (1)	Non-EU (2)	Stacked DID (3)	Full Sample (4)	Full Sample (5)
Climate Law <sub>tgt</sub>	-0.021** (-2.32)	-0.037** (-2.09)	-0.059*** (-3.46)	-0.020** (-2.57)	-0.106** (-2.53)
Climate Law <sub>acq</sub>	-0.009 (-0.91)	-0.023 (-1.37)	-0.003 (-0.15)	-0.004 (-0.41)	-0.001 (-0.02)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.073*** (2.86)	0.095** (2.37)	-0.087 (-0.83)	0.073*** (3.29)	0.358*** (3.46)
$\Delta(GDP\ Growth)_{acq-tgt}$	-0.020 (-0.23)	0.015 (0.09)	0.301 (1.45)	0.044 (0.50)	0.377 (0.93)
Max(Import, Export) <sub>acq,tgt</sub>	1.020** (2.38)	1.102** (2.37)	0.448 (0.36)	1.033*** (4.50)	4.538*** (3.22)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.017 (-1.62)	-0.024** (-2.62)	0.137* (1.91)	-0.007 (-0.89)	-0.016 (-0.57)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.003 (1.33)	0.000 (0.10)	0.004 (0.74)	0.002 (1.03)	0.004 (0.47)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.001 (-0.55)	-0.003 (-1.03)	0.004 (1.23)	-0.001 (-0.51)	-0.005 (-0.47)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.002* (-1.74)	-0.005* (-1.88)	-0.007*** (-3.65)	-0.003** (-2.36)	-0.012** (-2.09)
Year FE	Yes	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes	Yes
Obs	35,804	15,316	27,027	38,447	38,447
Adjusted R <sup>2</sup>	0.500	0.635	0.614	0.384	0.477

**Table 4 Law Exposure**

This table presents how firms' exposure to climate laws affects the impacts of these 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. Low-exposure firms refer to companies not in these sectors.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

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

**Table 5 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #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 6 Effects of Different Types of Climate Laws**

This table presents how different types of climate laws affect cross-border acquisitions. The dependent variable is the logarithm of one plus the number of cross-border mergers and acquisitions. *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted one particular type of climate change-related law in a given year, and zero otherwise. Column (1) presents the effects of cosmetic climate laws, including the establishment of a regulatory committee and the introduction of national climate strategies or plans. Column (2) reports the effects of substantive climate laws, such as the implementation of carbon taxes or other specific climate policies. Control variables are the same as in Table 2. 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. *t*-statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Cross-border Deals)	
	Cosmetic Laws (1)	Substantive Laws (2)
Climate Law <sub>tgt</sub>	-0.009 (-0.79)	-0.029*** (-2.65)
Climate Law <sub>acq</sub>	0.009 (0.69)	-0.023 (-1.40)
$\Delta(\log \text{ GDP per capita})_{acq-tgt}$	0.081*** (3.05)	0.087*** (3.27)
$\Delta(\text{GDP Growth})_{acq-tgt}$	0.007 (0.07)	0.003 (0.03)
Max(Import, Export) <sub>acq,tgt</sub>	1.140*** (2.91)	1.108*** (2.82)
$\Delta(\text{Exchange Rate})_{acq-tgt}$	-0.015 (-1.38)	-0.013 (-1.23)
$\Delta(\text{Investment Profile})_{acq-tgt}$	0.003 (1.25)	0.002 (1.08)
$\Delta(\text{Quality of Institution})_{acq-tgt}$	-0.002 (-0.63)	-0.001 (-0.52)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$	-0.003** (-2.19)	-0.003** (-2.10)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	38,447	38,447
Adjusted R <sup>2</sup>	0.608	0.643

**Table 7 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, defined as the logarithm of one plus the annual number of cross-border deals between the acquirer and target countries. *Climate Law Stringency<sub>tgt</sub>* (*Climate Law Stringency<sub>acq</sub>*) is a continuous policy stringency index that measures the stringency of climate policies in the target (acquirer) country. 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. Column (1) includes year and country fixed effects, while Column (2) includes 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Cross-border Deals)	
	(1)	(2)
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)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.055 (1.21)	0.113*** (2.79)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	0.130 (1.05)	0.119 (0.84)
Max(Import, Export) <sub>acq-tgt</sub>	4.024*** (11.77)	1.906*** (2.85)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	0.003 (0.31)	0.009 (0.85)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.006** (2.27)	0.004 (1.42)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	0.003 (0.85)	0.002 (0.57)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.003** (-2.31)	-0.003 (-1.61)
Year FE	Yes	Yes
Acquirer Country FE	Yes	No
Target Country FE	Yes	No
Country-pair FE	No	Yes
Obs	22,819	22,819
Adjusted R <sup>2</sup>	0.511	0.682



**Table 8 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, with higher values indicating closer political relations between two nations. This measure is constructed based on votes in one year (Columns (1) and (2)) or three years (Columns (3) and (4)) prior to the announcement of acquisitions. 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #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 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.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) 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. In Columns (1) and (2),  $High\ Concerns_{acq}$  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),  $Climate\ Disasters_{acq}$  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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Cross-border Deals)			
	Climate Concerns		Climate Disaster Experience	
	(1)	(2)	(3)	(4)
$Climate\ Law_{tgt} \times High\ Concerns_{acq}$	0.039** (2.33)	0.063*** (3.69)		
$Climate\ Law_{tgt} \times Climate\ Disaster_{acq}$			0.029*** (2.65)	0.032*** (2.93)
$Climate\ Law_{tgt}$	-0.061*** (-3.80)	-0.065*** (-4.09)	-0.050*** (-4.54)	-0.048*** (-4.13)
$Climate\ Disasters_{acq}$			-0.003 (-0.38)	-0.008 (-0.90)
$Climate\ Law_{acq}$	0.049** (2.43)	0.027 (1.58)	-0.003 (-0.27)	-0.012 (-1.08)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		0.138*** (4.42)		0.079*** (2.94)
$\Delta(GDP\ Growth)_{acq-tgt}$		-0.081 (-0.61)		0.005 (0.05)
$Max(Import,\ Export)_{acq,tgt}$		1.159** (2.65)		1.187*** (3.03)
$\Delta(Exchange\ Rate)_{acq-tgt}$		-0.015 (-1.04)		-0.015 (-1.40)
$\Delta(Investment\ Profile)_{acq-tgt}$		0.002 (0.71)		0.002 (1.10)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		-0.001 (-0.23)		-0.001 (-0.34)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		-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 that are announced before the adoption date of climate laws in the target country and become complete or withdrawn after the law adoption. 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 the 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<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 defined in Appendix Table A.1. Regressions include country and year fixed effects, acquirer firm's industry fixed effects, and target firm's 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 acquirer country and year level are reported in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	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 Merger Synergies**

This table presents the effects of climate change laws on announcement returns and offer premiums of cross-border acquisitions. The dependent variable in Column (1) is the combined firms' cumulative abnormal returns (CAR) around a three-day window around the deal announcement. It is the average of cumulative abnormal returns of the acquirer and the target firms. Abnormal returns are firms' stock returns adjusted by returns of the market index of the corresponding country. The dependent variable in Column (2) is the acquirer firm's cumulative abnormal returns. The dependent variable in Column (3) is the offer premium (in percentage points). It 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Combined CAR (1)	Acquirer CAR (2)	Offer Premium (3)
Climate Law <sub>tgt</sub>	-0.483** (-2.11)	0.080 (1.33)	-7.122* (-1.75)
Climate Law <sub>acq</sub>	-0.359*** (-3.12)	-0.104*** (-3.18)	-7.520 (-1.48)
Log(Deal Value)	-0.008 (-0.36)	-0.013 (-1.23)	-0.833 (-0.49)
Related Industry	-0.048 (-0.55)	0.012 (0.47)	3.106 (0.59)
All Cash	0.085** (2.24)	0.036* (1.97)	-1.104 (-0.33)
Friendly Merger	-0.091 (-1.16)	0.059** (2.29)	-0.207 (-0.03)
Tender Offer	0.027 (1.17)	0.016 (1.02)	5.561* (1.92)
Competing Bidder	-0.136** (-2.58)	-0.029 (-1.25)	25.411*** (3.20)
Target Size	-0.023 (-1.35)	0.010* (1.80)	-5.049** (-2.33)
Acquirer Size	0.007 (0.64)	-0.010 (-1.53)	1.298 (1.31)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.118 (0.24)	-0.172 (-1.35)	9.512 (0.27)
$\Delta(\text{GDP Growth})_{acq-tgt}$	-1.505** (-2.58)	0.342 (1.04)	-13.239 (-0.12)
$\text{Max}(\text{Import, Export})_{acq,tgt}$	0.951 (0.89)	-0.791** (-2.77)	-120.667 (-1.55)
$\Delta(\text{Exchange Rate})_{acq-tgt}$	1.174 (0.44)	-0.642 (-1.02)	0.300 (0.74)
$\Delta(\text{Investment Profile})_{acq-tgt}$	0.016 (0.98)	0.003 (0.61)	-0.782 (-0.39)
$\Delta(\text{Quality of Institution})_{acq-tgt}$	-0.024 (-0.55)	0.024 (1.69)	0.546 (0.24)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$	-0.001 (-0.01)	-0.011 (-0.70)	2.927 (0.70)
Country-pair FE	Yes	Yes	Yes
Acquirer Industry-year FE	Yes	Yes	Yes
Target Industry-year FE	Yes	Yes	Yes
Obs	703	703	1,576
Adjusted R <sup>2</sup>	0.124	0.052	0.123

**Table 12 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	$\Delta ROA_{t-1 \rightarrow t+3}$		$\Delta ROA_{t-1 \rightarrow t+5}$	
	(1)	(2)	(3)	(4)
Climate $Law_{tgt}$	-2.866** (-2.41)	-2.886** (-2.30)	-4.529*** (-3.05)	-5.031*** (-2.65)
Climate $Law_{acq}$	-1.448 (-1.17)	-1.079 (-0.71)	-4.458** (-2.87)	-3.210* (-1.89)
Acquirer Size		-0.452** (-2.94)		-0.528** (-2.68)
Acquirer B/M		0.111 (0.79)		0.086 (0.43)
Acquirer Leverage		4.865** (2.30)		6.117* (2.15)
Acquirer Cash Holdings		3.759 (1.75)		3.094 (1.64)
Log(Deal Value)		-0.026 (-0.18)		-0.003 (-0.02)
Related Industry		-0.807* (-1.97)		-0.512 (-0.84)
All Cash		-0.037 (-0.07)		-0.633 (-1.21)
Friendly Merger		1.834 (1.17)		2.691 (1.35)
Tender Offer		1.885 (1.41)		-0.130 (-0.10)
Competing Bidder		0.863 (0.30)		-0.940 (-0.30)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		-2.988 (-0.50)		-7.290 (-0.85)
$\Delta(GDP\ Growth)_{acq-tgt}$		-6.537 (-0.60)		-0.442 (-0.03)
$Max(Import,\ Export)_{acq,tgt}$		1.445 (0.11)		2.098 (0.12)
$\Delta(Exchange\ Rate)_{acq-tgt}$		0.037 (0.93)		-0.055 (-0.71)
$\Delta(Investment\ Profile)_{acq-tgt}$		-0.402* (-1.80)		-0.016 (-0.08)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		-0.039 (-0.07)		-0.887 (-1.15)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		0.676 (1.53)		0.465 (1.02)
Country-pair FE	Yes	Yes	Yes	Yes
Acquirer Industry-Year FE	Yes	Yes	Yes	Yes
Target Industry-Year FE	Yes	Yes	Yes	Yes
Obs	3768	3768	2934	2934
Adjusted R <sup>2</sup>	0.043	0.055	0.016	0.024

## 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>		
$\text{Log}(1+\#\text{Cross-border Deals}_{ijt})$	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 imports and exports 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	Cumulative abnormal returns of the combined firm over a three-day window around the deal announcement. It is calculated as the average of cumulative abnormal returns of the acquirer and target firms. Abnormal returns are firms' stock returns adjusted by the market model, where returns of the market index of the corresponding country are used as the market return. The estimation window is a forty-day period starting from fifty days prior to deal announcements, where at least twenty valid observations are required for the estimation.	Datastream
Acquirer CAR	Abnormal returns of the acquirer firm over a three-day window around the deal announcement.	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
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
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
Acquirer Size	Logarithm of book value of the acquirer firm's total assets	Worldscope

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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

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## 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
Bulgaria	2014	Climate Change Mitigation Act
Burundi	2013	National Strategy and Action Plan on Climate Change

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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
Greece	2003	National Program for the Reduction of Greenhouse Gas Emissions
Grenada	2007	National Climate Change Policy and Action Plan

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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
Madagascar	2010	National Climate Change Policy
Malawi	2012	National Climate Change Policy

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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
Peru	2003	National Strategy on Climate Change
Philippines	2009	The Climate Change Act

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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
Tuvalu	2012	Te Kaniva: Tuvalu National Climate Change Policy
Uganda	2015	National Climate Change Policy

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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	2006	Organic Law of Environment No 5833
Viet Nam	2008	National Target Programme to Respond to Climate Change
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 Differential Effects on Within-industry vs. Cross-industry Acquisitions**

This table presents the effects of climate laws on within- and cross-industry acquisition activities. In Columns (1) and (2), the dependent variable is the logarithm of one plus the number of within-industry and cross-industry cross-border deals, respectively. Within-industry deals refer to acquisitions in which the acquirer and the target belong to the same three-digit SIC industry. *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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Within-industry Cross-border Deals)	Log (1+ #Cross-industry Cross-border Deals)
	(1)	(2)
Climate Law <sub>tgt</sub>	-0.013* (-1.68)	-0.020** (-2.56)
Climate Law <sub>acq</sub>	-0.003 (-0.37)	-0.008 (-1.03)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.045** (2.42)	0.048** (2.39)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	-0.015 (-0.25)	-0.000 (-0.01)
Max(Import, Export) <sub>acq,tgt</sub>	0.713** (2.63)	0.727** (2.56)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.008 (-1.34)	-0.010 (-1.30)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.002 (1.33)	0.001 (0.52)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	-0.001 (-0.58)	0.000 (0.03)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.001 (-0.84)	-0.002** (-2.46)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	38,447	38,447
Adjusted R <sup>2</sup>	0.517	0.527

**Table IA.4 Alternative Samples**

This table presents results based on alternative samples. The sample in Column (1) only includes deals that involve firms from the OECD countries and the BRICS countries. The sample in Column (2) only includes deals that involve firms from the Group of Twenty (G20). The dependent variable is the logarithm of one plus the annual number of cross-border deals between the acquirer country and the target country.  $Climate\ Law_{tgt}$  ( $Climate\ Law_{acq}$ ) is a dummy variable that takes one if the target (acquirer) country has adopted a climate 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #Cross-border Deals)	
	OECD and BRICS (1)	G20 (2)
Climate Law <sub>tgt</sub>	-0.061*** (-3.70)	-0.047*** (-3.04)
Climate Law <sub>acq</sub>	-0.014 (-0.92)	-0.012 (-0.70)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.098** (2.63)	0.100** (2.53)
$\Delta(\text{GDP Growth})_{acq-tgt}$	0.034 (0.26)	-0.011 (-0.08)
Max(Import, Export) <sub>acq,tgt</sub>	1.931*** (3.15)	2.063*** (3.01)
$\Delta(\text{Exchange Rate})_{acq-tgt}$	-0.062 (-0.71)	0.001 (0.05)
$\Delta(\text{Investment Profile})_{acq-tgt}$	0.005* (1.80)	0.006* (1.91)
$\Delta(\text{Quality of Institution})_{acq-tgt}$	0.002 (0.45)	-0.000 (-0.04)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$	-0.003 (-1.45)	-0.002 (-1.03)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	23,323	20,237
Adjusted R <sup>2</sup>	0.680	0.683

**Table IA.5 Climate Laws and Cross-Border Merger Activities: Excluding 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<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. 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log (1+ #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)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$		0.016 (0.56)	0.059** (2.19)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$		-0.003 (-0.03)	-0.055 (-0.56)
Max(Import, Export) <sub>acq,tgt</sub>		2.935*** (13.92)	1.064** (2.62)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$		-0.018* (-1.87)	-0.016 (-1.52)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$		0.003 (1.46)	0.002 (0.80)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$		-0.002 (-0.69)	-0.004 (-1.36)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$		-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

**Table IA.6 Differential Effects of Climate Laws on Large and Small Deals**

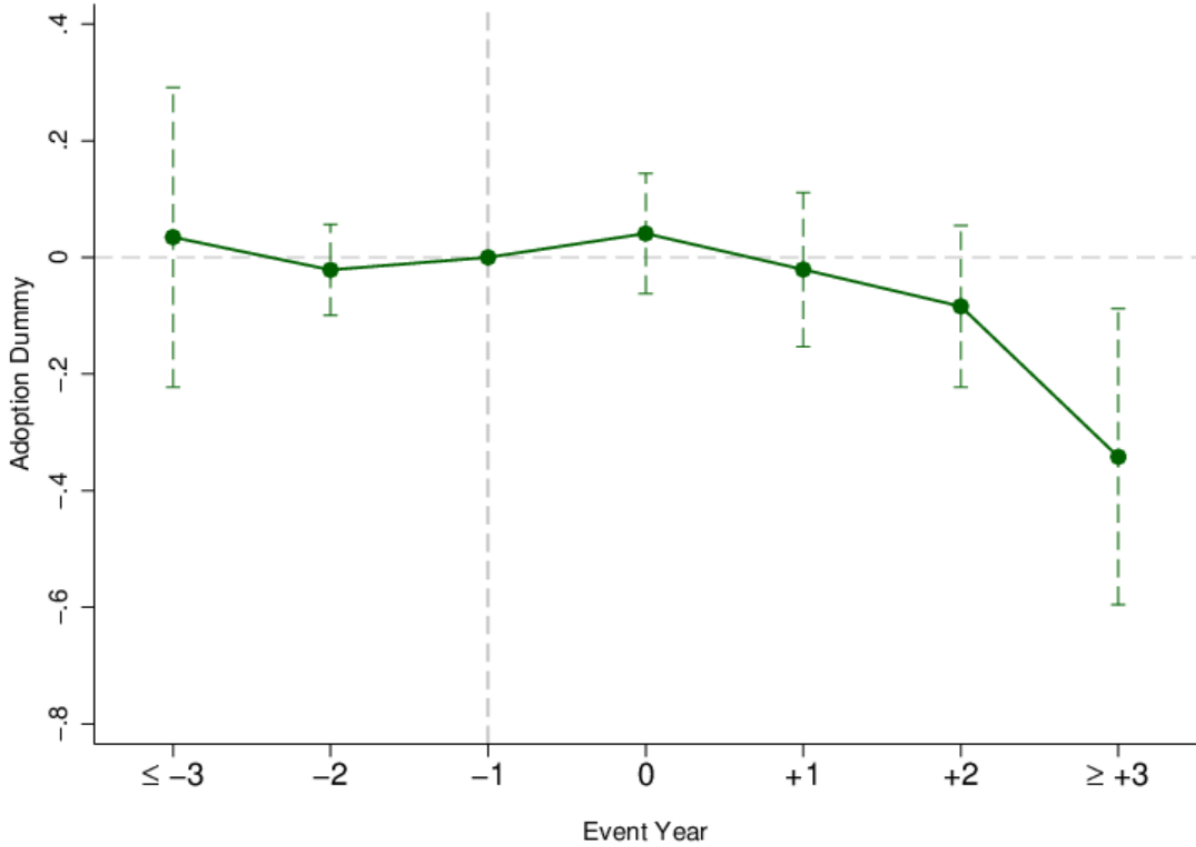
This table presents how the impacts of climate laws on cross-border acquisition activities are influenced by the possibility of government discretions as measured by deal size. In Columns (1) and (2), the dependent variable is the logarithm of one plus the number of cross-border mergers and acquisitions 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

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

**Table IA.7 Subsidies in Climate Laws**

This table presents how the effects of climate laws on cross-border acquisitions depend on government subsidies specified in these regulations. The dependent variable is the logarithm of one plus the number of cross-border mergers and acquisitions. In Column (1), *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted climate laws specifying subsidies in a given year, and zero otherwise. In Column (2), *Climate Law<sub>tgt</sub>* (*Climate Law<sub>acq</sub>*) is a dummy variable that takes one if the target (acquirer) country has adopted climate laws not specifying subsidies 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 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. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

	Log(1+#Cross-border Deals)	
	Laws with Subsidies (1)	Laws without Subsidies (2)
Climate Law <sub>tgt</sub>	0.004 (0.31)	-0.042*** (-3.63)
Climate Law <sub>acq</sub>	0.007 (0.59)	-0.021 (-1.51)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.086*** (3.22)	0.085*** (3.16)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	0.003 (0.03)	0.010 (0.10)
Max(Import, Export) <sub>acq,tgt</sub>	1.132*** (2.91)	1.124*** (2.89)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.014 (-1.31)	-0.012 (-1.18)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.003 (1.14)	0.002 (1.08)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	-0.002 (-0.62)	-0.001 (-0.53)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.003** (-2.17)	-0.003* (-2.04)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	38,447	38,447
Adjusted R-squared	0.608	0.609



**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.