Political Connections and Carbon Emission Disclosures: A Cross-Country Examination

Abstract

Using a novel dataset containing details on 192 politically connected firms across 50 countries, we explore how political connections affect a firm's decision to voluntarily disclose carbon emissions in an international setting. Our baseline results reveal that politically connected firms disclose significantly less of their carbon emissions, on average, compared to their unconnected peers. These results are driven by firms in countries with more corrupt governments, where connections provide more value to firms. We find that appointed politicians allow their connected firms to obfuscate their carbon emissions while elected politicians do not. Further, firms connected to politicians outside of their home country do not change their carbon emissions disclosure while firms connected to politicians in their home country significantly reduce such disclosure. Our results are consistent with connected firms receiving protection from government litigation and receiving benefits that offset the value of disclosing environmental performance, suggesting that political connections diminish such disclosure, undermining the push for universal environmental disclosure.

Keywords: Disclosure, ESG, Political Connections, Carbon Emissions

JEL Classification: G18, Q50, D72, M40

I. INTRODUCTION

Stakeholders have become progressively more concerned with the environmental performance of firms, increasing pressure on corporate managers to increase disclosure of firm environmental performance. BlackRock, the world's largest asset manager, reports that 88 percent of global respondents to their Global Sustainable Investing Survey ranked "Environment" as the priority most in focus (BlackRock 2020). Likewise, PricewaterhouseCooper states that 76 percent of asset managers support strengthening ESG disclosure rules for listed firms worldwide (PwC 2022).

A potential hurdle for increased environmental disclosure is political connections, which provide similar benefits to such disclosure.[1] Academic research examining the effect of political connections on environmental disclosure is thus far limited, with no consensus reached. Dicko Khemakhem, and Zogning (2019) find that politically connected Canadian firms have increased environmental disclosure while Cho, Patten, and Roberts (2006) find similar results for U.S. firms. Meanwhile, Cheng, Wang Keung, and Bai (2017) find that political connections increase firm environmental disclosure but not disclosure quality in a Chinese setting. Finally, Muttakin, Mihret, and Khan (2018) find that politically connected Bangladeshi firms have lower environmental disclosure. This paper attempts to reconcile the conflicting results of previous papers using a comprehensive sample that provides more detail on political connections than was previously possible.

Our novel dataset comprises active political connections with detailed information on the

[1] For examples related to cost of capital, see Boubakri, Guedhami, Mishra, and Saffar (2012); Wang (2015). For examples related to investment, see Bradley, Pantzalis, and Yuan (2016); Jia, Simkins, and Feng (2023). For examples related to stock price, see Faccio (2006); Johnson and Mitton (2003).

scope of the connection and specific roles for individuals both at the firm and in government and carbon emissions data from the Carbon Disclosure Project (CDP). Our final sample comprises 8,965 firm-year observations across 1,665 firms and 50 countries. Among these firms, 192 are politically connected during the 2011-2019 period, and 717 disclose some level of carbon emissions.

Our baseline results reveal a negative relationship between firm political connections and carbon emissions disclosure. Specifically, politically connected firms choose to disclose, on average, 0.187 less of their carbon emissions compared to their unconnected peers, as measured by an ordinal index of firms' disclosure of various categories of carbon emissions. Considering the mean number of carbon emissions disclosed is 0.887 (with a minimum of 0 and a maximum of 3), this effect is economically meaningful. These results are consistent with a friendly regulator effect, showing that politicians are more likely to turn a blind eye to favored firms that obfuscate their carbon emissions.

We next explore the heterogeneity in our rich data to attempt to reconcile conflicting contentions in the literature. We find that our baseline analysis belies significant distributional effects as connected firms in more corrupt countries disclose significantly less carbon emissions while connected firms in less corrupt countries show no significant difference in such disclosure. Further, firms connected to a politician in their home country disclose significantly less while firms connected to a politician in a foreign country show no significant difference in disclosure relative to their unconnected peers.

We also examine heterogeneity in political connections and their differential effects on firms' carbon emissions disclosures based on different types of connections. Specifically, we find that our results are driven by connections to appointed, rather than elected, political figures. We

posit that appointed individuals have greater latitude in using their position to help their firm in the unpopular choice to obfuscate their environmental performance compared to elected politicians, who must worry about reelection. We then compare political connections in which the politically connected individual holds an executive position within the firm to political connections in which the politically connected individual is a board member of the firm, finding that their effect on firm carbon emissions disclosure are similar, suggesting that differences in the political position of the politically connected individual is more important than differences in the firm position of the individual in deciding the connection's effect on the firm's disclosure decisions.

We next investigate heterogeneity in firms' perceived benefit of environmental disclosure. Prior literature shows that a benefit of voluntary environmental disclosure by a firm is a reduction in their cost of capital. We investigate this motive in the context of politically connected firms, who already enjoy lowered cost of capital. We show that when firms become politically connected, they are significantly less likely to disclose their carbon emissions, but only when they experience a low cost of capital.

Our results are robust to the use of alternative econometric methods and dependent variable measurement. To ensure that our results are not biased by the staggered treatment of becoming politically connected, we employ Callaway and Sant'Anna (2021)'s design to calculate the average treatment effect on the treated group. We also rerun our analyses using the fixed effects ordered logit regression model suggested in Baetschmann, Staub, and Winkelmann (2015) in place of our OLS specification. We find similar results using this non-linear regression design as in our main results. We then use an alternative measure for firm carbon emissions disclosure from *Trucost* in place of our dependent variable of interest. Our main results are robust to this change in dependent variable measurement.

We address the endogenous nature of political connections using a battery of identification strategies. First, we rerun our initial analysis, this time including only political connections in which the politically connected employee began working for the firm before beginning their political position (henceforth, our "Firm First" subsample), which is arguably at least weakly exogenous as such connections were not explicitly chosen by the firm. Second, we rerun our baseline analysis using only the subset of firms that are politically connected at some point during our sample period (our "treated" group) and investigate the effect of losing a political connection in this subgroup. Third, we conduct an entropy balancing procedure on all control variables except fixed effects, as advocated by McMullin and Schonberger (2020). This approach allows us to reduce the possibility that our results are driven by differences in firm and country characteristics between connected and unconnected firms. We then rerun our analyses, using the weights from our entropy balancing procedure on our control group. Finally, we exploit the implementation of environmental disclosure mandates as an exogenous shock to firms' disclosure decisions. In every case, the results are qualitatively similar to our baseline results. These results are consistent with a friendly regulator hypothesis; that politically connected firms receive reduced penalty enforcement and are more likely to be overlooked when they are in non-compliance with federal law.[2]

Our paper contributes to the literature studying the determinants of voluntary environmental disclosure. Much of this literature focuses on internal firm characteristics that raise environmental disclosure levels such as the existence of a sustainability committee (Driss, Drobetz, El Ghoul, and Guedhami 2024), an internal environmental management system (Rankin Windsor and Wahyuni 2011), and more independent boards (Jaggi, Allini, Macchioni, and Zagaria 2018). External factors found to affect firm environmental disclosure include how concerned local

[2] For specific examples related to environmental regulation, see Heitz, Y. Wang, and Z. Wang (2021); Florackis, Fu, and Wang (2023). For more general examples, see, for instance, Fulmer, Knill and Yu (2023); F. Yu, X. Yu (2011)

politicians are with climate change (Tomar 2023), pressure from institutional investors (Ilhan, Krueger, Sautner, and Starks 2023), and whether the firm operates in a civil law country (Doring, Drobetz, El Ghoul, and Guedhami 2023).

By offering global evidence of political connections' effect on carbon emissions disclosure, we also add to prior literature documenting the effects of political connections on firms' environmental considerations. Prior research shows that politically connected firms are generally bad environmental stewards[3]. This is because of the benefits such firms receive, as politically connected firms are more protected from environmental damages lawsuits and penalties (Heitz et al. 2021, Florackis et al. 2023).

II. MOTIVATION AND HYPOTHESIS DEVELOPMENT

In response to mounting pressure campaigns from stakeholders,[4] firms are increasingly compelled to enhance their environmental disclosure practices.[5] Such environmental disclosure is important for firms' reputations irrespective of their actual environmental performance. Indeed, Cho, Guidry, Hageman, and Patten (2012) provide evidence that firms' voluntary environmental disclosure raises their reputation more than their actual environmental performance. Firms' increased reputation from such disclosure provides them with many benefits, including a lower cost of capital (Dhaliwal, Li, Tsang, and Yang 2011; Bolton and Kacperczyk 2021) increased institutional investment (Ilhan et al. 2023), and higher stock prices (Clarkson, Fang, Li, and Richardson 2013).

Firms signal their environmental stewardship to the government through increased

[3] See, for example, Muttakin, Mihret, and Rana (2020); Xiao and Shen (2022).
[4] Stakeholders include asset managers (PwC 2022), institutional investors (Ilhan et al. 2023), government (Krueger, Sautner, Tang, and Zhong 2024), and retail investors (Ceres 2022).
[5] For a review of the literature on signaling and environmental disclosure, see Zerbini (2017)

environmental disclosure. Firms gain reputational capital with the government, even if the quality of such disclosures does not improve (Cheng et al. 2017). Patten (2002) shows that firms strategically disclose more of their environmental performance to legitimize themselves and reduce public policy pressure. Collectively, these results suggest that firms choose to disclose more of their environmental performance to mitigate scrutiny from government regulators.

For politically connected firms, this calculation may be different, since signals from these firms may be perceived differently from outsiders. Stakeholders external to the firm may perceive political connections as a potential avenue for insiders to expropriate corporate resources. To address this perception, insiders within politically connected firms will choose to increase firm disclosure to reassure outside stakeholders that no such expropriation is occurring. Indeed, Guedhami, Pittman, and Saffar (2014) find that politically connected firms are more likely to appoint Big 4 auditors to improve accounting transparency.

Another, distinct reason that politically connected firms may choose to voluntarily disclose more comes from voluntary disclosure theory, which suggests that firms will be more likely to disclose information as their risk of incurring proprietary costs decreases (Li, Richardson, and Thornton 1997). Because politically connected companies benefit from non-competitive channels, such as government contracts,[6] they exhibit lower sensitivity to such losses. Additionally, politically connected firms hold less proprietary innovation than their unconnected peers (Akcigit, Baslandze, and Lotti 2023), further decreasing their risk of proprietary costs.

Therefore, politically connected firms have greater incentives to disclose their environmental performance and incur lower costs of such disclosure:

H1a: Politically connected firms will voluntarily disclose more of their environmental

[6] See, for example, Goldman, Rocholl, and So (2013); Sojli and Tham (2017); Schoenherr (2019).

performance measures compared to unconnected firms.

Despite the benefits of environmental disclosure, there are associated costs. Regulatory compliance requires firms to allocate resources to the collection and reporting documentation to the requesting government entities. For example, the SEC recently adopted new rules to enhance and standardize climate-related disclosures for investors. In their documentation, the SEC states that these new rules will cost the average firm an extra $864,000 per year, with 79 percent of public companies stating that this compliance cost is underestimated (SEC 2024). Likewise, a 2022 survey of large public companies who voluntarily disclose their environmental performance revealed that these firms, on average, spend $237,000 annually on greenhouse gas analysis, $154,000 annually on climate analysis and disclosure, and $487,000 on external ESG ratings, data providers, and consultants (ERM 2022). Thus, the direct costs of disclosing environmental performance are non-negligible.

Furthermore, while non-compliance with reporting regulations can lead to fines and penalties for firms, politically connected firms experience a 'friendly regulator effect', resulting in reduced risk of government sanctions. Additionally, these well-connected firms enjoy enhanced access to capital through privileged bank loans and reduced cost of equity, mitigating incentives to disclose environmental performance only to receive redundant benefits. While prior literature related to environmental disclosure and political connections is limited, the financial disclosure literature reveals that politically connected firms are more opaque in their disclosures than their unconnected peers. For example, Chaney, Faccio and Parsley (2011) find that politically connected firms' earnings reports are of significantly worse quality than unconnected firms. Contributing to this quality disparity was the fact that unconnected firms face higher costs of capital when they disclose less while connected firms' cost of capital remains unchanged. Politically connected firms

are less transparent than their unconnected peers in more respects than just formal reporting. Such firms have also been shown to issue fewer management earnings forecasts as well (Hung, Kim, and Li 2018; Chen, Ding, and Kim 2010).

Thus, given the opaque nature of politically connected firms in their financial performance, we expect that politically connected firms should similarly abstain from disclosing environmental performance measures. Formally:

H1b: Politically connected firms will voluntarily disclose less of their environmental performance measures compared to unconnected firms.

III. DATA AND RESEARCH DESIGN

Measuring Firm Political Connections

To measure the political connectedness of firms, we aggregate the biographies in *Capital IQ*, which comprises 4.7 million observations, and employ the C# text parsing program created by Faccio and Zingales (2022) along with their identification methodology to identify firm-employees holding political positions. Specifically, we feed the C# program a comprehensive list of international political positions reported in the "Chiefs of State and Cabinet Members of Foreign Governments" directory published by the CIA as well as a comprehensive list of the names of world leaders that were in power between 2010 and 2019. The program flags all sentences in the biographies that contain one or more of these words. We manually check each of these sentences and verify whether the individual is politically connected or not. While the vast majority of political connections are easily verifiable through government websites and official press releases, in cases where we can't verify an individual's political connectedness, we do not classify them as a political connection for conservatism. Likewise, in cases where we can't verify the individual's

years of government service, we do not include that political connection in our analysis. After manually checking over 70,000 biographies flagged by the program and constraining the subsequent dataset to only politically connected individuals working for firms that the CDP reached out to for carbon emissions disclosure, we are left with 241 politically connected individuals working for 192 different firms across 37 countries.

While most previous studies identify firms as politically connected if they have an employee who is active or was previously active in government, the granularity of our political connections dataset allows us to identify firms as politically connected if they have an employee who is active in government. This offers two distinct advantages to our study. First, we identify the beginning year and end year when individuals are actively and directly connected to the government. Second, this more precise measure allows us to identify cases where political connections are lost, which are generally not endogenously determined by the firm. Specifically, we are able to identify the exact year when a firm loses their direct connection to government in a fashion that is not their choice.

Further, our dataset identifies 192 politically connected firms in 37 distinct countries, constituting the most comprehensive dataset ever used to investigate the relationship between political connections and environmental disclosure. Our dataset also identifies the type of political connection in detail, containing information on the political position of each connected individual, the firm position of each connected individual, and on the country in which the individual is politically involved.

Measuring Firm Carbon Emissions

In response to the gap in the market for firm environmental performance information, the CDP sends requests to firms around the world, asking them to disclose their climate impact

voluntarily. In 2023, the CDP had over 23,000 firms, representing ~60 percent of global market capitalization, respond to at least two thirds of their questions related to climate impact (CDP 2023). The topics of these questions include water use and pollution, questions related to firms' impact on forestry and deforestation, firms' impact on biodiversity, plastic waste and pollution, and greenhouse gas and other toxic gas emissions. Important to our paper, their data collection effort includes detailed questions on carbon emissions, asking firms to disclose the following: 1) Scope one emissions, which is defined as direct carbon emissions from sources owned or controlled by the firm, 2) Scope two emissions, which is defined as indirect carbon emissions from the generation of energy consumed by the firm, and 3) Scope three emissions, which are defined as the aggregation of indirect carbon emissions from all upstream and downstream activities in the value chain. Firms are asked to report these values separately, allowing researchers to delineate direct and indirect emissions.

Following Ilhan et al (2023),[7] we construct our measure of environmental disclosure as the scope of carbon emissions disclosure by the firm. Our dependent variable of interest, *Disclosure Scope*, equals zero if firms do not respond to the CDP's information request or in cases where the firm does not disclose any carbon emissions. It equals one if a firm discloses scope one emissions only, two if it discloses scope one and scope two carbon emissions only and equals three if it discloses all three carbon emissions scopes. Thus, higher values are interpreted as higher levels of carbon emissions disclosure.[8]

[7] See also Doring et al. (2023); Barg, Drobetz, El Ghoul, Guedhami, and Schroder (2023); Driss et al. (2024) for examples.

[8] In less than 1% of cases, firms disclose a higher-level scope without disclosing a lower-level scope. For instance, disclosing scope 2 emissions while not disclosing scope 1 emissions. These firms are classified as not disclosing the lower emissions scope. In this example, the firm would be given a score of 0 for *Disclosure Scope* despite disclosing scope 2 emissions. Our results hold if we classify them as disclosing their highest level of disclosure. In the example, the firm is given a score of 2 under this alternative method.

In later tests, we construct an alternative disclosure variable using data from *Trucost*, using the same methodology outlined above.

Sample Construction and Descriptive Statistics

To construct our sample, we merge firm-year accounting data from the *Compustat Global* database with our carbon emissions disclosure data from the *CDP*. We merge into this combined sample our political connections data from *Capital IQ*, country-level economic and political data from *World Bank, World Competitiveness Yearbook,* and *Varieties of Democracy*, as well as supplementary firm-level data from *CRSP* and *I/B/E/S*. We winsorize firm-level continuous variables at the top and bottom one percent to mitigate the effect of outliers. Our final sample is an unbalanced panel comprising 8,965 firm-year observations of 1,665 unique firms in 50 distinct countries over the sample period of 2010-2019.

Table 1 presents the distribution of political connections and the distribution of carbon emissions disclosure across the 50 countries in our sample. The table shows that of the 50 countries in our sample, 37 of them have one or more politically connected firms, representing connections on all six inhabited continents.[9] Over 43 percent of firms in the sample disclose some level of carbon emissions to the CDP at some point in the sample period. There is considerable heterogeneity in the disclosure of environment performance information across countries, with some countries having no disclosing firms and others having an emissions disclosure rate of 100 percent.

Table 2 presents descriptive statistics for all variables. The average firm has a disclosure score of 0.887 with the median being zero, indicating that most firms do not disclose any carbon

[9] Our baseline results are statistically and economically more significant when we only include the 37 countries with at least one politically connected firm. For conservatism, we retain the entire dataset included in the combination between *Compustat Global* and *CDP*.

emissions in a given year. The mean value of Connected Firm is 0.085, indicating that 8.5 percent of firm-year observations are politically connected.

Research Design

To test the impact of firm political connections on carbon emissions disclosure, we conduct a difference-in-differences analysis by estimating the following regression:

$$Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t} \quad (1)$$

where $Disclosure\ Scope_{i,c,t}$ measures the level of carbon emissions disclosure for firm *i* in country *c* in time *t* as described in the section above; $PC\ Firm_i\ x\ Post_{t-1}$ is *Connected Firm*, a binary variable equal to one if firm *i* is politically connected in time *t-1* and zero otherwise. $PC\ Firm_i$ is a binary equal to one if firm *i* is politically connected during the sample period and zero otherwise; $Controls_{i,c,t-1}$ is a vector of firm- and country-level control variables found to affect voluntary environmental disclosure; $Firm_i$ is firm fixed effects; $Year_t$ is year fixed effects. These control variables include firm size (*Size*), dividend payout (*Payout*), leverage ratio (*Leverage*), profitability (*Profitability*), capital expenditures (*Capex*), years since the firm was founded (*Age*), total carbon emissions (*Firm Emissions*), and country year-over-year carbon emissions growth (*Country Emissions Growth*). All variables are defined in Appendix A. We cluster standard errors at the firm level. If H1a is correct, that politically connected firms have improved carbon emissions disclosure, then we expect β_1 to be positive. If H1b is correct, that politically connected firms have lower carbon emissions disclosure, then we expect β_1 to be negative.

IV. EMPIRICAL RESULTS

In this section, we examine whether firm political connections influence their level of carbon emissions disclosure.

Baseline Analysis

We test H1a and H1b, our two opposing hypotheses, by estimating equation (1). Table 3 reports the baseline regression results. Column (1) reveals that political connections are negatively related to the level of a firm's carbon emissions disclosure. The effect is both statistically and economically significant. We then introduce our firm level accounting control variables from *Compustat Global* in column (2). In column (3), we include *Firm Emissions* as a further control in our analysis. Finally, in column (4), we add in our country-level controls. Across these three more rigorous specifications, obtained results are similar to those found in column (1). In terms of economic significance, column (4) suggests that becoming politically connected decreases a firm's carbon emissions disclosure level by 0.187. Relative to the sample mean of the scope of disclosure of 0.887, this effect is economically meaningful. Recall that our dependent variable is ordinal in nature and describes categories of disclosure, not a percent of possible disclosure. Thus, while it is fair to suggest that the reduction in disclosure is significant, interpreting the economic significance of that reduction is less straight forward.

Collectively, our baseline results suggest that political connections are associated with reduced carbon emissions disclosure by firms. These findings are consistent with H1b, which posits that politically connected firms will voluntarily disclose less of their environmental performance measures because such firms are at lower risk of government litigation and receive improved access to credit without having to improve their transparency.

V. INTERNATIONAL HETEROGENEITY

The international nature of our dataset allows us to explore cross-country differential effects in our political connections and country characteristics. To this end, we investigate such heterogeneity here.

Political Connections and Government Corruption

Corrupt governments are much more likely to shield politically connected firms from environmental litigation and penalties.[10] Given the international scope of our dataset, we are able to compare the effects of political connections on carbon emissions disclosure in countries with high and low corruption. If politically connected firms disclose less of their environmental performance because they are protected from government penalties, then we expect that this effect will be larger in more corrupt countries. To test this conjecture, we use the corruption measure from *World Competitiveness Yearbook* to create average country-level corruption measures within our sample period. From there, we bisect each of our samples at the median level of this average, allowing us to compare the effect of becoming politically connected in a country with high corruption and the effect of becoming politically connected in a country with low corruption on the carbon emissions disclosure of the firm. We perform our analysis on each of these subsamples as in equation (1).

Table 4 presents the results from this analysis. Columns (1) through (4) present results for our High corruption subsample while columns (5) through (8) present results for our Low corruption subsample. In columns (1) through (4), β_1 is negative and significant, indicating that politically connected firms disclose less carbon emissions when they are in more corrupt countries. Our results are economically meaningful. The coefficient on β_1 represents a 0.250 decrease in carbon emissions disclosure when politically connected firms are headquartered in above median

[10] See, e.g., Florackis et al. (2022).

corruption countries in our full specification, presented in column (4). Comparative to the subsample mean disclosure scope of 0.809, this effect is economically large. Further, the insignificant coefficient on β_1 in columns (5) through (8) indicates that being politically connected does not change firms' carbon emissions disclosure when they operate in less corrupt countries. These results illustrate one form of heterogeneity in our baseline results across countries and are consistent with the theory that politically connected firms feel less obligated to disclose environmental performance through a lower propensity for government penalties and litigation.

Domestic vs. International Political Connections

Another benefit of our international political connections dataset is our ability to differentiate the specific government to which a firm is politically connected. If our friendly regulator hypothesis is correct, then only political connections to a firm's home country should afford it a greater ability to avoid government litigation and penalties. That is, in an international context, not all political connections are created equal. To receive preferential treatment, it is important that the political connection be to the government that regulates the firm. To this end, we compare the effect of (*Domestic*) political connections within a firm's home country to (*International*) political connections to other countries. To test our conjecture, we run our analysis on each of these types of political connections as in equation (1).

The results of our analysis are presented graphically in Table 5. Columns (1) through (4) present results for *Domestic* connections while columns (5) through (8) present results for *International* connections. Columns (1) through (4) of Table 5 present a negative and significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ indicating that *Domestic* political connections decrease firms' carbon emissions disclosure. Columns (5) through (8) present insignificant coefficients on $PC\ Firm_i\ x\ Post_{t-1}$ for *International* political connections. Taken together, these results are

consistent with the notion that politically connected firms can only be connected to a "friendly regulator" if their political connection is to their home country's government.

VI. HETEROGENEITY IN POLITICAL CONNECTIONS

The richness of the detail in our political connections dataset allows us to compare our results across different types of political connections. We outline below our investigation of the heterogeneity in political connections and their differential effects on firm carbon emissions disclosure.

Political Connections to Appointed vs. Elected Officials

Prior literature shows that politicians influence the firms that they are connected to, compelling them to make more politically popular decisions and help them to get reelected (Bertrand, Kramarz, Schoar, and Thesmar 2018; Shleifer and Vishny 1994). Because of the ubiquitous and popular worldwide push for greater environmental disclosure, elected officials may be less inclined to allow their connected firms to conceal their emissions relative to appointed officials, who do not face reelection. If this is the case, we expect to find that our baseline results are driven by firms whose political connections are to appointed politicians (*Appointed*) while firms whose political connections are to elected politicians (*Elected*) will be more constrained. To test our conjecture, we rerun our analysis on each of these types of political connections as in equation (1).

We investigate this theory by comparing the differential effect between these two types of political connections. The results of this analyses are presented in Table 6. Columns (1) through (4) present results for *Appointed* political connections while columns (5) through (8) present results for *Elected* political connections. Columns (1) through (4) of Table 6 present a negative and

significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ indicating that firms disclose less carbon emissions when they have *Appointed* political connections. Columns (5) through (8) present insignificant coefficients on $PC\ Firm_i\ x\ Post_{t-1}$ for *Elected* political connections. In conjunction, these results are consistent with the notion that elected officials encourage the firms to which they are connected to disclose their carbon emissions at the same level as unconnected firms, despite such firms having less incentive to do so.

Political Connections via Executives vs. Board Members

We next turn our attention to heterogeneity in the position that each politically connected individual holds within the firm. Given the different roles of executives and board members within a firm, it stands to reason that political connections through each of these positions may lead to differential outcomes. To test our conjecture, we rerun our analysis as in equation (1) separately on each type of political connection.

Table 7 presents the results of our analyses. Columns (1) through (4) present results for connections through firm executives (*Executive*) while columns (5) through (8) present results for connections through board members of the firm (*Board Member*). Columns (1) through (4) of Table 7 present a negative and significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ indicating that firms that are politically connected through a firm executive generally disclose less of their carbon emissions. Similarly, columns (5) and (8) present a negative and significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ indicating that firms that are politically connected through a board member also disclose less of their carbon emissions. In conjunction, these results indicate that the position held within the firm by a politically connected individual matters less than the political position that the individual holds in the firm's decision to disclose carbon emissions.

Cost of Equity and Politically Connected Firms' Disclosure of Carbon Emissions

Next, we investigate the theory that politically connected firms disclose less of their environmental performance because they already realize reduced cost of equity through political connections, rendering such benefits from carbon emissions disclosure less valuable. We argue that politically connected firms will only see reduced cost of equity as less valuable if their cost of equity is sufficiently low. In other words, politically connected firms will more often choose to disclose their carbon emissions for an added reduction in cost of equity if their cost of equity is high despite the benefits received from political connection.

If this is the case, then we posit that our baseline results will be moderated by connected firms' cost of equity. To test this conjecture, we bisect our sample at the median level of firm cost of equity. From there, we rerun our analyses in equation (3).

If politically connected firms disclose less because they receive preferential cost of equity, then our results for connected firms should only be present in our Low cost of equity subset.

We present our empirical results in Table 8. Columns (1) through (4) present results for our Low cost of equity subset while columns (5) through (8) present results for our High cost of equity subset. In columns (1) through (4) the coefficient of the interaction term is negative and significant, indicating that politically connected firms are less likely to disclose their carbon emissions when their cost of equity is low. In columns (5) through (8), the coefficient of the interaction term is insignificant, indicating that politically connected firms do not disclose less than unconnected firms if they experience a high cost of equity despite being politically connected. These results are consistent with the notion that politically connected firms disclose less carbon emissions because their already reduced cost of equity renders a further reduction less valuable.

VI. POTENTIAL ENDOGENEITY CONCERNS

Results obtained using our baseline specification may be subject to endogeneity concerns that could affect their validity. First, our results may be subject to selection bias. That is, firms that choose to establish political connections might have very different characteristics from those that do not. For instance, it could be that larger firms are more likely to establish political connections. Second, there may be a reverse causality problem in which firms that disclose less of their carbon emissions have more extractive leadership who are thus also more likely to establish political connections. Finally, unobserved heterogeneity could be driving both the decision to become politically connected and the observed differences in carbon emissions disclosure between connected and unconnected firms.

To address these endogeneity concerns, we carry out a series of tests in the following sections. To deal with reverse causality, we lag political connections and control variables in all the regressions, so it is at least weakly exogenous. To soak up unobserved heterogeneity at the firm level, and over time, we use firm and year fixed effects. To further address unobservables that may be driving the selection of becoming politically connected, we employ a difference-in-differences approach on two subsets of political connections that are plausibly exogenous to a firm's political connections preference. To address selection bias on observables, we use an entropy balancing procedure, as in Hainmueller (2012), matching our treated and untreated samples on three moments of all control variables. This allows us to estimate causal effects under the assumption that the comparison of firms with different treatments, but identical pretreatment variables, can be given a causal interpretation (Imbens 2014). Finally, we address any unobserved differences between treated and untreated firms by exploiting an exogenous shock to firms' carbon emissions disclosure choices in a triple-differences analysis. Specifically, we use the implementation of country-level carbon emissions disclosure mandates across the world as a shock

to firms' decision to disclose, interacting such implementations with firms' political connectedness to observe differences that this shock had on connected and unconnected firms.

Firm First Connections

In this section, we explore a subset of political connections that are plausibly exogenous to a firm's political connections preference. Specifically, we remove those political connections that are endogenous choices of the firm; connections where the firm hired someone who was active in politics. The remaining sample is our Firm First sample which only includes political connections in which the politically employed individual began working for the firm before they began working for the government. We argue that such political connections for the firm were incidental to the firm's preference for such connections, making them a plausibly exogenous shock to the firm's access to politics.

Thus, we rerun our baseline analysis on this subset. Table 9 reveals statistically similar and economically stronger results, with all four columns providing significance at the 1 percent level for our variable of interest. In column (4), our specification with all control variables, the coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ represents a decrease in politically connected firms' carbon emissions disclosure of 0.264; an economically significant change relative to the subsample mean disclosure scope of 0.831. These results provide evidence that our results are not endogenous to the types of firms who choose to become politically connected.

Lost Connections

In this section, we explore a second subset of exogenous change in political connectedness, this time exploring plausibly exogenous losses of political connections. Specifically, we include in this subset only firms that are politically connected during the sample period (our "treated" group) and examine the effect of losing a political connection on such firms' carbon emissions

disclosure. Because firms may endogenously choose to fire a politically employed individual, we only include losses of political connections in which the politically employed individual loses their job in politics but remains employed by the firm. Thus, we estimate the following regression:

$$Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Lost_i\ x\ Post_{t-1} + \beta_2 PC\ Lost_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t} \quad (2)$$

Where $PC\ Lost_i\ x\ Post_{t-1}$ is *Connection Lost*, a binary variable equal to one if firm *i* loses a political connection in time *t-1*, remaining one thereafter, and zero otherwise; *PC Lost$_i$* is a binary variable equal to one if firm *i* loses a political connection during the sample period and zero otherwise; all other variables are defined as in equation (1).

Table 10 reports the results of our analysis. All four columns report coefficients on $PC\ Lost_i\ x\ Post_{t-1}$ that are positive, statistically significant at the 1 percent level, and economically significant. In column (4), our specification with all control variables, the coefficient on $PC\ Lost_i\ x\ Post_{t-1}$ represents a 0.372 increase in a firm's carbon emissions disclosure after the loss of a political connection. Considering the subsample mean carbon emissions disclosure scope of 1.581, this effect is economically significant. These results are consistent with H1b, that politically connected firms will disclose less of their carbon emissions compared to their unconnected peers.

Entropy Balanced Samples

We next implement an entropy balancing approach to mitigate concerns that our results are due to observable differences between politically connected firms and unconnected firms.[11] We

[11] Entropy balancing was first introduced by Hainmueller (2012). It is a covariate balancing technique that reweights control group observations using an iterative process until the moments of the control sample covariate distributions are approximately equal to those in the treated group.

entropy balance on three moments, with entropy balancing statistics reported in Appendix B. Unreported, we find similar results after entropy balancing on one and two moments. With our balanced sample, we rerun our analyses as in equation (1).

The results of our analysis are reported in columns (1) through (4) of Table 11. All four columns present a negative and significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ with economic significance being likewise similar across all four models. Our results are consistent with our earlier findings, that politically connected firms disclose less carbon emissions.

Alternative Exogenous Shock: Emissions Disclosure Mandates

To further explore our friendly regulator hypothesis, we exploit an exogenous shock to firms' carbon emissions disclosure requirements. Specifically, we construct a dataset of country-level environmental disclosure mandates using the *Carrots & Sticks* report, which contains information on countries who require or encourage firms to disclose their environmental performance. We only include countrywide, mandatory environmental disclosure instruments, as we are only interested in mandates. We check and supplement our data against the *Initiative for Responsible Investment*, the *Harvard Kennedy School Report on Corporate Social Responsibility Disclosure Efforts by National Governments and Stock Exchanges*, and *CSR Europe and GRI 2017 Report on Member State Implementation of Directive 2014/95/EU*. We further supplement this dataset with those environmental performance disclosure mandates reported by Gibbons (2023) and Krueger et al. (2023). Our final set of mandates includes 22 country-level environmental performance disclosure mandates that match to country-years within our sample.

If politically connected firms disclose less of their carbon emissions because of a friendly regulator effect, then politically connected firms should be less inclined to conform to government environmental disclosure mandates. Further, this effect should only be present when a firm's

political connection is within their home country (*Domestic*), as their home country issues such mandates, and thus wields the power to penalize the firm if they don't comply to, such disclosure from them. To test this conjecture, we create a subset of our data, only including countries who issue an environmental disclosure mandate during our sample period and only including firms who do not disclose their carbon emissions prior to such mandates. This allows us to directly observe non-disclosing firms' decision surrounding mandates once they are issued. Thus, we conduct the following triple differences analysis:

$$Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1}\ x\ Mandate_{c,t-1} + \beta_2 PC\ Firm_i\ x\ Post_{t-1} + \beta_3 Mandate_{c,t-1}\ x\ PC\ Firm_i + \beta_4 Mandate_{c,t-1} + \beta_5 PC\ Firm_i + \beta_6 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t} \quad (4)$$

Where $Mandate$ is a binary variable equal to one if country *c* has mandated that firms disclose environmental performance in time *t-1*, remaining one for the rest of the sample, and zero otherwise; all other variables are defined as in equation (3).

If politically connected firms feel less obligated to disclose environmental performance through a lower propensity for government penalties and litigation, then β_1 should be negative. This result would imply that politically connected firms are less responsive to government environmental disclosure mandates than unconnected firms. We present our empirical results in Table 12. Columns (1) through (4) present results for all connections, (5) through (8) for our *Domestic* connections, and (9) through (12) for our *International* connections. In columns (1) through (8) the coefficients of the interaction term are negative and significant, indicating that politically connected firms are less responsive to mandates in general and when their connections are to their home government. Columns (9) and (12) report insignificant coefficients, indicating

that firms connected to governments outside of their own show no differential propensity to disclose their carbon emissions. Taken in aggregate, these results are consistent with the theory that politically connected firms enjoy a friendly regulator benefit, allowing them greater leeway in deciding whether to comply with government mandates to disclose their carbon emissions compared to their unconnected peers.

VIII. ROBUSTNESS

In this section, we check for the consistency of our findings using alternative regression methods, alternative measures of key variables, and alternative explanations of our results.

Correction of Bias in Staggered Difference-in-Differences Design

Recently, economic literature has found biases present in the traditional use of staggered differences-in-differences, coined the "bad comparisons" problem. Specifically, treated firms may be compared to firms that were previously treated, leading to spurious interpretation. Baker, Larcker, and Wang (2022) shows that such biases become less prevalent as the percentage of never-treated observations in the sample increases. Therefore, given that our sample is constituted of ~87.5 percent never-treated firms, this is not likely to bias our results substantially.

Even so, to confirm that such biases are not confounding our results, we follow Callaway and Sant'Anna (2021), estimating the average treatment effect on the treated group using equation (3).

Table 13 presents the results of this analysis. As in our baseline results, the results of our analyses are a negative and significant coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ for columns (1) through (4). Economically speaking, our results are larger than in our baseline results with the coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ implying 0.422 decrease of carbon emissions disclosure for

firms who become politically connected in column (4), our full specification model. Considering the mean carbon emissions disclosure scope of the subsample is 0.814, this effect is economically significant.

We then assess the parallel trends assumption for our full specification model. The results of this analysis are presented in Figure 1, which illustrates the average treatment effects for each year relative to treatment. These graphs provide support for the assumption that the observed trend in carbon emissions disclosure between firms who never become politically connected and those that do become politically connected are the same.

Alternative Design: Logit Model

Given our dependent variable's ordinal structure, it may be that modeling our effect using OLS is inappropriate and our results are thus incorrectly found. To mitigate such concerns, we use a nonlinear and nonadditive fixed effects ordered logit model, following Baetschmann, Staub, and Winkelmann (2015) analogous to equation (1).

Table 14 reports the of our analysis, which are consistent with our baseline results. Specifically, the coefficient on $PC\ Firm_i\ x\ Post_{t-1}$ is negative and significant across all four columns. Overall, Table 14 shows that our results are not spuriously related to our choice of model.

Alternative Carbon Emissions Disclosure Measure

In this section, we check the consistency of our findings using an alternative measure of carbon emissions disclosure from *Trucost*. We construct our new measure in the same way as our original dependent variable of interest from *CDP* and run the following regression equation:

$$Trucost\ Disclosure_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t} \quad (5)$$

We present our empirical results in Table 15. Our results are economically and statistically similar to those found in Tables 3, our baseline results. In columns (1) through (4), β_1 is negative and significant, indicating that politically connected firms disclose less carbon emissions. These results lend further validity to our results.

Additional Robustness

We report the results of additional robustness tests in Appendix B. In Table B2 and B3, we rerun our analyses of corruption as in section V, using two additional measures of corruption from *World Bank* and *Varieties of Democracy* in place of our original measure. We find similar results to those in our original corruption analysis.

We next investigate the alternative hypothesis that politically connected firms may be choosing to hide their carbon emissions because such carbon emissions are worse than those of unconnected firms. That is, it is possible that our results are driven by a selection bias issue. In this alternative hypothesis, our results are not driven by the benefits of being politically connected but due to connected firms being worse environmental stewards, causing them to want to obfuscate their environmental performance more often than their unconnected peers.

We investigate this alternative hypothesis by conducting difference-in-differences analysis with the following regression:

$$Emissions_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t} \quad (6)$$

Where $Emissions_{i,c,t}$ is either *Firm Emissions* or *Firm Emissions Intensity*, indicating the level of carbon emissions for firm *i* in country *c* in time *t*; $Controls_{i,c,t-1}$ is the same vector of firm- and country-level control variables as in equation (1) with the exception of *Firm Emissions*. All other variables are defined as in equation (1). All variables are defined in Appendix A.

The results of our analysis are presented in Table B4. Columns (1) through (4) present results where Firm Emissions is our dependent variable while column (5) through (8) present results when Firm Emissions Intensity is our dependent variable. All eight columns report insignificant coefficients on $PC\ Firm_i\ x\ Post_{t-1}$ indicating that politically connected firms do not have significantly different carbon emissions than unconnected firms. This result is inconsistent with the alternative hypothesis that politically connected firms disclose less of their carbon emissions because they don't want to disclose their worse environmental performance.

IX. CONCLUSION

Using a manually constructed, detailed dataset of political connections around the world, we find that becoming politically connected is associated with lower carbon emissions disclosure. We find significant differences of this effect across countries and types of political connections. Specifically, this result is stronger for firms in more corrupt countries, firms whose political connection is to their home government, and firms whose political connections are to an appointed, rather than elected, official. We find that these results are true regardless of the position that the politically connected individual holds within the firm. We provide evidence that our results are driven by friendly regulators and redundant benefits of political connections and voluntary disclosure. Our findings are robust to various identification strategies and are consistent when using different measures of corruption and carbon emissions.

These findings shed light on the ways in which political connections sway firms' decisions to disclose environmental performance measures. It also provides granular evidence on the differential effects that firm location and political connection type can have on this interaction. While prior literature indicates that politically connected firms receive special government

treatment and benefits that affect their environmental performance, we are the first to show how such benefits of connection affect their environmental disclosure. We are also the first to show the heterogeneity in this effect across countries and types of political connections. These findings have important policy implications as governments around the world attempt to standardize and mandate such disclosures, as we provide evidence of a significant impediment to this objective.

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Figure 1. Callaway and Sant'Anna (2021) Staggered Difference-in-Differences Estimates of the Effects of Political Connections on Carbon Emissions Disclosure

This figure plots the estimates of our multiple event and multiple treatment group difference-in-differences regression of carbon emissions disclosure on firms' political connectedness and various control variables for firm-year observations over the period of 2011 through 2019. Period -1 is used as the reference point. Leads and lags are shown as two separate lines (as recommended by Borusyak, Jaravel, and Spiess (2021), with 90% confidence levels plotted using the shaded red and blue regions. Variables are defined in Appendix A. All regressions control for firm and year fixed effects. Standard errors are clustered at the firm level.

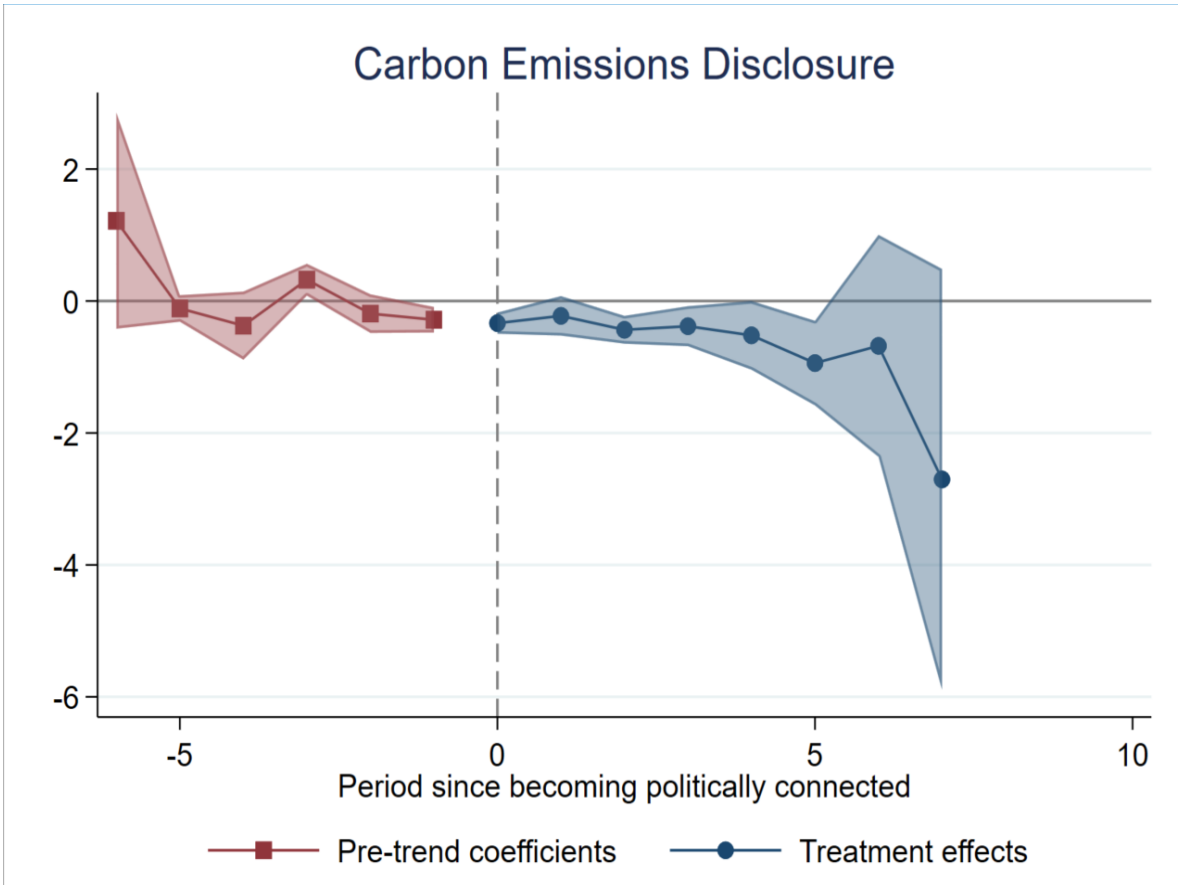

Table 1. Distribution of Political Connections and Carbon Emissions Disclosure

This table presents the distribution of firms across the 50 countries in our sample. Column 1 presents the number of firms in each country. Column 2 presents the percentage of firms that are politically connected in each country. Column 3 presents the percentage of firms that voluntarily disclose their carbon emissions to the *CDP* in each country. The data were collected from *Capital IQ* and *CDP*.

	(1)	(2)	(3)
Country	Firms	Percent Connected	Percent Disclose
Australia	81	11.11%	37.04%
Austria	8	0.00%	37.50%
Belgium	11	9.09%	27.27%
Brazil	28	14.29%	42.86%
Canada	76	15.79%	50.00%
Chile	2	50.00%	0.00%
China	87	3.45%	1.15%
Colombia	1	100.00%	100.00%
Denmark	14	0.00%	64.29%
Egypt	2	0.00%	0.00%
Estonia	2	50.00%	0.00%
Finland	11	27.27%	63.64%
France	20	20.00%	45.00%
Germany	80	12.50%	46.25%
Greece	3	66.67%	0.00%
Hong Kong	43	25.58%	25.58%
India	64	14.06%	25.00%
Ireland	6	0.00%	16.67%
Israel	1	100.00%	100.00%
Italy	14	0.00%	64.29%
Japan	329	0.30%	48.02%
Lithuania	2	0.00%	0.00%
Luxembourg	1	100.00%	100.00%
Macao	2	50.00%	0.00%
Malaysia	17	17.65%	0.00%
Mexico	5	20.00%	0.00%
Morocco	1	100.00%	0.00%
Netherlands	15	20.00%	53.33%
New Zealand	13	7.69%	30.77%
Nigeria	1	0.00%	0.00%
Norway	6	0.00%	83.33%
Pakistan	4	0.00%	0.00%
Panama	1	0.00%	0.00%
Papua New Guinea	1	100.00%	100.00%
Philippines	11	18.18%	27.27%
Poland	3	33.33%	0.00%

Table 1 Continued			
Portugal	4	25.00%	25.00%
Qatar	1	100.00%	0.00%
Russia	2	50.00%	0.00%
Singapore	13	38.46%	30.77%
South Africa	14	14.29%	71.43%
South Korea	119	0.00%	31.93%
Spain	12	8.33%	58.33%
Sweden	20	0.00%	80.00%
Switzerland	32	9.38%	56.25%
Taiwan	33	9.09%	30.30%
Thailand	8	62.50%	12.50%
Turkey	3	0.00%	33.33%
United Kingdom	144	18.06%	61.11%
United States of America	294	19.05%	52.72%
Total	1665		

Table 2. Descriptive Statistics

This table provides summary statistics for each variable and describes the number of observations (N), mean, standard deviation (SD), the first quartile (Q1), median, and the third quartile (Q3). Variables are defined in Appendix A. The sample consists of 8,965 firm-year observations for 1,665 unique firms from 50 countries over the 2011-2019 period.

	N	Mean	S.D.	Q1	Median	Q3
Dependent Variables						
Disclosure Scope	8,965	0.887	1.313	0	0	2
Trucost Disclosure	8,965	0.588	0.964	0	0	2
Firm Emissions	8,965	11.601	2.301	10.000	11.463	13.170
Firm Emissions Intensity	2,843	-5.269	6.596	-10.692	-7.500	1.363
Cost of Equity	8,497	0.106	0.052	0.058	0.094	0.119
Firm-level Explanatory Variables						
Connected Firm	8,965	0.085	0.279	0	0	0
Lost Connection	1,208	0.175	0.380	0	0	0
Size	8,965	10.543	2.741	8.389	10.321	12.863
Payout	8,965	-1.120	0.865	-1.461	-0.992	-0.519
Leverage	8,965	-1.932	1.343	-2.224	-1.504	-1.096
Profitability	8,965	-2.617	0.713	-3.010	-2.547	-2.145
Capex	8,965	-3.419	1.068	-3.884	-3.236	-2.739
Age	8,965	3.141	0.485	2.890	3.219	3.367
Country-level Explanatory Variables						
Country Emissions Growth	8,965	53.078	13.207	41.308	54.559	60.272
Environmental Mandate	8,965	0.695	0.461	0	1	1
WB Corruption	8,291	0.485	0.500	0	0	1
WCY Corruption	8,956	0.402	0.490	0	0	1
Vdem Corruption	8,956	0.540	0.498	0	1	1

Table 3. Carbon Emissions Disclosure and Political Connections

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.183**	-0.184**	-0.185**	-0.187***
	[0.013]	[0.010]	[0.010]	[0.009]
Size		0.169***	0.186***	0.186***
		[0.001]	[0.001]	[0.001]
Payout		0.044**	0.045**	0.048***
		[0.018]	[0.014]	[0.010]
Leverage		0.031**	0.032**	0.032**
		[0.048]	[0.044]	[0.038]
Profitability		0.052*	0.056*	0.057*
		[0.090]	[0.068]	[0.062]
Capex		0.035	0.038	0.038
		[0.137]	[0.115]	[0.116]
Age		0.640***	0.639***	0.674***
		[0.001]	[0.001]	[0.000]
Firm Emissions			-0.033	-0.034
			[0.207]	[0.188]
Country Emissions Growth				-0.003
				[0.119]
Environmental Mandate				-0.077
				[0.171]
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965
R-squared	0.787	0.788	0.788	0.789

Table 4. Carbon Emissions Disclosure, Political Connections, and Corruption

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Our corruption measure is from the *World Competitiveness Yearbook*. Observations' corruption level is *High* when the average corruption of the country is above the median and *Low* when the average corruption of the country is below the median. Columns 1 through 4 present results for firm-year observations with *High* corruption. Columns 5 through 8 present results for firm-year observations with *Low* corruption. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

WCY Corruption Level:	High				Low			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connected Firm	-0.243***	-0.249***	-0.253***	-0.250***	-0.076	-0.073	-0.068	-0.074
	[0.003]	[0.002]	[0.002]	[0.002]	[0.579]	[0.575]	[0.600]	[0.558]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	3,919	3,919	3,919	3,919	4,994	4,994	4,994	4,994
R-squared	0.795	0.837	0.838	0.838	0.752	0.753	0.754	0.755

Table 5. Carbon Emissions Disclosure and Political Connection to Domestic vs. International Officials

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Columns 1 through 4 present results for *Domestic* while Columns 5 through 8 present results for *International*. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connection Type	Domestic				International			
Connected Firm	-0.200**	-0.203***	-0.204***	-0.209***	-0.279	-0.267	-0.263	-0.251
	[0.011]	[0.008]	[0.008]	[0.006]	[0.167]	[0.164]	[0.172]	[0.192]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965	8,965	8,965	8,965	8,965
R-squared	0.787	0.788	0.788	0.789	0.786	0.788	0.788	0.788

Table 6. Carbon Emissions Disclosure and Political Connection to Appointed vs. Elected Officials

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Columns 1 through 4 present results for *Appointed* while Columns 5 through 8 present results for *Elected*. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connection Type	Appointed				Elected			
Connected Firm	-0.238***	-0.234***	-0.234***	-0.235***	-0.116	-0.133	-0.130	-0.132
	[0.003]	[0.003]	[0.003]	[0.003]	[0.263]	[0.176]	[0.183]	[0.172]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965	8,965	8,965	8,965	8,965
R-squared	0.787	0.788	0.788	0.789	0.786	0.788	0.788	0.788

Table 7. Carbon Emissions Disclosure and Political Connection to Executive vs. Board Member Connections

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Columns 1 through 4 present results for *Executive* while Columns 5 through 8 present results for *Board Member*. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connection Type	Executive				Board Member			
Connected Firm	-0.252**	-0.240**	-0.244**	-0.247**	-0.155**	-0.159**	-0.159**	-0.161**
	[0.028]	[0.038]	[0.035]	[0.031]	[0.029]	[0.023]	[0.023]	[0.020]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965	8,965	8,965	8,965	8,965
R-squared	0.787	0.788	0.788	0.788	0.786	0.788	0.788	0.788

Table 8. Cost of Equity, Carbon Emissions Disclosure, and Political Connections

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. *Cost of Equity* is the implied equity cost of capital. Firm-year observations are classified as *Low* when cost of equity is below the median of the sample and classified as *High* when cost of equity is above the median. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

Cost of Equity:	Low				High			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connected Firm	-0.265**	-0.274**	-0.274**	-0.271**	-0.102	-0.094	-0.092	-0.094
	[0.016]	[0.011]	[0.011]	[0.012]	[0.374]	[0.399]	[0.408]	[0.394]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	4,088	4,088	4,088	4,088	4,388	4,388	4,388	4,388
R-squared	0.818	0.819	0.819	0.819	0.800	0.802	0.802	0.802

Table 9. Carbon Emissions Disclosure and Political Connections: Firm First Connections

This table reports the results of the following OLS model using only political connections in which the connected individual started working at the firm before starting their political position: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.260***	-0.264***	-0.268***	-0.264***
	[0.008]	[0.007]	[0.007]	[0.007]
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	8,132	8,132	8,132	8,132
R-squared	0.781	0.782	0.782	0.782

Table 10. Carbon Emissions Disclosure and Political Connections: Lost Connections

This table reports the results of the following OLS model using only firms that are politically connected: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Lost_i\ x\ Post_{t-1} + \beta_2 PC\ Lost_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. *Firm*$_i$ and *Year*$_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connection Lost* is a binary variable set to 1 if an individual working for the firm loses their political position but remains employed at the firm in a given year and every year thereafter. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connection Lost	0.386***	0.370***	0.371***	0.372***
	[0.009]	[0.006]	[0.006]	[0.006]
Table 3 Model Controls	1	2	3	4
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	1,208	1,208	1,208	1,208
R-squared	0.831	0.837	0.837	0.837

Table 11. Entropy Balanced Carbon Emissions Disclosure and Political Connections

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Each column is entropy balanced on the dependent variable of interest using all covariates except fixed effects. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.168**	-0.173**	-0.173**	-0.174**
	[0.019]	[0.011]	[0.011]	[0.011]
Table 3 Model Controls	1	2	3	4
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965
R-squared	0.832	0.835	0.835	0.835

Table 12. Carbon Emissions Disclosure, Political Connections, and Emissions Disclosure Mandates

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1}\ x\ Mandate_{c,t-1} + \beta_2 PC\ Firm_i\ x\ Post_{t-1} + \beta_3 Mandate_{c,t-1}\ x\ PC\ Firm_i + \beta_4 Mandate_{c,t-1} + \beta_5 PC\ Firm_i + \beta_6 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. *Firm$_i$* and *Year$_t$* are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Columns 1 through 4 present results for the entire sample of political connections. Columns 5 through 8 present results for *Domestic* connections while Columns 9 through 12 present results for *International* connections. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Connection Type	All				Domestic				International			
Connected Firm x Mandate	-0.276**	-0.254**	-0.251**	-0.243**	-0.253**	-0.239*	-0.241*	-0.235*	-0.134	-0.097	-0.082	-0.117
	[0.018]	[0.028]	[0.029]	[0.039]	[0.045]	[0.055]	[0.051]	[0.064]	[0.282]	[0.438]	[0.509]	[0.346]
Connected Firm	0.098	0.076	0.074	0.064	0.083	0.057	0.055	0.047	-0.130	-0.132	-0.137	-0.091
	[0.472]	[0.574]	[0.587]	[0.637]	[0.607]	[0.720]	[0.725]	[0.768]	[0.695]	[0.681]	[0.670]	[0.775]
Treated x Mandate	0.038	0.023	0.030	0.031	0.032	0.016	0.022	0.030	0.019	-0.010	0.004	-0.015
	[0.832]	[0.900]	[0.870]	[0.868]	[0.872]	[0.936]	[0.915]	[0.881]	[0.941]	[0.968]	[0.989]	[0.952]
Mandate	0.252***	0.241***	0.238***	0.231***	0.248***	0.237***	0.234***	0.228***	0.250***	0.236***	0.232***	0.224***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]	[0.001]	[0.001]
Table 3 Model Controls	1	2	3	4	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	6,560	6,560	6,560	6,560	6,460	6,460	6,460	6,460	6,268	6,268	6,268	6,268
R-squared	0.761	0.763	0.763	0.763	0.759	0.760	0.760	0.760	0.754	0.755	0.756	0.756

Table 13. Callaway and Sant'Anna (2021) Estimator

This table reports the results of the following Callaway and Sant'Anna (2021) difference-in-differences OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the CDP requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.400***	-0.388**	-0.389**	-0.422**
	[0.009]	[0.010]	[0.010]	[0.022]
Table 3 Model Controls	1	2	3	4
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	8,023	8,022	8,018	8,018

Table 14. Carbon Emissions Disclosure and Political Connections: Fixed Effects Ordered Logit

This table reports the results of the following Fixed Effects Ordered Logit model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.872*	-0.857*	-0.861*	-0.875*
	[0.061]	[0.070]	[0.069]	[0.062]
Table 3 Model Controls	1	2	3	4
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Psuedo R-squared	0.200	0.212	0.213	0.214
Observations	7,450	7,450	7,450	7,450

Table 15. Alternative Carbon Emissions Disclosure Measurement and Political Connections

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)
Connected Firm	-0.213***	-0.215***	-0.216***	-0.218***
	[0.005]	[0.005]	[0.004]	[0.004]
Table 3 Model Controls	1	2	3	4
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm
Observations	8,965	8,965	8,965	8,965
R-squared	0.643	0.644	0.645	0.645

Appendix A. Variable Definitions

Panel A: Political Connection Variables (Source: *Capital IQ*)	
Connected Firm	A binary variable set to 1 if a firm is politically connected in a given year
Connection Lost	A binary variable set to 1 if a firm loses a political connection in a given year
Appointed	A binary variable set to 1 if a firm is politically connected through an employee who is in an appointed political position in a given year
Elected	A binary variable set to 1 if a firm is politically connected through an employee who is in an elected political position in a given year
Domestic	A binary variable set to 1 if a firm is politically connected through an individual who holds political office in the firm's home country
International	A binary variable set to 1 if a firm is politically connected through an individual who holds political office in a country other than the firm's home country.
Executive	A binary variable set to 1 if a firm is politically connected through an individual who holds an executive position in the firm
Board Member	A binary variable set to 1 if a firm is politically connected through an individual who is a board member of the firm
Panel B: Control Variables (Source: *Compustat, World Bank, Trucost, World Competitiveness Yearbook, Varieties of Democracy*)	
Size	Natural logarithm of total assets
Payout	Total Dividends / Net Income
Leverage	Total debt / Total Assets
Profitability	EBIT / total assets
Capex	Capital Expenditures / Total Assets
Age	Years since the firm was founded
Firm Emissions	Natural logarithm of total firm greenhouse gas emissions
Country Emissions Growth	Year-over-year growth of a country's greenhouse gas emissions
Environmental Mandate	A binary equal to 1 if a country has mandated that firms must disclose environmental performance
WB Corruption	The country-level average of the corruption measure provided by the *World Bank*, scaled to range between 0 and 10 then multiplied by -1 so that larger numbers equate to higher corruption
WCY Corruption	The country-level average of the corruption measure provided by the World Competitiveness Yearbook, scaled to range between 0 and 10 then multiplied by -1 so that larger numbers equate to higher corruption
Vdem Corruption	The country-level average of the corruption measure provided by Varieties of Democracy, scaled to range between 0 and 10, with larger numbers equating to higher corruption

Panel C: Dependent Variables (Source: *CDP, Trucost, I/B/E/S, Compustat*)	
Disclosure Scope	Score variable that equals 0 if no GHG emissions are disclosed, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. The variable equals 0 for non-responding firms.
Firm Emissions	Natural logarithm of total firm greenhouse gas emissions
Firm Emissions Intensity	Natural logarithm of total firm greenhouse gas emissions divided by firm revenue
Trucost Disclosure	Score variable that equals 0 if no GHG emissions are disclosed, 1 if only scope 1 emissions are disclosed, , 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. The variable equals 0 for non-responding firms.
Cost of Equity	Implied equity cost of equity capital

Appendix B. Ancillary Results

Table B2. Entropy Balancing

This table presents the results of entropy balancing our sample of politically unconnected firms to match the sample of politically connected firms. Columns 1, 4, and 7 present the mean, variance, and skewness, respectively, of each variable for the politically connected sample. Column 2, 5, and 8 present the mean, variance, and skewness, respectively, of each variable for the politically unconnected sample. Columns 3, 6, and 9 present the mean, variance, and skewness, respectively, of each variable for the politically unconnected sample after entropy balancing.

Panel A: Full Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mean Connected	Mean Unconnected	Mean Unconnected Post EB	Variance Connected	Variance Unconnected	Variance Unconnected Post EB	Skewness Connected	Skewness Unconnected	Skewness Unconnected Post EB
Size	10.330	10.540	10.330	3.622	8.120	3.623	0.333	0.106	0.334
Payout	-0.880	-1.039	-0.880	0.809	0.745	0.809	-0.709	-0.220	-0.708
Leverage	-1.680	-1.971	-1.680	1.128	1.908	1.128	-2.619	-1.919	-2.619
Profitability	-2.601	-2.624	-2.601	0.537	0.510	0.537	-0.801	-0.740	-0.802
Capex	-3.442	-3.419	-3.442	1.509	1.096	1.508	-1.487	-1.288	-1.487
Age	3.249	3.117	3.249	0.314	0.226	0.314	0.082	-0.507	0.082
Firm Emissions	12.400	11.450	12.400	5.926	5.115	5.926	-0.382	-0.024	-0.381
Country Emissions Growth	58.110	52.380	58.110	105.300	180.500	105.300	0.162	0.259	0.162
Environmental Mandate	0.494	0.723	0.494	0.250	0.200	0.250	0.023	-0.996	0.023

Table B2 Continued

Panel B: Firm First Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mean Connected	Mean Unconnected	Mean Unconnected Post EB	Variance Connected	Variance Unconnected	Variance Unconnected Post EB	Skewness Connected	Skewness Unconnected	Skewness Unconnected Post EB
Size	10.540	10.540	10.530	4.331	8.12	4.324	0.494	0.106	0.511
Payout	-0.939	-1.039	-0.938	0.599	0.7451	0.599	-0.506	-0.220	-0.509
Leverage	-1.867	-1.971	-1.866	1.486	1.908	1.487	-2.218	-1.919	-2.217
Profitability	-2.427	-2.624	-2.427	0.558	0.5104	0.557	-0.887	-0.740	-0.888
Capex	-3.643	-3.419	-3.640	1.557	1.096	1.560	-1.517	-1.288	-1.521
Age	3.366	3.117	3.360	0.322	0.2259	0.322	-0.069	-0.507	-0.043
Firm Emissions	11.850	11.450	11.880	5.208	5.115	5.201	0.025	-0.024	-0.009
Country Emissions Growth	57.750	52.380	57.750	60.390	180.5	60.390	0.422	0.259	0.418
Environmental Mandate	0.446	0.723	0.446	0.248	0.2004	0.247	0.218	-0.996	0.216

Panel C: Lost Connection Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Mean Connected	Mean Unconnected	Mean Unconnected Post EB	Variance Connected	Variance Unconnected	Variance Unconnected Post EB	Skewness Connected	Skewness Unconnected	Skewness Unconnected Post EB
Size	10.410	10.510	10.410	3.713	7.617	3.712	0.010	0.133	0.013
Payout	-0.917	-1.021	-0.917	0.897	0.753	0.897	-1.149	-0.260	-1.149
Leverage	-1.756	-1.937	-1.756	1.459	1.822	1.459	-2.405	-1.988	-2.406
Profitability	-2.572	-2.622	-2.571	0.547	0.513	0.547	-1.115	-0.739	-1.118
Capex	-3.444	-3.422	-3.443	1.839	1.135	1.839	-2.071	-1.297	-2.073
Age	3.302	3.131	3.301	0.251	0.239	0.251	0.653	-0.379	0.655
Firm Emissions	12.230	11.560	12.230	6.284	5.292	6.284	-0.234	-0.051	-0.232
Country Emissions Growth	56.170	53.070	56.160	115.700	175.400	115.700	-1.340	0.213	-1.338
Environmental Mandate	0.488	0.697	0.489	0.251	0.211	0.250	0.047	-0.859	0.046

Table B2. Carbon Emissions Disclosure, Political Connections, and World Bank Corruption

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Our corruption measure is from the *World Bank*. Observations' corruption level is *High* when the average corruption of the country is above the median and *Low* when the average corruption of the country is below the median. Columns 1 through 4 present results for firm-year observations with *High* corruption. Columns 5 through 8 present results for firm-year observations with *Low* corruption. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

Corruption Level:	High				Low			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connected Firm	-0.216***	-0.221***	-0.224***	-0.219***	0.018	0.015	0.021	0.013
	[0.004]	[0.003]	[0.002]	[0.003]	[0.889]	[0.897]	[0.857]	[0.912]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	3,618	3,618	3,618	3,618	4,673	4,673	4,673	4,673
R-squared	0.838	0.840	0.840	0.841	0.755	0.756	0.756	0.757

Table B3. Carbon Emissions Disclosure, Political Connections, and Vdem Corruption

This table reports the results of the following OLS model: $Disclosure\ Scope_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Disclosure Scope* is a score variable that equals 0 if no GHG emissions are disclosed and for non-responding firms, 1 if only scope 1 emissions are disclosed, 2 if only scopes 1 and 2 emissions are disclosed, and 3 if all three scope emissions are disclosed. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. Our corruption measure is from *Varieties of Democracy*. Observations' corruption level is *High* when the average corruption of the country is above the median and *Low* when the average corruption of the country is below the median. Columns 1 through 4 present results for firm-year observations with *High* corruption. Columns 5 through 8 present results for firm-year observations with *Low* corruption. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

Corruption Level:	High				Low			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Connected Firm	-0.201**	-0.189**	-0.189**	-0.193**	-0.093	-0.105	-0.105	-0.098
	[0.023]	[0.026]	[0.027]	[0.022]	[0.436]	[0.383]	[0.382]	[0.422]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	4,449	4,449	4,449	4,449	4,507	4,507	4,507	4,507
R-squared	0.801	0.803	0.804	0.804	0.744	0.745	0.745	0.745

Table B4. Carbon Emissions and Political Connections

This table reports the results of the following OLS model: $Emissions_{i,c,t} = \alpha + \beta_1 PC\ Firm_i\ x\ Post_{t-1} + \beta_2 PC\ Firm_i + \beta_3 Controls_{i,c,t-1} + Firm_i + Year_t + \varepsilon_{i,c,t}$. $Firm_i$ and $Year_t$ are firm and year fixed effects, respectively. *Emissions* is either *Firm Emissions*, the natural logarithm of total firm greenhouse gas emissions, or *Firm Emissions Intensity*, the natural logarithm of total firm greenhouse gas emissions divided by firm. *Connected Firm* is a binary variable set to 1 if a firm is politically connected in a given year. The sample includes all firms that the *CDP* requested carbon emissions disclosure from for the time period 2011 through 2019. Standard errors are clustered at the firm level and p-values are reported in brackets with ***, **, and * indicating significance at the 1%, 5%, and 10% level, respectively. Detailed variable definitions are included in Appendix A1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable	Firm Emissions				Firm Emissions Intensity			
Connected Firm	0.041	0.039	0.039	0.038	-0.643	-0.631	-0.631	-0.636
	[0.248]	[0.289]	[0.289]	[0.312]	[0.503]	[0.512]	[0.512]	[0.508]
Table 3 Model Controls	1	2	3	4	1	2	3	4
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Clustering	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm
Observations	8,874	8,874	8,874	8,874	2,599	2,599	2,599	2,599
R-squared	0.958	0.960	0.960	0.960	0.635	0.637	0.637	0.637