

Climate Laws and Cross-Border Mergers and Acquisitions*

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Abstract

Governments are increasingly concerned about climate-related risks and taking measures to curb the worsening of climate change. We find that a country's adoption of climate laws reduces cross-border mergers and acquisitions targeting firms in the country. This finding is especially pronounced for firms more exposed to climate regulations, in countries with stronger legal enforcement, and after the Stern Review and the Paris Agreement. Moreover, announced takeover bids from foreign acquirers are more likely to be withdrawn and deal synergy and offer premium decrease after the target country adopts climate laws. Overall, our findings suggest that national climate regulations can affect international capital flows and resource reallocation.

JEL Classifications: G34, Q54, Q58, F21

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1 Introduction

Climate change is one of the most pressing challenges of our time. As efforts to combat climate change, governments around the world have adopted various regulations. More climate change-related policies are expected to come as governments recently reached an agreement to keep the goal of limiting global warming to 1.5°C at the UN Climate Change Conference in Glasgow (COP26). According to a recent survey of academics, practitioners, and regulators (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. However, the impact of climate regulations on firm decisions remains an underexplored issue.

In this paper, we investigate whether and how climate laws affect cross-border mergers and acquisitions activities. As a central component of foreign direct investment (FDI), cross-border mergers and acquisitions have profound impacts on financial globalization and cross-country capital allocation. They have become more frequent and larger in size. In 2019 alone, the total transaction value of global cross-border mergers and acquisitions reached about \$1.2 trillion. Existing evidence shows that cross-border mergers and acquisitions could bring various benefits to the target firm and the target country. For example, after being acquired by a foreign company, the target firm tends to face lower financial constraints (Erel, Jang, and Weisbach, 2015). Cross-border acquisitions can also have spillover effects on un-acquired firms in the target country (e.g., Albuquerque, Brandão-Marques, Ferreira, and Matos, 2019). It has been shown that institutional differences across countries can affect cross-border acquisitions (e.g., Karolyi and Taboada, 2015).¹ Given the growing prevalence of climate laws, it is essential to understand the role of climate regulations in the international market for corporate control.

Climate laws generally address issues of climate change mitigation and adaptation, and they typically include a set of obligations that firms are required to fulfill. For example, they may require a reduction in energy usage or a cut in emissions, establish rules regarding carbon pricing, or mandate investments in abatement technologies. In a cross-country setting, climate

¹ Erel, Jang, and Weisbach (2022) provide an excellent review on how institutional differences, among others, affect cross-border mergers and acquisitions.

laws may prevent the country from being a “pollution heaven” and reduce the likelihood of carbon leakage.

Climate laws can reduce the likelihood of firms in the law-adopting country being taken over by foreign acquirers in several ways. First, climate regulations may adversely affect merger synergies if they bring about frictions and costs to the integration and restructuring activity and the continued operation of the merged company. Second, the costs and restrictions imposed by climate regulations can help weed out inefficient domestic firms and force surviving firms to become leaner in their cost structure and more efficient in their operations. This reduces the availability of domestic firms that are attractive targets to foreign acquirers because there is less room for post-acquisition operational improvement and value creation. Third, to the extent that some cross-border acquisitions are driven by the acquirer’s motive to take advantage of the target country’s lax climate policies, the passage of climate regulations by the target country reduces the appeal and increases the difficulty of such regulatory arbitrage attempts. However, it is also possible for the merger activities between two countries to increase after the target country adopts climate laws. For example, enacting climate laws may reduce the uncertainty about future climate policies, assuaging acquirers’ concerns about cross-border takeovers. The effect of climate laws on cross-border acquisitions is ultimately an empirical question.

We compile a comprehensive list of climate law adoptions in 103 countries or regions and link them to cross-border M&A deals. Employing a difference-in-differences (DiD) approach for the staggered enactment of climate laws, we find that climate laws have a significant chilling effect on cross-border merger activities. Specifically, both the number and the dollar volume of acquisitions between two countries decrease after the target country adopts a climate law. This effect is robust to controlling for macroeconomic factors, investment environment and the quality of institutions in both countries, trade relation between the two countries, valuation effects associated with variations in exchange rates, time-invariant factors, as well as any time-invariant country-pair-specific factor. A dynamic DiD analysis further establishes that there is no change in acquisition activities between two given countries before the target country’s adoption of climate laws and that the reduction in cross-border acquisitions only occurs after climate-law adoption by the target country. In addition, we find similar results

using alternative measures of merger activities and alternative subsamples that exclude very large and/or small countries. Overall, the evidence supports the hypothesis that climate laws in the target country reduce cross-border merger activities.

We also conduct a placebo test where each country in the sample is randomly assigned an adoption year while maintaining the initial distribution of adoption years. We find that with the pseudo adoption years, the coefficient estimates on the indicator for climate law adoption in the target country have a mean that is almost equal to zero and statistically insignificant, suggesting that our baseline results are unlikely driven by chance.

We demonstrate cross-sectional heterogeneities in our baseline finding to shed light on the channels through which climate laws affect cross-border M&A activities. Consistent with climate laws imposing additional restrictions and costs on post-acquisition integration, restructuring, and operations, we find that the decline in cross-border acquisition activities following the target country's climate-law adoption is more pronounced (1) when the target country has stronger legal enforcement, (2) when deals involve firms in industries expected to be impacted more by climate laws, including mining, manufacturing, transportation, and public utilities,² and (3) when the public awareness of climate issues is higher, e.g., after the release of the Stern Review and the signing of the Paris Agreement.

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

We also find a stronger negative relation between climate laws and cross-border deals when acquiring firms are from countries with low affinity with the target country. To the extent

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

that authorities in the target country are likely to enforce climate laws more strictly against firms affiliated with low-affinity countries, this evidence is consistent with a selective-enforcement channel driving our main results. As further support for this view, we show that the decline in cross-border mergers and acquisitions is more pronounced among larger transactions, which are likely to generate more nationalist concerns in the target country.

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

In our final analysis, we supplement the difference-in-differences design by examining the relation between cross-border merger activities and a continuous measure of climate policy stringency. We find that cross-border acquisition activities decrease significantly as the target country's climate policy becomes more stringent. Analyses employing the stringency measure further suggest that the more stringent the climate policies in the target country are relative to those in the acquirer country, the fewer cross-border acquisitions occur between the two countries. The evidence further strengthens our main conclusion.

This paper contributes to the growing literature on the impacts of climate policies and, more broadly, environmental policies.³ Existing research has documented the implications of these policies for asset pricing (Bolton and Kacperczyk, 2022) and shareholders' investment decisions (Krueger, Sautner, and Starks, 2020). Climate policies have also been shown to affect corporate behavior, such as the location of carbon emissions (Ben-David, Jang, Kleimeier, and Viehs, 2021), innovation strategies (Dai, Duan, and Ng, 2021), capital structure (Dang, Anh, Gao, and Yu, 2022), and R&D expenditure (Brown, Martinsson, and Thomann, 2022). This

³ Another strand of literature focuses on the impacts of physical risks associated with climate change. Interested readers may refer to, among others, Lin, Schmid, and Weisbach (2019) and Bai, Chu, Shen, and Wan (2021).

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 the determinants of 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. Prior research highlights the role of labor market regulations (Dessaint, Golubov, and Volpin, 2017), intellectual property rights protection (Alimov and Officer, 2017), disclosure requirements (Bonetti, Duro, and Ormazabal, 2020), and economic policy uncertainty (Bonaime, Gulen, and Ion, 2018). Our findings suggest that costs related to climate regulations in the target country are part of the consideration for firms contemplating foreign acquisitions.

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

2 Background and Hypothesis Development

2.1 Global Climate Laws

Climate change, which is featured by a global warming process, has wide-ranging impacts on the physical environment, ecosystems, and human societies on our planet. According to a report issued by the Intergovernmental Panel on Climate Change (IPCC, 2021), human activities have contributed to approximately 1.1°C of warming relative to 1850-1900 levels, and 2°C of warming will push heat extremes more frequently to critical tolerance thresholds

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

It is common for climate laws to specify obligations for businesses, which tend to increase regulatory costs for firms. For instance, the Framework Act on Low Carbon, Green Growth in South Korea requires each business entity in the country to “*initiate green management, reduce the emission of greenhouse gases and pollutants*” and “*expand investment and employment in research and development of green technology as well as in green industries.*” As another example, the Carbon Pricing Act in Singapore mandates all facilities emitting 25,000 tonnes or more of greenhouse gas in a year to pay a carbon tax of S\$5 per tonne of greenhouse gas emissions.

The evidence on corporate behavior supports the idea that climate policies impose significant costs on firms. For example, Bartram, Hou, and Kim (2022) show that in response to the California cap-and-trade rule, financially constrained firms shift greenhouse gas emissions and outputs from California to other states where they have similar but underutilized plants. Similarly, Ben-David, Jang, Kleimeier, and Viehs (2021) document that multinational firms choose to allocate their CO₂ emissions to countries with less stringent climate regulations. In addition, firms respond to indirect costs associated with climate policies. For example, in response to higher electricity prices following the NO_x Budget Trading Program that requires power plants to cut emissions, manufacturing firms adopt lower financial leverage to mitigate the risk of increased operating leverage (Dang, Anh, Gao, and Yu, 2022). Brown, Matinsson,

and Thomann (2022) find that higher country taxes on toxic emissions lead to increased R&D spending by firms. Moreover, evidence from equities (Bolton and Kacperczyk, 2021), bank loans (Ivanov, Kruttili, and Watugala, 2021), and corporate bonds (Seltzer, Starks, and Zhu, 2021) suggests that the exposure to climate policies affects firms' financing costs.

2.2 Hypothesis Development

Climate laws can affect the process of cross-border mergers and acquisitions in various ways, making their ultimate impact difficult to predict *ex ante*. On the one hand, there are reasons to expect climate laws to reduce the intensity of cross-border M&A activities related to the law-adopting country. Mergers and acquisitions are often motivated by synergy gains that are usually realized through cost reduction and revenue enhancement.⁴ Cost reduction can stem from economies of scale and scope, while revenue enhancement may result from improved operating efficiency or increased market power. Mergers targeting firms in countries with climate laws may generate lower synergy gains because such regulations likely create frictions and costs for the integration and restructuring process as well as the continued operation of the merged business. For instance, restrictions on energy use may prevent the acquiring firm from applying its production technology in the target country. In other cases, frictions and costs from climate laws may drive away potential customers and suppliers of the combined firm and thereby hurt merger synergies.

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

⁴ 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.

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

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

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

On the other hand, the passage of climate laws in a country may increase cross-border mergers and acquisitions targeting firms in the country. First, to the extent that passing climate laws is viewed as the resolution of uncertainty about future climate policies, foreign acquirers may be more willing to buy firms in countries with climate laws than those in countries without such regulations. This is because resolved uncertainty can encourage firms to make large, irreversible investments such as mergers and acquisitions. Second, potential targets in countries with climate laws can be more attractive due to the benefits of heightened resilience to future physical climate risks, particularly in the long run. Finally, climate regulations may provide opportunities for acquirers with advanced technologies in climate mitigation and adaptation to generate value by applying their expertise to the target country. These arguments lead to the following prediction:

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

Climate laws primarily focus on the process of global warming that is closely related to the emission of greenhouse gas. Therefore, it is natural to expect that the climate-related regulatory risk faced by a company positively depends on the intensity of its greenhouse gas emissions, which is largely determined by the nature of the firm's business. For example, climate regulations are likely to place greater pressure on firms in high-emission industries such as steel and mining to decarbonize than firms that provide consulting services. We posit

that the targets' exposure to climate laws plays an important role in firms' reactions to climate regulations when making cross-border acquisition decisions. More formally, our second hypothesis is stated as follows:

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

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

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

3 Data and Summary Statistics

3.1 Climate Laws

We combine four sources to collect information on climate change-related laws. The first one is 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.⁵ A list of these laws is provided in the Internet Appendix. We find that these climate laws are effective in cutting carbon emissions (Figure IA.1 in the Internet Appendix), which is consistent with findings from prior research.⁶

[Insert Figure 1 Here]

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

3.2 Cross-Border Mergers and Acquisitions

We obtain deal-level information on global mergers and acquisitions from the Security Data Company (SDC) Mergers and Corporate Transactions database. We start with all M&A deals announced between 1985 and 2019 and apply several filters to create the final sample following the literature. Our sample excludes LBOs, spin-offs, recapitalizations, self-tender offers, exchange offers, repurchases, and privatizations. Acquisitions involving firms in the financial industry are also excluded. We further require that the acquirer owns less than 50% 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 with a deal value larger than \$1 million.⁷ These data filters yield a sample of 45,159 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

⁵ Other types of climate laws, such as those specifically aiming to reduce deforestation, are likely not influential for firms in the business sector.

⁶ See e.g., Sawhney (2013), Martin, Muûls, and Wagner (2016), and Eskander and Fankhauser (2020).

⁷ Dollar values in this paper are in 2017 constant dollar.

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 37,235 country-pair-year observations for 103 unique countries. In the list of countries, 91 and 100 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 0.63 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% (67%) 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 relative to 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 3.3%, in line with the existing evidence that synergy gains from international acquisitions are generally positive but moderate.

4 Climate Laws and Cross-Border Acquisition Activities

We start our analysis by examining how climate laws affect the frequency of cross-border

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

4.1 Baseline Results

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

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

where $y_{i,j,t}$ is the incidence of cross-border acquisitions between two countries in a given year, measured as the logarithm of one plus the number of cross-border mergers and acquisitions between acquirer country j and target country i in year t .⁸ $\text{Climate Law}_{i,t}$ ($\text{Climate Law}_{j,t}$) is an indicator that equals one if the target (acquirer) country has adopted a climate law as of year t , and zero otherwise. \mathbf{X} represents a vector of control variables. τ_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 ($\Delta(\log \text{GDP per capita})_{acq-tgt}$), as well as the difference in annual growth rates of real GDP between the two countries ($\Delta(\text{GDP Growth})_{acq-tgt}$). Second, we include the maximum of bilateral import and export between a country pair ($\text{Max}(\text{Import}, \text{Export})$) to control for the volume of general business activities between the two countries. Third, the value of the target firm for the acquiring firm may vary depending upon the relative value of their local currencies. Therefore, our regression incorporates the difference between the

⁸ There are concerns on using the “log1 plus” method as illustrated in Cohn, Liu, and Wardlaw (2022). We address such concerns in the robustness checks.

exchange rates of the acquirer’s and target’s local currencies to the US dollar ($\Delta(\text{Exchange Rate})_{acq-tgt}$). 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 ($\Delta(\text{Investment Profile})_{acq-tgt}$ and $\Delta(\text{Quality of Institution})_{acq-tgt}$). 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.

Table 2 reports estimation results from Equation (1). In the first specification, we regress the incidence of cross-border acquisitions on climate law dummies, year fixed effects, and country fixed effects. Year fixed effects absorb potential time trends in aggregate merger activities, and country fixed effects control for the effects of any time-invariant country-specific factor such as language and legal origin. Column (1) of Table 2 shows the coefficient on Climate Law_{tgt} is -0.020 (t -statistic = -2.49), suggesting that passing climate laws in a country reduces the number of cross-border deals targeting firms in this country. The result is similar after taking into account the effects of country-level development and governance (Column (2)).

[Insert Table 2 Here]

In our third specification, we replace country fixed effects with country-pair fixed effects to account for any observed or unobserved time-invariant country-pair-specific factors that may affect cross-border merger activities, such as the geographic distance between two countries. The results from this preferred specification confirm the negative effects of climate laws in target countries on cross-border merger activities. Column (3) shows the coefficient on Climate Law_{tgt} is -0.025 (t -statistic = -2.41), indicating that the passage of climate laws in a country is associated with a 2.5% reduction in the number of inbound cross-border deals. On average, a target country receives 25 acquisition bids per year. Therefore, the average drop is roughly 0.6 deals per country per year. Overall, the evidence supports our first hypothesis. Our results also suggest that climate laws in acquirer countries do not have an impact on cross-border merger activities.

Recent studies (e.g., Baker, Larcker, and Wang, 2022) document that the two-way fixed

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

4.2 Dynamic Effects of Climate Laws

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

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

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

$Climate\ Law_{i,t}^{+4}$ is equal to one for years at least four years after the event. Other notations are the same as specified in Equation (1).

[Insert Figure 2 Here]

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

4.3 Placebo Tests

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

[Insert Figure 3 Here]

Figure 3 illustrates the histogram of coefficient estimates on the law indicator for the target country obtained from the 1,000 random samples. It shows that the distribution of these pseudo coefficient estimates is centered around zero. The mean of these coefficients is very close to zero and is statistically insignificant: the coefficient estimates have a mean of -0.0001 with a standard error of 0.0005. On the other hand, the true estimate, represented by the red dashed line, is far away from zero. The evidence suggests that our previous findings are unlikely to be driven by chance.

4.4 Alternative Samples and Measures

We now examine whether our baseline findings are driven by very large/small countries. Specifically, we exclude the United States, which is both the most active acquirer country and the most popular target country in the sample. In order to avoid outliers of small countries, we re-run our baseline regression with the sample of OECD and BRICS countries, as well as the Group of Twenty (G20). The first three columns of Table 3 show that these alternative samples generate results that are consistent with our baseline findings, suggesting that our results do not come only from very large or small countries.⁹

[Insert Table 3 Here]

Next, we employ two alternative measures of cross-border acquisition activities. The first measure we use is the volume of cross-border acquisitions, calculated as the logarithm of one plus the total dollar amount of cross-border deals between the acquirer and target countries in a given year. Column (4) in Table 3 shows that the estimated coefficient on $Climate\ Law_{tgt}$ from the regression of acquisition volume is -0.107 (t -statistic = -2.46), indicating a 10.7% decrease in the volume of cross-border mergers following the target country's adoption of climate laws. Second, we consider the likelihood of cross-border mergers and acquisitions. Specifically, we replace the outcome in Equation (1) with an indicator for whether any cross-border deal occurs between two countries in a given year. This specification yields a negative coefficient estimate on $Climate\ Law_{tgt}$ (Column (5)). The evidence suggests a negative impact of climate laws in the target country and the likelihood of cross-border acquisitions, which is consistent with our baseline results.

4.5 Climate Law Stringency and Cross-Border Mergers

In this subsection, we consider a continuous measure of the stringency of climate policies in a country, which enables us to evaluate not only the effects of the level of climate law stringency in the target or acquirer countries but also the effect of the distance in regulatory

⁹ 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.4 in the Internet Appendix. Information about takeover laws and labor reforms is from Lel and Miller (2015) and Simintzi, Vig, and Volpin (2015), respectively.

stringency between the two countries. Specifically, we exploit the revised environmental policy stringency index for OECD countries proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).¹⁰ The composite index, ranging from zero (least stringent) to six (most stringent), is constructed based on thirteen policy instruments. These policies are closely related to climate change, and according to Kruse, Dechezleprêtre, Saffar, and Robert (2022), a higher stringency index is associated with lower CO₂ emissions intensity.¹¹ We re-estimate our baseline specifications with the law indicators replaced by the policy stringency index.

[Insert Table 4 Here]

The first two columns of Table 4 show that the coefficients on the target country's climate policy stringency are negative, suggesting that stricter climate policies in target countries are associated with declined cross-border acquisition activities. This result corroborates our main finding. In Columns (3) and (4), we regress the incidence of cross-border acquisitions on the difference in climate policy stringency between the target and acquirer countries. We find negative and significant coefficient estimates on the stringency difference measure (Climate Law Stringency_{tgt-acq}). The evidence suggests that the more stringent the climate policies in the target country compared to those in the acquirer country, the fewer cross-border acquisitions between the two countries. For example, the coefficient estimate of -0.02 in Column (4) indicates that one standard deviation (1.247) increase in the stringency difference measure is associated with a 2.49% decline in the number of cross-border acquisitions.

5 Mechanisms

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

¹⁰ 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.

¹¹ The policie instruments include CO₂ trading schemes, renewable energy trading scheme, CO₂ tax, NO_x tax, SO_x tax, diesel fuel tax, the emission limit value (ELV) for NO_x, the ELV for SO_x, 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.

of climate disasters. Finally, we show that the effects of climate laws are intensified after two salient events related to climate change.

5.1 Law Exposure

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

[Insert Table 5 Here]

Table 5 reports results from regressions of cross-border acquisition incidence based on the two categories of firms separately. Column (1) (Column (2)) replaces the outcome variable in our baseline regression with one plus the number of cross-border mergers and acquisitions involving targets with high (low) exposure to climate laws. The variable of our interest is the indicator for climate laws in the target country, $Climate\ Law_{tgt}$. Although coefficients on this indicator are negative in both regressions, the estimate based on firms with high climate-law exposure is larger in magnitude and stronger in statistical significance. This finding suggests more pronounced effects of climate laws on cross-border acquisitions involving high-law-exposure target firms, consistent with our second hypothesis.

5.2 Law Enforcement

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

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

where *Strong Enforcement*_{*i*} is an indicator that takes one if the legal enforcement measure in the target country is above the sample median, and zero otherwise. In our analysis, we consider three measures of law enforcement strength. These measures are a) the rule of law from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998); b) the average of regulation quality, rule of law, and control of corruption scores from Worldwide Governance Indicators; and c) the regulatory enforcement score from the World Justice Project.¹²

[Insert Table 6 Here]

Our variable of interest in this analysis is the interaction term between the target country's climate law indicator and the indicator for strong legal enforcement (*Climate Law*_{tgt} × *Strong Enforcement*_{tgt}). Column (1) of Table 6 measures legal enforcement with the rule of law from La Porta Lopez-de-Silanes, Shleifer, and Vishny (1998). It shows that the estimated coefficient on the interaction term is negative (-0.055) and statistically significant (*t*-statistic = -2.57), meaning that the acquisition-reducing effect of the target country's climate laws is more evident in countries with stronger legal enforcement. In fact, we find an insignificant coefficient on *Climate Law*_{tgt} (*t*-statistic = 0.80), 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.

5.3 Political Affinity

Even within a single target country, the degree of law enforcement can still vary. One plausible reason for within-country variations is selective enforcement due to national relations between the acquirer and target countries. If target countries choose to enforce their climate laws less strictly when acquirers are from more affinitive countries, we expect less pronounced impacts of climate laws on cross-border merger activities between two affinitive countries. To test this conjecture, we consider political affinity, which is one of the most important

¹² 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.

dimensions of national relations. Specifically, we follow Bertrand, Betschinger, and Settles (2016) and measure political affinity with the similarity of the voting decisions made by the acquirer and target countries in the UN General Assembly. The affinity measure ranges from minus one to one. A value of one (minus one) corresponds to a complete (opposite) alignment of voting behavior between two countries and, therefore, indicates the strongest (weakest) political affinity.

[Insert Table 7 Here]

In Columns (1) and (2) of Table 7, the affinity measure is constructed based on votes in the year before the acquisition announcements. For each target country, we rank all other countries based on the political affinity measure in a given year and separately estimate the effects of climate laws for acquisitions completed by companies from close and hostile countries. We find greater negative impacts of climate laws among acquirer countries that do not have a close relation with the target country, that is, acquirer countries with a below-median affinity for a given target country and year. The coefficients on $\text{Climate Law}_{\text{tgt}}$ are -0.4 and -0.2, respectively, in the low- and high-affinity group. We obtain similar results using an affinity measure constructed based on votes in three years prior to the announcement of acquisitions (Columns (3) and (4)). The results suggest that selective enforcement plays a role in the negative relation between climate laws and cross-border merger activities.

5.4 Government Discretions

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

[Insert Table 8 Here]

To identify relatively larger deals for a target country, we rank all inbound cross-border mergers and acquisitions of each target country in a given year and regard transactions with an above-median (below-median) deal value as large (small) deals. Table 8 reestimates Equation (1), with the dependent variable replaced by the logarithm of one plus the number of large/small cross-border deals between the target and acquirer countries in a year. Column (1) shows that in the regression of the incidence of large cross-border deals, the coefficient on the climate law indicator for the target country is -0.024 (t -statistic = -2.87), indicating that climate laws in the target country are associated with a 2.4% decrease in the number of large cross-border acquisitions. By contrast, the coefficient on $Climate\ Law_{tgt}$ in the regression of the frequency of small deals (Column (2)) is only -0.006 (t -statistic = -0.83), suggesting that the decline in the number of small deals is weak. These results support the view that government discretions help explain the drop in cross-border acquisitions after a target country adopts climate laws.

5.5 Acquirers' Climate Change Attitudes

Our baseline results show that climate laws reduce the number of inbound cross-border acquisition deals. One potential reason for this relation is that the increased regulatory costs associated with climate laws keep foreign acquirers away. Following this argument, one may expect that the impacts of climate laws on acquisitions become weaker if the acquiring firm is more concerned about the global climate crisis and is more willing to take on these regulatory 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.¹³ We then estimate the following regression:

$$y_{i,j,t} = \alpha + \beta_1 Climate\ Law_{i,t} \times High\ Concerns_j + \beta_2 Climate\ Law_{i,t} + \beta_3 Climate\ Law_{j,t} + X_{i,j,t-1}\gamma + \tau_t + \tau_{i,j} + \epsilon_{i,j,t}, \quad (4)$$

where $High\ Concerns_j$ 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 β_1 to be

¹³ 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.

positive.

[Insert Table 9 Here]

Columns (1) and (2) of Table 9 show that coefficients on the target-country climate law indicator are significantly negative (-0.060 and -0.064), suggesting that climate laws in the target country lead to a more than 6% reduction in cross-border acquisitions if the acquirers have low concerns about climate change. The magnitude of this effect is two and a half times our baseline estimate. On the other hand, we find that estimated coefficients on the interaction term ($\hat{\beta}_1$) are positive and statistically significant, consistent with our expectation. This finding shows that the impacts of climate laws on acquisition decisions are less pronounced if the acquirer is more concerned about the global climate crisis.

5.6 Acquirers' Climate Disaster Experience

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

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

where $\text{Climate Disasters}_{j,t}$ is an indicator variable that takes one if the acquirer country experienced significant climate disasters within three years before the deal announcement. Climate disasters refer to natural disasters that can be attributable to climate change.¹⁴ We only consider significant climate disasters that brought total damage of more than \$100 million. Other notations are the same as specified in Equation (1).

Columns (3) and (4) in Table 9 report the results from Equation (5). The coefficients on the target-country climate law indicator are significantly negative (-0.051 and -0.049), which again confirms our main finding. The results also show that coefficients on the interaction term

¹⁴ The information on worldwide climate disasters is from EM-DAT. The types of climate disasters include drought, extreme temperature, flood, landslide, storm, and wildfire.

between the law indicator for the target country and the climate disaster indicator for the acquirer country, $\text{Climate Law}_{\text{tgt}} \times \text{Climate Disasters}_{\text{acq}}$, are 0.031 (t -statistic = 2.81) and 0.033 (t -statistic = 3.10). 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.

5.7 Climate Awareness

If decision-makers are unaware of the existence of climate laws and the corresponding costs, such regulations may not affect corporate acquisitions even after they are introduced. Therefore, we expect the effects of climate laws to be stronger when the public awareness of climate issues intensifies. To test this conjecture, we employ two salient events that substantially raise the public awareness of the climate crisis (e.g., Bolton and Kacperczyk, 2022), namely, the release of the Stern Review and the signature of the Paris Agreement. The Stern Review is a report prepared by economist Nicholas Stern for the UK government. This 700-page report, which was released on 30 October 2006, discusses in detail the effects of global warming on the world economy. The Paris Agreement, which was signed on 22 April 2016, is a landmark international agreement that aims to combat climate change through international cooperation.

[Insert Table 10 Here]

Column (1) of Table 10 incorporates the interaction term between the target-country climate law indicator, $\text{Climate Law}_{\text{tgt}}$, and an indicator for deals announced after 2006, $I(\text{year} > 2006)$. This specification distinguishes the effects of climate laws before and after the release of the Stern Review. Moreover, Column (2) includes the interaction terms between $\text{Climate Law}_{\text{tgt}}$ and the indicators for whether the acquisition deal was announced between 2007 and 2016 ($I(2006 < \text{year} \leq 2006)$) or after the signature of the Paris Agreement in 2016 ($I(2016 < \text{year})$). We find significantly negative coefficients on the interaction terms in both specifications, indicating that the adoption of climate laws in a target country is associated with a greater decline in cross-border acquisitions in periods after the Stern Review and the Paris Agreement. These results suggest that firms anticipate higher costs of climate laws following salient climate-related events and make more adjustments in their acquisition decisions.

6 Climate Laws and Deal Outcomes

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

6.1 Likelihood of Deal Withdrawal

We have shown that the number of completed acquisition deals declines after the target country adopts climate laws. In reality, merger negotiations typically last for some time and announced bids might be withdrawn during the course of negotiations. We now include deals that are canceled after the announcement to investigate whether climate laws affect the likelihood of withdrawals. Specifically, we consider deals that are announced before the 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 11 Here]

Table 11 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 18 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 11%. The evidence shows that firms are more likely to cancel announced bids after the target country adopts climate laws. This finding is consistent with our baseline result that climate laws reduce cross-border merger

activities.

6.2 Merger Synergies

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

Table 12 reports the estimation results. Column (1) shows that the passage of climate laws in the target country is associated with a 5.6 percentage point reduction in merger synergies. The coefficient estimate is statistically significant. The magnitude is also economically significant compared with the mean value of combined cumulative abnormal returns (3.3%). These results are obtained after absorbing factors that are specific to a year, an acquirer-target country pair, the acquirer's industry, or the target's industry. Column (2) controls for deal characteristics that are relevant to merger synergies, including deal size, deal value relative to the value of the acquirer's total assets, whether the acquirer and the target share the same two-digit SIC industry, whether all the consideration offered by the acquirer to the target is in the form of cash, whether the target employs defensive tactics, whether the merger is friendly, whether the merger is friendly, and whether the acquisition is in the form of a tender offer. Column (3) further incorporates country-level control variables as specified in the baseline regression. It turns out that the inclusion of additional control variables does not materially change the negative relationship between climate laws in the target country and merger synergies.

[Insert Table 12 Here]

Overall, the results in Table 12 suggest that synergy gains from cross-border mergers and acquisitions become lower after the target country passes climate change laws. As we discussed when developing the hypothesis, the reduction in merger synergies could result from increased operational frictions, the loss of potential customers and suppliers, the increase in financial costs, and/or the rise in tax costs. Since firms typically merge to seek synergy gains, the negative effects of climate laws on merger synergies are consistent with our baseline finding that climate laws in the target country reduce cross-border acquisition activities.

6.3 Offer Premium

Merger synergy is divided between the acquirer and the target. In the case of lower expected synergy gains, the acquiring firm is likely to obtain smaller benefits from the acquisition. Hence, the acquirer may only be willing to buy the target at a lower price or premium when merger synergy is reduced by climate laws. To test this conjecture, we regress offer premium on climate law dummies and control variables, where offer premium is calculated as the offer price scaled by the target firm's stock price one day prior to the deal announcement. In Column (1) of Table 13, the regression controls for a set of deal-level characteristics: whether the acquirer and the target share the same two-digit SIC industry, whether all the consideration offered by the acquirer to the target is in the form of cash, whether the merger is friendly, whether the acquisition is in the form of a tender offer, and whether there exists a competing bidder. The regression also incorporates acquirer-target country pair fixed effects, acquirer firm's industry by year fixed effects, and target firm's industry by year fixed effects. The coefficient estimate on the indicator for climate laws in the target country ($Climate\ Law_{tgt}$) is negative and significant, consistent with climate laws resulting in lower offer premiums.

[Insert Table 13 Here]

Column (2) in Table 13 adds firm-level control variables such as the firm size of the acquirer and the target, as well as an indicator for whether the acquirer firm is publicly traded. In Column (3), we further incorporate country-level control variables that are specified in the baseline regression. The alternative specifications yield similar results. Even after controlling for deal-level, firm-level, and country-level characteristics, the implementation of climate laws

in the target country continues to have a significantly negative effect on offer premiums. The economic magnitude is large: adopting climate laws in the target country reduces offer premiums by 8.7 percentage points, which corresponds to 24% of the average offer premiums. The reduction in offer premiums is consistent with the decline in the number and synergy gains of cross-border acquisitions.

6.4 Acquirers' Performance Improvement

Our findings based on deal withdrawal probability, stock market reactions, and the amount of offer premium suggest acquirer firms and investors expect cross-border acquisitions following the adoption of climate laws in target countries would generate lower value. Another way to capture the values generated by acquisitions is to examine changes in firms' operating performance around cross-border transactions. One challenge for this analysis is that the target firm may or may not exist after the transaction. Following prior studies, we avoid this issue by considering only changes in the operating performance of acquirers. In particular, we measure changes in an acquirer's operating performance with the difference between its return on assets (ROA) in three years following the acquisition and the ROA in the year before the transaction. To account for potential changes in acquirers' performance related to industry trends, we subtract the median ROA of the acquirer's peers from the acquirer's ROA, where peer firms are those in the same industry and country as the acquirer.

[Insert Table 14 Here]

Columns (1) and (2) in Table 14 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 12. The regressions also control for year, country-pair, and industry fixed effects. The results show that climate laws in the target country are associated with lower improvement in acquirers' operating performance. Compared to acquirers that buy a target in a country with no climate laws, those acquiring a target in a country with climate laws achieve a 1.98% lower improvement in profitability within three years following the transaction. Such a negative impact of climate laws remains over five years after the acquisition

(Columns (3) and (4)). Overall, acquirers experience less improvement in operating performance from before to after the acquisitions if the target country has adopted climate laws.

7 Conclusion

This paper examines how climate laws aiming at climate change mitigation and adaptation affect cross-border mergers and acquisitions. Exploiting cross-country variations in the adoption time of climate laws, we show that the passage of climate regulations in a country significantly reduces cross-border acquisitions targeting firms in the country. This relation is robust to using a continuous climate policy stringency index. The negative effect is more pronounced for target firms with higher exposure to climate regulations and countries with stronger legal enforcement. We further find a stronger reduction in larger cross-border deals, which may be subject to more government discretion. On the other hand, the effect is weaker when the target and acquirer countries are politically closer, supporting selective enforcement of climate regulations. We also show that acquirers' climate change concerns and their experience of climate disasters mitigate the effects of climate regulations. In line with the reduction in merger activities, the passage of climate laws in target countries is associated with an increased withdrawal likelihood for announced bids, smaller synergy gains, lower offer premiums, and less improvement in the operating performance of acquirers after the merger.

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

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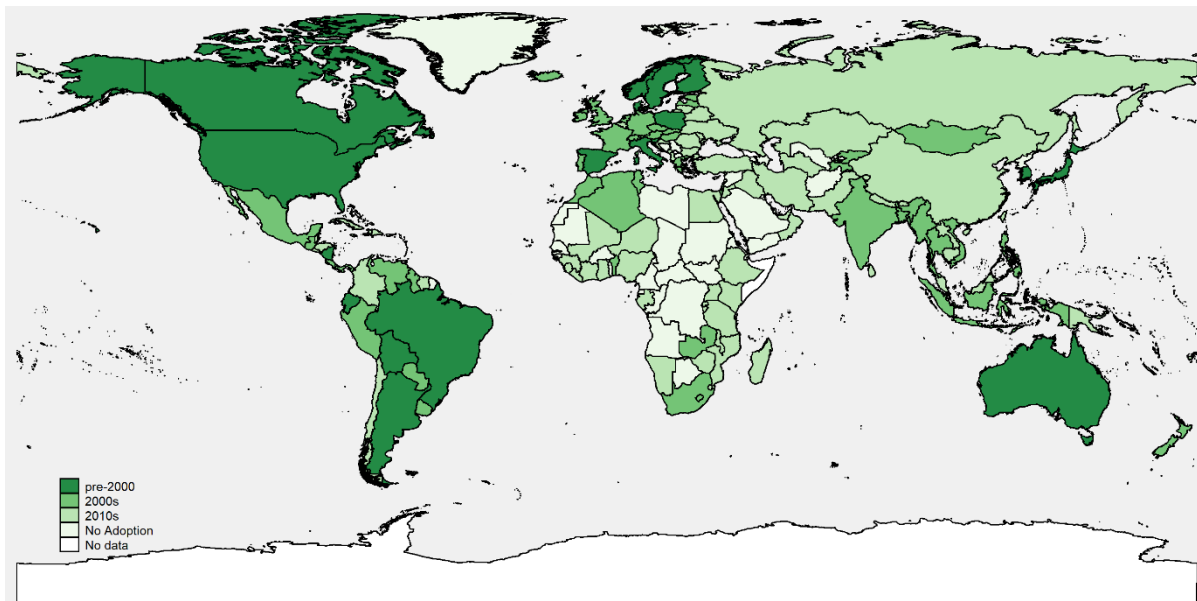


Figure 1 Adoption Time of Climate Laws

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

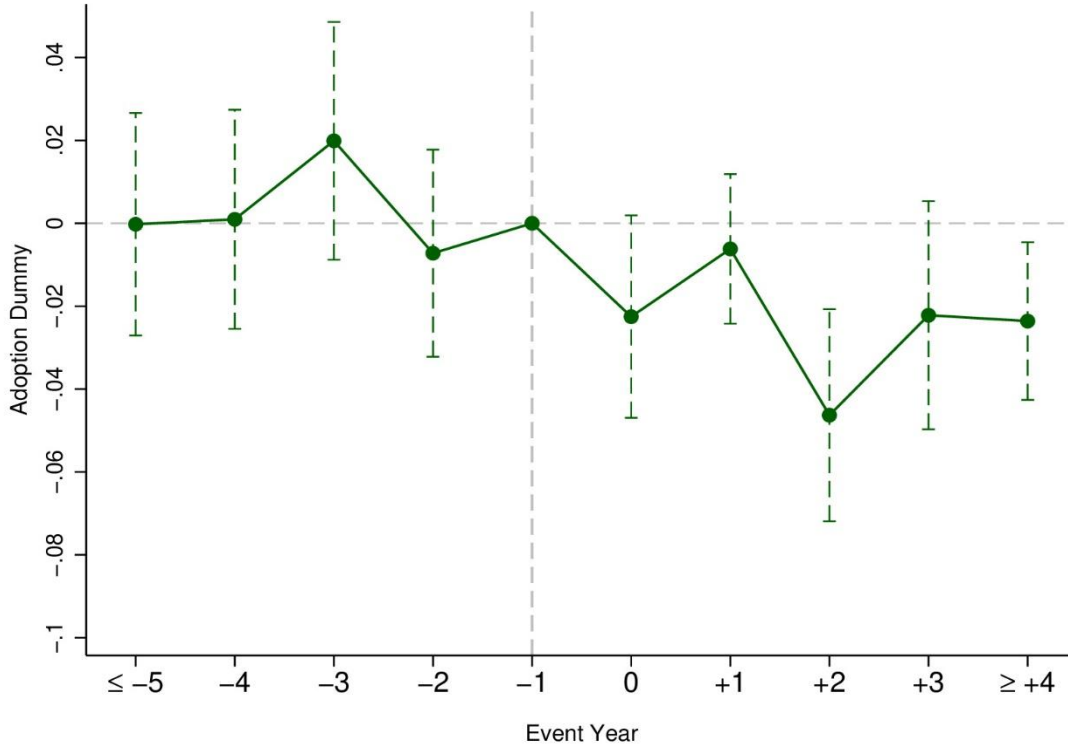


Figure 2 Dynamic Effects of Climate Laws on Cross-Border Merger Activities

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. τ_t and $\tau_{i,j}$ denote year fixed effects and acquirer-target country-pair fixed effects, respectively. Standard errors are clustered at the country-pair and year level. The sample period is from 1985 to 2019.

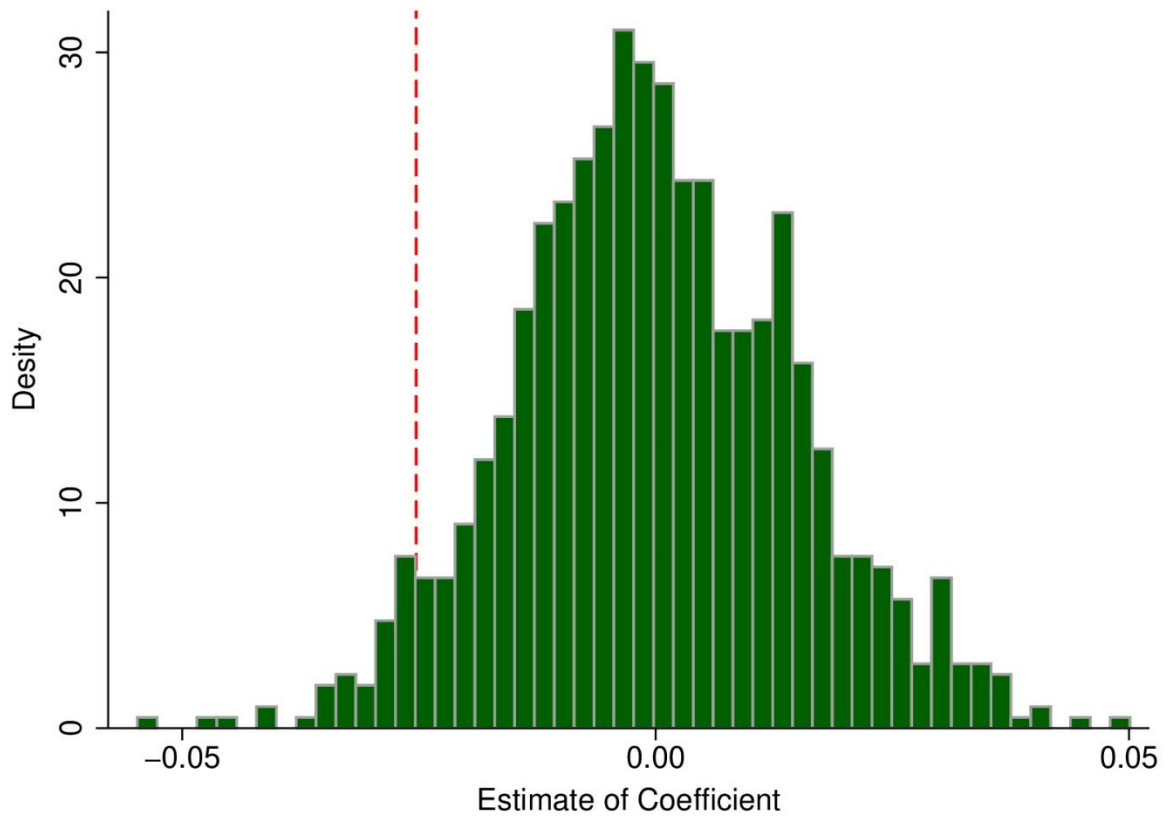


Figure 3 Distribution of Coefficient Estimates from Placebo Tests

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

Table 1 Summary Statistics

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

	Mean	SD	Q1	Median	Q3
Number of Cross-border Deals	0.631	1.464	0.000	0.000	1.000
Climate Law _{tgt}	0.652	0.476	0.000	1.000	1.000
Climate Law _{acq}	0.665	0.472	0.000	1.000	1.000
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.146	1.063	-0.427	0.123	0.789
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	-0.001	0.039	-0.024	-0.002	0.021
Max(Import, Export) _{acq,tgt}	0.033	0.053	0.005	0.013	0.036
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.187	1.361	-0.006	0.000	0.005
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.299	2.337	-1.000	0.083	1.708
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	0.681	4.221	-2.083	0.500	3.875
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	0.014	1.217	-0.500	0.023	0.574
Climate Law Stringency _{tgt}	1.881	1.129	0.889	1.778	2.833
Climate Law Stringency _{acq}	1.956	1.123	1.000	1.889	2.889
Climate Law Stringency _{tgt-acq}	-0.075	1.247	-0.861	-0.056	0.694
Combined CAR[-3, +3]	0.033	0.075	-0.009	0.023	0.070
Offer Premium (%)	36.521	44.525	11.900	28.965	52.000
Log(Deal Value)	5.690	2.083	4.226	5.629	7.233
Relative Size	0.544	1.822	0.029	0.123	0.415
Target Size	5.170	1.844	3.875	5.050	6.411
Acquirer Size	7.650	2.164	6.189	7.865	9.238
Public Acquirer	0.633	0.482	0.000	1.000	1.000
Acquirer B/M	1.764	2.269	0.467	0.854	1.935
Acquirer Leverage	0.192	0.163	0.030	0.173	0.310
Acquirer Cash Holdings	0.191	0.178	0.061	0.127	0.261
Related Industry	0.619	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	0.499	0.500	0.000	0.000	1.000
Defensive Tactics	0.015	0.122	0.000	0.000	0.000
Competing Bidder	0.064	0.245	0.000	0.000	0.000

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

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

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law _{tgt}	-0.020** (-2.49)	-0.019** (-2.19)	-0.025** (-2.41)
Climate Law _{acq}	0.014 (1.16)	-0.004 (-0.37)	-0.006 (-0.51)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		0.040 (1.36)	0.082*** (3.01)
$\Delta(GDP\ Growth)_{acq-tgt}$		0.056 (0.63)	0.028 (0.29)
Max(Import, Export) _{acq,tgt}		3.038*** (14.42)	1.211*** (3.05)
$\Delta(Exchange\ Rate)_{acq-tgt}$		-0.015* (-1.80)	-0.012 (-1.30)
$\Delta(Investment\ Profile)_{acq-tgt}$		0.003 (1.52)	0.002 (0.84)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		-0.000 (-0.10)	-0.001 (-0.58)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		-0.003** (-2.49)	-0.003** (-2.14)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	37,235	37,235	37,235
Adjusted R ²	0.338	0.395	0.605

Table 3 Alternative Samples and Measures

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

	Log(1+ Number of Cross-border Deals)			Log(1+\$ Amou nt of Cross- border Deals)	I(Cross- border Deals)
	Non-US (1)	OECD and BRICS (2)	G20 (3)		
Climate Law _{tgt}	-0.021** (-2.37)	-0.060*** (-3.62)	-0.048*** (-3.01)	-0.107** (-2.46)	-0.021*** (-2.69)
Climate Law _{acq}	-0.006 (-0.57)	-0.012 (-0.77)	-0.011 (-0.60)	-0.002 (-0.05)	-0.002 (-0.18)
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	0.074*** (2.95)	0.102** (2.71)	0.102** (2.55)	0.356*** (3.34)	0.075*** (3.29)
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	0.005 (0.06)	0.028 (0.21)	-0.007 (-0.05)	0.363 (0.89)	0.048 (0.53)
Max(Import, Export) _{acq,tgt}	1.011** (2.50)	1.929*** (3.14)	2.203*** (3.15)	4.743*** (3.31)	1.090*** (4.75)
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	-0.001 (-1.59)	-0.071 (-0.79)	0.001 (0.04)	-0.019 (-0.65)	-0.008 (-1.01)
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	0.002 (1.09)	0.004 (1.66)	0.006 (1.66)	0.004 (0.43)	0.002 (0.85)
$\Delta(\text{Quality of Institution})_{\text{acq-tgt}}$	-0.001 (-0.59)	0.002 (0.59)	0.001 (0.22)	-0.004 (-0.44)	-0.001 (-0.49)
$\Delta(\text{Growth of Domestic Deals})_{\text{acq-tgt}}$	-0.002 (-1.62)	-0.003 (-1.59)	-0.003 (-1.23)	-0.007 (-1.16)	-0.003** (-2.31)
Year FE	Yes	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes	Yes
Obs	34,646	22,727	19,443	37,235	37,235
Adjusted R ²	0.477	0.674	0.681	0.476	0.380

Table 4 Climate Law Stringency and Cross-Border Merger Activities

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

	Log (1+ Number of Cross-border Deals)			
	(1)	(2)	(3)	(4)
Climate Law Stringency _{tgt}	-0.027*** (-2.60)	-0.026** (-2.21)		
Climate Law Stringency _{acq}	0.006 (0.58)	0.015 (1.19)		
Climate Law Stringency _{tgt-acq}			-0.017** (-2.37)	-0.020*** (-2.65)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.064 (1.43)	0.118*** (2.90)	0.065 (1.45)	0.119*** (2.95)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.105 (0.85)	0.105 (0.73)	0.101 (0.81)	0.102 (0.72)
Max(Import, Export) _{acq,tgt}	3.914*** (11.32)	1.949*** (2.95)	3.911*** (11.32)	1.938*** (2.95)
$\Delta(Exchange\ Rate)_{acq-tgt}$	0.003 (0.28)	0.009 (0.89)	0.001 (0.14)	0.008 (0.82)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.005* (1.92)	0.004 (1.16)	0.005* (1.93)	0.004 (1.16)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	0.003 (1.08)	0.003 (0.74)	0.003 (1.10)	0.003 (0.74)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.002** (-2.64)	-0.002 (-1.69)	-0.002** (-2.61)	-0.002 (-1.69)
Year FE	Yes	Yes	Yes	Yes
Acquirer Country FE	Yes	No	Yes	No
Target Country FE	Yes	No	Yes	No
Country-pair FE	No	Yes	No	Yes
Obs	22,339	22,339	22,339	22,339
Adjusted R ²	0.509	0.678	0.509	0.678

Table 5 Law Exposure

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

	Log (1+ Number of Cross-border Deals with High-exposure Targets)	Log (1+ Number of Cross-border Deals with Low-exposure Targets)
	(1)	(2)
Climate Law _{tgt}	-0.018** (-1.98)	-0.006 (-0.87)
Climate Law _{acq}	-0.006 (-0.69)	0.012 (1.52)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.063*** (3.16)	0.003 (0.11)
$\Delta(\text{GDP Growth})_{acq-tgt}$	0.027 (0.36)	0.036 (0.67)
Max(Import, Export) _{acq,tgt}	1.153*** (3.82)	-0.235 (-1.00)
$\Delta(\text{Exchange Rate})_{acq-tgt}$	-0.010* (-1.71)	0.008 (1.11)
$\Delta(\text{Investment Profile})_{acq-tgt}$	0.001 (0.45)	0.002 (1.01)
$\Delta(\text{Quality of Institution})_{acq-tgt}$	-0.000 (-0.08)	0.001 (0.71)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$	-0.002* (-1.74)	-0.000 (-0.07)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	37,235	37,235
Adjusted R ²	0.513	0.513

Table 6 Law Enforcement

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

	Log (1+ Number of Cross-border Deals)		
	La Porta et al. (1998) (1)	Worldwide Governance Indicators (2)	World Justice Project (3)
$Climate\ Law_{tgt} \times Strong\ Enforcement_{tgt}$	-0.055** (-2.57)	-0.035** (-2.02)	-0.050** (-2.65)
$Climate\ Law_{tgt}$	0.014 (0.80)	-0.003 (-0.16)	0.003 (0.19)
$Climate\ Law_{acq}$	-0.011 (-0.89)	-0.006 (-0.52)	-0.007 (-0.63)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.135*** (3.67)	0.096*** (3.41)	0.097*** (3.18)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.110 (0.98)	0.037 (0.37)	0.057 (0.56)
$Max(Import,\ Export)_{acq,tgt}$	1.282*** (2.78)	1.178*** (2.95)	1.288*** (2.95)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.010 (-1.07)	-0.009 (-0.99)	-0.008 (-0.86)
$\Delta(Investment\ Profile)_{acq-tgt}$	-0.001 (-0.31)	0.002 (0.71)	0.001 (0.66)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.003 (-1.11)	-0.002 (-0.78)	-0.001 (-0.53)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.003 (-1.69)	-0.002* (-1.78)	-0.003* (-1.73)
Year FE	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes
Obs	29,609	36,909	33,909
Adjusted R ²	0.620	0.606	0.606

Table 7 Political Affinity

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

	Log (1+ Number of Cross-border Deals)			
	1-year UN Votes		3-year UN Votes	
	Low Affinity (1)	High Affinity (2)	Low Affinity (3)	High Affinity (4)
$Climate\ Law_{tgt}$	-0.040** (-2.29)	-0.020 (-1.48)	-0.037** (-2.14)	-0.021 (-1.59)
$Climate\ Law_{acq}$	0.008 (0.49)	-0.014 (-1.02)	0.014 (0.81)	-0.024* (-1.79)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.122*** (3.12)	0.028 (0.84)	0.131*** (3.37)	0.017 (0.58)
$\Delta(GDP\ Growth)_{acq-tgt}$	-0.058 (-0.47)	0.231** (2.24)	-0.056 (-0.47)	0.217** (2.26)
$Max(Import,\ Export)_{acq,tgt}$	1.431** (2.52)	0.523 (1.38)	1.427** (2.50)	0.362 (0.96)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.000 (-0.03)	-0.045** (-2.08)	0.002 (0.20)	-0.049** (-2.32)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.002 (0.61)	0.003 (1.13)	0.003 (0.96)	0.003 (1.04)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.010** (-2.43)	0.004 (1.09)	-0.012*** (-2.94)	0.005 (1.38)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.004* (-1.83)	-0.001 (-0.57)	-0.004* (-1.87)	-0.001 (-0.32)
Year FE	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes
Obs	14,832	19,678	14,820	19,690
Adjusted R ²	0.552	0.642	0.555	0.642

Table 8 Government Discretions

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

	Log (1+ Number of Large Cross-border Deals)	Log (1+ Number of Small Cross-border Deals)
	(1)	(2)
Climate Law _{tgt}	-0.024*** (-2.87)	-0.006 (-0.83)
Climate Law _{acq}	-0.000 (-0.03)	-0.007 (-1.00)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.053** (2.40)	0.039*** (2.91)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.049 (0.71)	-0.024 (-0.45)
Max(Import, Export) _{acq,tgt}	0.886** (2.55)	0.626*** (2.91)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.006 (-0.97)	-0.008 (-1.35)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.001 (0.61)	0.002 (1.09)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	-0.001 (-0.63)	-0.001 (-0.28)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.000 (-0.31)	-0.003*** (-3.29)
Year FE	Yes	Yes
Country-pair FE	Yes	Yes
Obs	37,235	37,235
Adjusted R ²	0.545	0.470

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 both year fixed effects and acquirer-target country-pair fixed effects. The sample period is from 1985 to 2019. t -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)			
	Climate Concerns		Climate Disaster Experience	
	(1)	(2)	(3)	(4)
$Climate\ Law_{tgt} \times High\ Concerns_{acq}$	0.037** (2.26)	0.063*** (3.68)		
$Climate\ Law_{tgt} \times Climate\ Disasters_{acq}$			0.031*** (2.81)	0.033*** (3.10)
$Climate\ Law_{tgt}$	-0.060*** (-3.75)	-0.064*** (-4.02)	-0.051*** (-4.44)	-0.049*** (-3.95)
$Climate\ Disasters_{acq}$			-0.003 (-0.41)	-0.008 (-0.92)
$Climate\ Law_{acq}$	0.051** (2.49)	0.028 (1.68)	-0.000 (-0.03)	-0.009 (-0.80)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		0.142*** (4.51)		0.080*** (2.95)
$\Delta(GDP\ Growth)_{acq-tgt}$		-0.041 (-0.31)		0.028 (0.29)
$Max(Import,\ Export)_{acq,tgt}$		1.155** (2.64)		1.225*** (3.09)
$\Delta(Exchange\ Rate)_{acq-tgt}$		-0.011 (-0.92)		-0.012 (-1.27)
$\Delta(Investment\ Profile)_{acq-tgt}$		0.001 (0.32)		0.002 (0.81)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		-0.001 (-0.25)		-0.001 (-0.38)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		-0.001 (-0.77)		-0.003** (-2.33)
Year FE	Yes	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes	Yes
Obs	22,103	22,103	37,235	37,235
Adjusted R ²	0.596	0.599	0.603	0.605

Table 10 Stern Review and Paris Agreement

This table presents how the relation between climate laws and cross-border acquisitions changes after salient events that raise public awareness of climate issues. 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. $I(year > 2006)$ ($I(2016 < year)$) is an indicator for deals announced after the release of the Stern Review in 2006 (the Paris Agreement in 2016). $I(2006 < year \leq 2016)$ is an indicator for deals announced between 2007 and 2016. Control variables are the same as in Table 2. Detailed definitions are provided in Appendix Table A.1. Regressions include year, acquirer and target country fixed effects. The sample period is from 1985 to 2019. t -statistics based on standard errors clustered at the country-pair and year level are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

	Log (1+ Number of Cross-border Deals)	
	Stern Review (1)	Paris Agreement (2)
$Climate\ Law_{tgt} \times I(year > 2006)$	-0.067*** (-4.73)	
$Climate\ Law_{tgt} \times I(2006 < year \leq 2016)$		-0.068*** (-4.82)
$Climate\ Law_{tgt} \times I(2016 < year)$		-0.044** (-2.44)
$Climate\ Law_{tgt}$	0.003 (0.26)	0.003 (0.26)
$Climate\ Law_{acq}$	-0.004 (-0.41)	-0.004 (-0.41)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$	0.051* (1.74)	0.051* (1.75)
$\Delta(GDP\ Growth)_{acq-tgt}$	0.070 (0.79)	0.071 (0.79)
$Max(Import, Export)_{acq-tgt}$	3.034*** (14.41)	3.034*** (14.41)
$\Delta(Exchange\ Rate)_{acq-tgt}$	-0.015* (-1.80)	-0.015* (-1.80)
$\Delta(Investment\ Profile)_{acq-tgt}$	0.003 (1.45)	0.003 (1.46)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$	0.000 (0.07)	0.000 (0.05)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$	-0.002** (-2.15)	-0.002** (-2.22)
Year FE	Yes	Yes
Acquirer Country FE	Yes	Yes
Target Country FE	Yes	Yes
Obs	37,235	37,235
Adjusted R ²	0.396	0.396

Table 11 Climate Laws and Likelihood of Deal Withdrawals

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

	Withdrawal Likelihood		
	(1)	(2)	(3)
Climate Law _{tgt}	0.238*** (3.66)	0.184** (2.25)	0.187** (2.40)
Climate Law _{acq}	-0.168 (-0.87)	-0.019 (-0.15)	-0.037 (-0.17)
log(Deal Value)		0.046** (2.18)	0.040* (2.07)
Related Industry		-0.068 (-0.66)	-0.133 (-1.07)
All Cash		-0.085 (-1.54)	-0.039 (-0.61)
Friendly Merger		-0.423*** (-4.12)	-0.360*** (-3.01)
Tender Offer		-0.220 (-1.17)	-0.056 (-0.26)
Competing Bidder		1.132*** (4.19)	1.482*** (4.98)
$\Delta(\log\text{ GDP per capita})_{acq-tgt}$			0.649 (1.01)
$\Delta(\text{GDP Growth})_{acq-tgt}$			-3.084 (-1.34)
$\text{Max}(\text{Import, Export})_{acq,tgt}$			1.255 (0.96)
$\Delta(\text{Exchange Rate})_{acq-tgt}$			16.219 (1.60)
$\Delta(\text{Investment Profile})_{acq-tgt}$			0.112 (1.63)
$\Delta(\text{Quality of Institution})_{acq-tgt}$			-0.036 (-0.57)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$			0.191* (1.97)
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	184	184	184
Adjusted R ²	0.114	0.317	0.286

Table 12 Climate Laws and Combined Cumulative Abnormal Returns

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

	Combined CAR[-3, +3]		
	(1)	(2)	(3)
Climate Law _{tgt}	-0.056** (-2.25)	-0.043** (-2.21)	-0.061** (-2.19)
Climate Law _{acq}	-0.087** (-2.46)	-0.089** (-2.58)	-0.039 (-0.77)
log(Deal Value)		0.003 (1.48)	0.004 (1.50)
Relative Size		0.004 (0.91)	0.004 (0.78)
Related Industry		-0.003 (-0.34)	-0.000 (-0.04)
All Cash		0.008 (0.68)	0.010 (0.83)
Defensive Tactics		-0.012 (-0.45)	-0.009 (-0.31)
Friendly Merger		-0.039** (-2.27)	-0.040 (-1.63)
Tender Offer		-0.002 (-0.26)	-0.003 (-0.29)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$			-0.014 (-0.12)
$\Delta(\text{GDP Growth})_{acq-tgt}$			-0.227 (-0.87)
$\text{Max}(\text{Import, Export})_{acq,tgt}$			-0.680* (-2.10)
$\Delta(\text{Exchange Rate})_{acq-tgt}$			0.376 (1.58)
$\Delta(\text{Investment Profile})_{acq-tgt}$			0.009** (2.79)
$\Delta(\text{Quality of Institution})_{acq-tgt}$			-0.002 (-0.14)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$			-0.003 (-0.29)
Year FE	Yes	Yes	Yes
Country-pair FE	Yes	Yes	Yes
Acquirer Industry FE	Yes	Yes	Yes
Target Industry FE	Yes	Yes	Yes
Obs	639	639	639
Adjusted R ²	0.059	0.056	0.063

Table 13 Climate Laws and Offer Premium

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

	Offer Premium		
	(1)	(2)	(3)
Climate Law _{tgt}	-9.212*** (-2.80)	-8.476** (-2.41)	-8.676** (-2.37)
Climate Law _{acq}	-0.286 (-0.05)	-0.738 (-0.12)	-1.589 (-0.26)
Related Industry	3.652 (0.98)	7.273** (2.08)	6.989* (1.96)
All Cash	0.035 (0.01)	-0.782 (-0.25)	-0.959 (-0.28)
Friendly Merger	1.593 (0.24)	0.185 (0.03)	-0.012 (-0.00)
Tender Offer	6.811** (2.34)	5.226* (1.75)	5.622* (1.82)
Competing Bidder	26.070*** (3.38)	27.363*** (3.81)	27.556*** (3.70)
Target Size		-4.841*** (-4.03)	-4.893*** (-3.93)
Acquirer Size		1.392 (1.56)	1.416 (1.56)
Public Acquirer		14.017*** (2.94)	13.976*** (2.86)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$			6.916 (0.23)
$\Delta(GDP\ Growth)_{acq-tgt}$			-29.820 (-0.26)
$Max(Import,\ Export)_{acq,tgt}$			-9.461 (-0.15)
$\Delta(Exchange\ Rate)_{acq-tgt}$			0.459 (0.86)
$\Delta(Investment\ Profile)_{acq-tgt}$			-1.214 (-0.62)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$			0.556 (0.23)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$			3.926 (1.18)
Country-pair FE	Yes	Yes	Yes
Acquirer Industry-Year FE	Yes	Yes	Yes
Target Industry-Year FE	Yes	Yes	Yes
Obs	1,728	1,728	1,728
Adjusted R ²	0.153	0.107	0.118

Table 14 Climate Laws and Acquirers' Performance Improvement

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

	$\Delta ROA_{t-1 \rightarrow t+3}$		$\Delta ROA_{t-1 \rightarrow t+5}$	
	(1)	(2)	(3)	(4)
Climate Law _{tgt}	-2.055**	-1.975**	-2.754**	-2.958**
	(-2.36)	(-2.37)	(-2.40)	(-2.39)
Climate Law _{acq}	-0.777	-0.667	-3.159***	-2.634**
	(-0.71)	(-0.54)	(-3.11)	(-2.48)
Acquirer Size		0.245		0.166
		(1.35)		(0.99)
Acquirer B/M		0.064		0.135
		(0.46)		(0.57)
Acquirer Leverage		3.597		6.011**
		(1.59)		(2.74)
Acquirer Cash Holdings		3.368		3.368
		(1.47)		(1.73)
log(Deal Value)		-0.599***		-0.707***
		(-3.29)		(-4.63)
Relative Size		3.397***		4.216***
		(3.43)		(3.99)
Related Industry		-0.556**		-0.057
		(-2.14)		(-0.19)
All Cash		0.189		-0.434
		(0.38)		(-0.91)
Defensive Tactics		4.803**		5.369
		(2.14)		(1.57)
Friendly Merger		0.893		0.324
		(0.97)		(0.28)
Tender Offer		0.969		0.450
		(1.00)		(0.34)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		-2.226		-3.241
		(-0.51)		(-0.54)
$\Delta(GDP\ Growth)_{acq-tgt}$		-2.603		22.251*
		(-0.26)		(1.83)
$Max(Import,\ Export)_{acq,tgt}$		-2.764		6.029
		(-0.41)		(0.39)
$\Delta(Exchange\ Rate)_{acq-tgt}$		-0.039		-0.068
		(-0.90)		(-1.27)
$\Delta(Investment\ Profile)_{acq-tgt}$		-0.411**		-0.708***
		(-2.79)		(-4.96)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		0.148		-0.912**
		(0.36)		(-2.38)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		0.551		0.163
		(1.46)		(0.49)
Year FE	Yes	Yes	Yes	Yes
Contry-pair FE	Yes	Yes	Yes	Yes
Acquiror Industry FE	Yes	Yes	Yes	Yes
Target Industry FE	Yes	Yes	Yes	Yes
Obs	3,574	3,574	2,787	2,787
Adjusted R ²	0.051	0.071	0.046	0.074

Appendix

Table A.1 Variable Definitions

This table describes detailed variable definitions and corresponding data sources.

Variable	Definition	Sources
<i>Cross-border M&A Activities</i>		
Log(1+Number of Cross-border Deals _{ijt})	Logarithm of one plus the total number of cross-border deals between acquirer country j and target country i in year t	SDC
Log(1+\$ 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(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>		
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
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
$\Delta(\log \text{ GDP per capita})_{\text{acq-tgt}}$	Difference in log GDP per capita between the acquirer and target countries	Penn World Table
$\Delta(\text{GDP Growth})_{\text{acq-tgt}}$	Difference in annual growth rates of real GDP between the acquirer and target countries	Penn World Table
Max(Import, Export) _{acq,tgt}	The maximum of bilateral import and export between a country pair, where bilateral import (export) is calculated as the value of imports (exports) by the target country from (to) the acquirer country as a percentage of total imports (exports) by the target country	UN Comtrade
$\Delta(\text{Exchange Rate})_{\text{acq-tgt}}$	Difference in exchange rates of local currencies to the US dollar between the acquirer and target countries	Penn World Table
$\Delta(\text{Investment Profile})_{\text{acq-tgt}}$	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 _{tgt}	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 _{acq}	Measure of the stringency of climate policies in the acquirer country based on the environmental policy stringency index proposed by Kruse, Dechezleprêtre, Saffar, and Robert (2022).	Kruse et al. (2022)
<i>Deal-level Variables</i>		
Combined CAR[-3, +3]	Cumulative abnormal returns of the combined firm over a seven-day window around the deal announcement. It is calculated as the weighted average of CAR[-3, +3] of the acquirer and target firms where the weight is the market capitalization of the acquirer and the target firms four trading days prior to the deal announcement. Abnormal returns are firms' stock returns adjusted by returns of the market index of the corresponding country.	Datastream
Offer Premium	Offer price relative to the target firm's stock price one day prior to the deal announcement	SDC
Log(Deal Value)	Logarithm of the dollar value (in millions USD) of acquisition deals	SDC
Relative Size	Deal value divided by the value of the acquirer firm's total assets	SDC
Related Industry	A dummy variable that equals one if the acquirer and the target share the same two-digit SIC industry, and zero otherwise	SDC
All Cash	A dummy variable that equals one if all the consideration offered by the acquirer to the target is in the form of cash, and zero otherwise	SDC
Defensive Tactics	A dummy variable that equals one if SDC classifies the target as employing defensive tactics, and zero otherwise	SDC
Friendly Merger	A dummy variable that equals one if SDC classifies the merger as friendly, and zero otherwise	SDC
Tender Offer	A dummy variable that equals one if the acquisition is in the form of a tender offer, and zero otherwise	SDC
Competing Bidder	A dummy variable that equals one if there exists a competing bidder in an acquisition deal, that is, a third party launched an offer for the target while this original bid was pending, and zero otherwise	SDC
<i>Firm-level Variables</i>		
Target Size	Logarithm of the book value of the target firm's total assets before the acquisition	SDC

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

Internet Appendix:

Climate Laws and Cross-Border Mergers and Acquisitions

Online Posting; Not for Publication

Table IA.1 List of Climate Laws

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.

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
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
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
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
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

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

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	BEL	BRA	CAN	CHE	CHN	DEU	DNK	ESP	FRA	GBR	HKG	IND	ITA	NLD	NOR	NZL	SGP	SWE	USA
Argentina (ARG)	0	0	24	0	0	0	1	0	1	0	0	0	0	2	0	0	0	0	0	8
Australia (AUS)		12	26	118	8	38	39	10	14	28	193	22	17	11	20	12	210	46	17	479
Austria (AUT)	3	3	4	4	6	1	36	1	7	8	17	0	4	6	6	1	2	1	7	25
Bahamas (BHS)	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	4	0	0	0	13
Belgium (BEL)	11		9	13	3	5	26	5	16	63	59	2	4	10	35	4	1	2	4	94
Brazil (BRA)	8	1		14	0	1	2	0	6	4	13	0	0	4	3	3	0	0	0	41
Canada (CAN)	181	19	68		23	39	67	10	31	82	265	16	12	18	38	16	34	4	39	2347
Chile (CHL)	2	2	31	6	0	1	1	1	2	0	1	0	0	0	1	0	0	0	0	10
China (CHN)	99	3	11	53	14		58	6	17	30	43	169	4	34	20	4	10	44	10	181
Cyprus (CYP)	1	0	0	0	1	0	3	2	1	0	7	0	1	2	0	5	0	1	1	5
Denmark (DNK)	9	3	8	9	16	4	24		9	19	63	4	5	8	22	23	1	4	50	80
Finland (FIN)	7	5	7	9	6	8	40	21	3	19	36	3	7	11	20	35	2	3	95	90
France (FRA)	49	55	66	78	30	32	110	15	120		328	9	33	81	52	17	7	11	32	506
Germany (DEU)	50	21	22	35	46	16		20	52	101	231	5	43	42	51	25	6	7	44	427
Greece (GRC)	1	1	0	1	0	1	4	0	7	0	10	3	0	7	2	3	0	0	1	23
Hong Kong (HKG)	64	1	10	22	4	563	17	6	4	10	47		7	4	7	1	6	28	5	105
Iceland (ISL)	0	1	0	3	0	2	2	4	1	6	11	0	0	0	2	0	0	0	2	9
India (IND)	30	7	11	20	11	5	33	3	12	23	106	3		16	14	2	0	25	4	253
Indonesia (IDN)	5	0	0	1	0	6	0	0	0	1	5	2	0	1	0	0	0	11	0	5
Ireland (IRL)	28	9	9	22	2	7	26	6	10	24	352	1	6	7	43	3	2	2	10	279
Israel (ISR)	2	2	5	13	9	3	17	4	9	13	31	2	2	11	8	3	2	1	1	237
Italy (ITA)	15	11	38	16	16	8	57	3	65	91	94	1	10		24	6	0	3	9	138
Japan (JPN)	106	15	31	44	23	70	75	12	28	48	167	31	47	35	26	5	15	66	16	841
Luxembourg (LUX)	3	2	4	12	3	3	9	1	8	21	17	1	2	18	11	5	0	2	6	45
Malaysia (MYS)	48	1	1	10	3	29	10	1	1	0	28	20	15	4	9	3	8	79	1	32
Mexico (MEX)	2	1	32	10	1	0	3	0	14	3	2	0	1	0	1	2	0	1	0	73

Acquirer Country	Top Target Countries																			
	AUS	BEL	BRA	CAN	CHE	CHN	DEU	DNK	ESP	FRA	GBR	HKG	IND	ITA	NLD	NOR	NZL	SGP	SWE	USA
Netherlands (NLD)	35	35	18	37	11	11	59	12	38	50	160	2	13	36		14	7	4	25	272
New Zealand (NZL)	99	1	2	9	1	2	2	1	1	2	15	1	0	1	2	0		1	0	31
Norway (NOR)	11	6	14	14	5	1	22	61	15	21	71	1	6	4	10		2	9	146	80
Philippines (PHL)	10	0	1	1	0	6	2	0	3	0	6	3	1	0	0	1	2	6	1	18
Poland (POL)	0	1	2	5	1	1	19	3	7	1	4	0	1	3	2	1	0	1	3	3
Portugal (PRT)	0	0	31	0	0	1	5	0	34	7	4	0	1	1	0	1	0	0	1	3
Singapore (SGP)	123	7	5	4	8	115	8	3	2	5	57	42	20	3	7	8	17		4	104
South Africa (ZAF)	75	2	4	19	7	1	8	1	1	4	99	4	4	4	7	0	5	5	1	63
South Korea (KOR)	7	0	4	12	2	52	9	1	1	4	11	10	11	2	2	2	1	6	1	103
Spain (ESP)	13	5	61	8	5	6	27	1		58	58	1	7	49	13	3	0	1	7	99
Sweden (SWE)	27	14	9	24	27	10	81	97	33	67	174	4	13	31	52	126	2	9		263
Switzerland (CHE)	45	8	16	42		14	66	8	14	52	85	2	16	36	24	9	5	3	18	309
Taiwan (TWN)	0	0	2	7	2	63	11	2	0	2	8	10	1	2	3	1	0	13	1	71
Thailand (THA)	15	1	1	2	0	7	3	0	1	5	10	4	3	1	2	1	5	16	0	13
U.A.E (ARE)	4	2	1	8	0	1	4	1	3	0	14	0	11	2	4	0	1	4	0	7
U.K. (GBR)	439	123	68	317	79	65	486	96	220	492		58	73	193	364	117	49	52	179	3165
United States (USA)	576	86	234	1666	146	206	609	95	147	491	2115	105	163	198	252	118	88	74	206	

Table IA.3 Climate Laws and Cross-Border Merger Activities: Stack-Cohort Approach

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

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law _{tgt}	-0.058*** (-4.66)	-0.063*** (-4.29)	-0.056*** (-3.39)
Climate Law _{acq}	-0.021 (-0.80)	-0.025 (-1.15)	0.001 (0.05)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		-0.020 (-0.20)	-0.066 (-0.61)
$\Delta(GDP\ Growth)_{acq-tgt}$		0.365* (1.72)	0.317 (1.49)
Max(Import, Export) _{acq,tgt}		4.238*** (13.54)	0.531 (0.41)
$\Delta(Exchange\ Rate)_{acq-tgt}$		0.142** (2.40)	0.143** (2.16)
$\Delta(Investment\ Profile)_{acq-tgt}$		0.005 (0.92)	0.004 (0.59)
$\Delta(Quality\ of\ Institution)_{acq-tgt}$		0.002 (0.73)	0.002 (0.62)
$\Delta(Growth\ of\ Domestic\ Deals)_{acq-tgt}$		-0.005*** (-2.93)	-0.005** (-2.10)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	26,068	26,068	26,068
Adjusted R ²	0.334	0.440	0.605

Table IA.4 Climate Laws and Cross-Border Merger Activities: Effects of Confounding Events

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

	Log (1+ Number of Cross-border Deals)		
	(1)	(2)	(3)
Climate Law _{tgt}	-0.027*** (-2.97)	-0.028*** (-2.85)	-0.027** (-2.40)
Climate Law _{acq}	0.012 (0.94)	-0.007 (-0.70)	-0.003 (-0.29)
$\Delta(\log\ GDP\ per\ capita)_{acq-tgt}$		0.017 (0.60)	0.058** (2.17)
$\Delta(\text{GDP Growth})_{acq-tgt}$		0.021 (0.23)	-0.027 (-0.27)
Max(Import, Export) _{acq,tgt}		2.857*** (13.63)	1.104** (2.69)
$\Delta(\text{Exchange Rate})_{acq-tgt}$		-0.015* (-1.86)	-0.013 (-1.42)
$\Delta(\text{Investment Profile})_{acq-tgt}$		0.002 (1.12)	0.001 (0.50)
$\Delta(\text{Quality of Institution})_{acq-tgt}$		-0.001 (-0.55)	-0.004 (-1.39)
$\Delta(\text{Growth of Domestic Deals})_{acq-tgt}$		-0.002 (-1.49)	-0.002 (-1.32)
Year FE	Yes	Yes	Yes
Acquirer Country FE	Yes	Yes	No
Target Country FE	Yes	Yes	No
Country-pair FE	No	No	Yes
Obs	30,773	30,773	30,773
Adjusted R ²	0.293	0.355	0.557

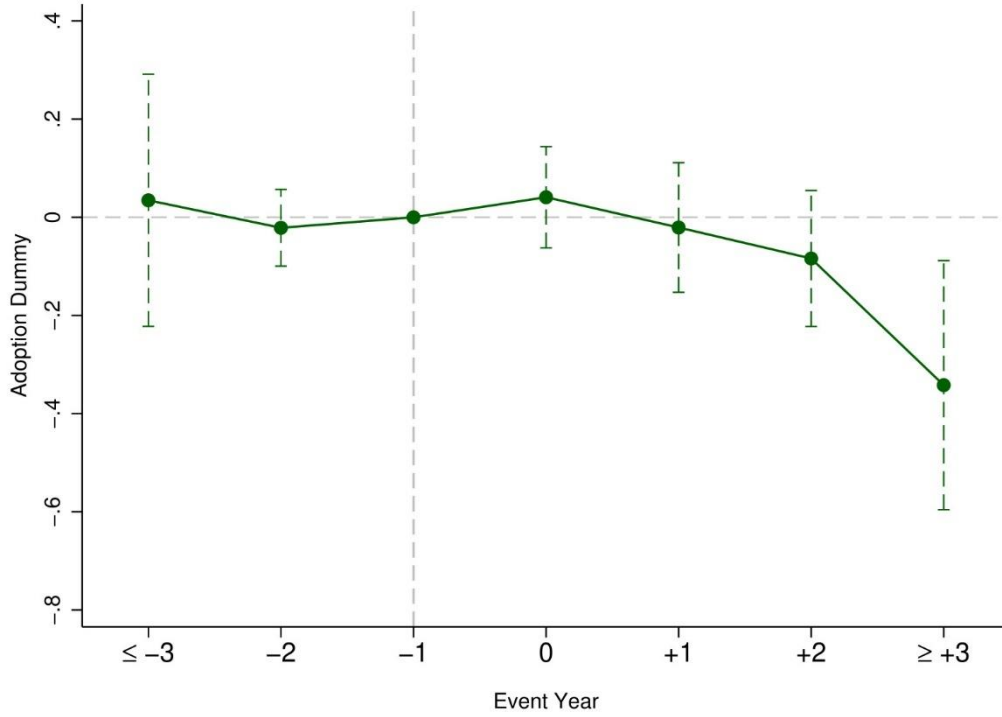


Figure IA.1 Dynamic Effects of Climate Laws on Carbon Emissions

This figure demonstrates the responses in country-level CO₂ 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 CO₂ 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. τ_t and τ_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 CO₂ emissions is from the Our World in Data database.