**Institutional environment and MNEs' environmental sustainability:**

**How do institutions impact MNEs' engagement in environmental governance?**

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A thesis submitted to the
School of Graduate Studies
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Management
Faculty of Business Administration

Memorial University of Newfoundland

December 2023

St. John's, NL

# Abstract

This thesis strives to theorize and empirically investigate the relationship between the institutional environment of multinational enterprises (MNEs) and their engagement in policymaking for environmental sustainability, as well as their environmental performance. Along with institutional theory, we utilize Giddens's structuration theory to develop our hypotheses. The thesis consists of three main objectives.

Objective I (one) involves a systematic literature review to identify existing gaps. The review reveals two sets of findings that serve as the foundation for defining Objectives II and III, as well as subsequent empirical studies to address those objectives. The first set includes research gaps identified from inconsistencies in the results of prior research. The second set encompasses areas that appear underdeveloped and require further research. Filling those research gaps will shape our contribution to the scholarship.

Objective II aims to empirically explore the relationship between institutional pressures and MNEs' climate policy engagement. The study investigates how institutional forces in both home and host countries influence MNEs' approach to environmental governance. Our findings suggest that normative forces significantly influence MNE policy engagement. However, the study does not find a significant statistical support for regulative and mimetic forces.

Objective III is set to examine the impact of institutional pressures on MNEs' environmental performance, particularly in reducing greenhouse gas (GHG) emissions. The study reveals that the density of NGOs in the MNE's home country is pivotal in positively affecting their environmental performance. Additionally, regulative forces in both home and host countries positively influence MNE environmental performance. Conversely, home-country institutional voids negatively impact MNE environmental performance. Notably, primary industry and total fossil fuel subsidies per GDP (as control variables) do not significantly influence MNE environmental performance. Hierarchical multiple binary logistic regression is our primary statistical tool in both empirical studies. An extended abstract is available after the table of content.

Keywords: institutional pressures, environmental sustainability, environmental governance, environmental performance, multinational enterprises, quantitative methods

# Acknowledgments

I would like to express my gratitude to my supervisors, Dr. Tom Cooper and Dr. Chansoo Park, for their support, guidance, and expertise throughout my PhD journey. Their encouragement and insightful feedback have been invaluable in shaping my research. I am also grateful to Dr. John Schouten, a valuable supervisory committee member, for his insights and constructive input, which have helped me refine my ideas and improve my thesis.

I would also like to thank Dr. Natalie Slawinski, Dr. Majid Eghbali-Zarch, and Dr. Rebecca Franklin for their valuable feedback and advice throughout my PhD program.

I would also like to acknowledge the support from the Faculty of Business Administration, including Dr. Travor Brown, Dr. Isabelle Dostaler, Dr. Mekaela Gulliver, Dr. Rachelle Shannahan, and Dr. Joerg Evermann, as well as the staff of the FBA, Donna Fitzgerald, Susan Gardiner, Rosemary Dinn, Shannon Hayes, Wanda Whelan, and many more, for their exemplary services throughout my PhD program. Their professionalism and dedication have contributed to making my academic journey a rewarding experience.

I would also like to express my sincere appreciation to my colleagues at PAL Aerospace, particularly Stephen Green, Paul Evans, Nancy Luchino, and wonderful colleagues at IES, who have supported me throughout my PhD studies. Their encouragement and positive energy have been invaluable in helping me navigate the challenges of academic life.

I am deeply grateful to Mitacs, the Bank of Montreal, and Dr. Robert Sexty for their generous support of my PhD studies. Their scholarships have enabled me to pursue my research and complete my degree. I would also like to thank Libby Carew, who was incredibly helpful and supportive in Mitacs programs.

I am very grateful to my friends, Ron Glavine and Justin Billard, who helped me to better integrate into the new society over the past few years.

To my beloved wife, Sepideh. Her unconditional love and support have been my anchor during the ups and downs of the PhD journey.

I would also like to pay tribute to my cherished mother and father, who have departed this life over the past few years. Their treasured memories and unwavering love have been a constant source of inspiration and motivation. They instilled in me the values of hard work, perseverance, and integrity, which have guided me through my professional and academic journey.

Finally, I look forward to identifying and working with external examiners who will help evaluate my thesis. I am grateful for their future contributions and commitment to promoting academic excellence. Thank you!

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## List of Abbreviations

| | |
|---|---|
| AMJ | Academy of Management Journal |
| AJPS | American Journal of Political Science |
| BAP | Business & Politics |
| BAS | Business & Society |
| BSE | Business Strategy and the Environment |
| CEPA | Canadian Environmental Protection Act |
| CCS | Carbon Capture and Storage |
| CDP | Carbon Disclosure Project |
| CSOs | Civil Society Organizations |
| CCPI | Climate Change Performance Index |
| CAGR | Compound Annual Growth Rate |
| CPA | Corporate Political Activities |
| CSI | Corporate Social Irresponsibility |
| CSR | Corporate Social Responsibility |
| CSAs | Country Location Advantages |
| CCSPs | Cross-Sectoral Social Partnerships |
| df | Degrees of Freedom |
| EMS | Environmental Management Systems |
| ESP | Environmental Sustainability Practices |
| EU-ETS | EU-Emissions Trading System |
| FIT | Feed-in Tariff |
| FSAs | Firm-Specific Advantages |
| FDI | Foreign Direct Investment |
| GEC | Global Environmental Change |
| GSJ | Global Strategy Journal |
| GVCs | Global Value Chains |
| GHG | Greenhouse Gas |
| GDP | Gross Domestic Production |
| HFI | Heritage Foundation Indices |
| IS | Information System |
| ICT | Information and Communication Technology |
| IGOs | Inter-Governmental Organizations |
| IB | International Business |
| IBR | International Business Review |
| IEA | International Energy Agency |

| | |
|---|---|
| IEAs | International Environmental Agreements |
| IMF | International Monetary Fund |
| IUCN | International Union for Conservation of Nature |
| JIBP | Journal of International Business Policy |
| JIBS | Journal of International Business Studies |
| JIM | Journal of International Management |
| JWB | Journal of World Business |
| LOF | Liability of Foreignness |
| MIR | Management International Review |
| MNEs | Multinational Enterprises |
| NGOs | Non-Governmental Organizations |
| OFDI | Outward Foreign Direct Investment |
| PRC | Policy-Related Constructs |
| PAS | Politics & Society |
| PRIMAP | Potsdam Realtime Integrated Model for Probabilistic Assessment of Emissions Paths |
| PCA | Principal Components Analysis |
| PPPs | Public-Private Partnerships |
| ROT | Real Option Theory |
| RSI | Regulatory Stakeholder Influence |
| RPS | Renewable Portfolio Standard |
| RP | Research Policy |
| SE | Standard Error |
| SMJ | Strategic Management Journal |
| ST | Sustainability Transition |
| SDGs | Sustainable Development Goals |
| FAO | The UN Food and Agriculture Organization |
| UNFCCC | The United Nations Framework Convention on Climate Change |
| UNEP | United Nations Environment Programme |
| VEIs | Voluntary Environmental Initiatives |
| VEMPs | Voluntary Environmental Management Practices |
| WBGDI | World Bank Group's Development Indicators |
| WGI | Worldwide Governance Indicators |
| YoY | Year over Year |

## Extended Abstract

This thesis delves into the topic of "Institutional environment and MNEs' environmental sustainability: How do institutions impact MNEs' engagement in environmental governance?" The primary objective is to explore the relationship between Multinational Enterprises (MNEs) and the institutional environment concerning environmental governance and environmental performance of MNEs. To achieve this, the research draws upon two fundamental theoretical frameworks, Institutional Theory and Giddens's Structuration Theory, to comprehend how MNEs' behaviors and involvement in environmental governance, as well as their environmental performance, are shaped by external institutional forces.

Chapters one and two of the thesis lay the foundation for hypothesis development by elucidating MNEs' crucial role in societal sustainability transitions, where they contribute to environmental governance through policy engagement with government agencies and NGOs. The significance of collective environmental governance lies in its capacity to connect diverse stakeholders and accelerate sustainability transitions. However, despite the advancements in environmental governance literature, the specific role of MNEs and the way the institutional environment impacts their policy engagement has not received adequate attention.

Borrowing from Giddens' Structuration theory, MNEs are not passive of societal change in sustainability transitions, but also, they could be active influencers within the dynamic network of actors that impact transition policies. As they hold substantial power and agency, they may lobby for political coalitions that promote or hinder sustainability transitions, depending on their vested interests. In other words, MNEs, as agencies, are influenced by macro-level changes in

societal transitions towards sustainability while actively contributing to such transitions through their influence on policymaking processes within environmental governance. The study seeks to address research gaps by exploring how institutional forces impact MNEs' engagement in environmental governance and their environmental performance.

By employing Institutional Theory, the research aims to discern how normative, regulative, and mimetic pressures shape MNEs' environmental policy engagement and their environmental performance. To address the research questions, the thesis incorporates three main objectives. Each objective is achieved by conducting a study that will be described shortly.

*Objective I:* Conduct a thorough literature review to identify gaps in prior studies concerning institutional forces and MNEs' environmental sustainability. This review allows for a better understanding of the existing body of knowledge in the field and lays the groundwork for subsequent empirical investigations (Studies addressing Objectives II and III). Further details will be provided in the following paragraphs.

*Objective II:* Empirical research is undertaken to examine the relationship between institutional pressures and MNEs' climate policy engagement. This objective delves into the influence of the institutional environment in both home and host countries on MNEs' engagement in policymaking processes concerning environmental sustainability. The study sheds light on how various institutional factors affect MNEs' approach to environmental governance by analyzing real-world data.

*Objective III:* Another empirical investigation is conducted to explore the impact of institutional pressures on MNEs' performance in reducing greenhouse gas (GHG) emissions. This objective seeks to ascertain how the strength or weakness of institutional environments in MNEs' home

and host countries influence changes in their environmental performance. By quantitatively analyzing secondary data from reputable sources such as Carbon Disclosure Project (CDP), the study aims to provide valuable insights into the complex interplay between institutional factors and MNEs' environmental performance.

## Methodology

The study addressing Objective I is a systematic literature review. Regarding Objectives II and III, our study employs internal realism ontology and positivism epistemology. From the perspective of axiology, the study lies between the Aristotelian school and the Applied school, incorporating theoretical foundations with practical metrics to test some theory Hypotheses. Both objectives II and III entail a deductive empirical and non-experimental quantitative approach, utilizing cross-sectional designs and secondary data. Hierarchical multiple binary logistic regression is our primary statistical tool in both empirical studies.

We created a dataset by compiling data from diverse sources, including data from reputable entities such as the Carbon Disclosure Project (CDP) and the World Bank, ensuring the rigor of the empirical analyses.

## Objective I and results

Objective I of this study is to address gaps in the literature related to institutional pressures and MNEs engagement in policymaking for environmental sustainability. The study adopts a systematic literature review method to identify some gaps. The associated study to Objective I, utilized a systematic approach by reviewing 152 articles from scholarly journals, of which 72.4%

were quantitative, 25.8% qualitative, and 1.8% mixed-method studies. In terms of the samples

used in these articles, data was collected from 74 countries. The most considerable contribution

to the samples came from US multinational enterprises, accounting for 31% of the articles.

Germany, France, and Spain were the following top contributors, each contributing around 20-

25% of the articles' samples.

The analysis was based on two main inquiries: (1) identifying areas in which there are

contradictions or discrepancies present in the literature and (2) determining the questions, issues,

or areas of research that remained unaddressed or were given inadequate attention in the

reviewed literature. The findings are presented as follows. The first section focuses on

inconsistencies found in prior studies related to the impact of environmental regulations on

adopting environmental practices.

The results encompass studies investigating the impact of various institutional pressures on

firms' adoption of environmental practices. Scholars have explored how environmental

regulations and stakeholder pressures, including government pressure, influence the

implementation of Environmental Management Systems, energy efficiency initiatives in

organizations, and many other environmental sustainability performance measures (P. Arora &

De, 2020; Christmann, 2004; Darnall et al., 2008; Fremeth & Shaver, 2014; Maas et al., 2018;

Peñasco et al., 2017; Tatoglu et al., 2014; M. Wagner, 2015). While many studies support a

positive relationship between institutional forces and corporate environmental performance,

some inconsistencies emerge. For instance, Marshall et al. (2010) found no association between

perceived pressures from regulators and certain environmental practices in wineries based in the

US and New Zealand. Similarly, Kawai et al. (2018) reported no link between regulatory

pressures and implementing Environmental Management Systems in Japanese manufacturing firms. As the variation in results may be attributed to differences in regulatory quality and specific contextual factors (Dau et al., 2021), we strived to re-examine some of the inconsistencies. This logic has shaped our third objective (Objective III) and the respective study.

The second section discusses underdeveloped areas of research, specifically the limited attention given to environmental governance in the realm of MNEs' environmental sustainability. The study highlights the need for further research on how normative, regulative, and mimetic isomorphisms explain MNEs' engagement in environmental policymaking. The review suggests that the relationship between societies and MNEs is dynamic and requires examination through the lens of Giddens' structuration theory. Actors within a social system, including MNEs, are influenced by and influence societal structures and institutions, emphasizing the importance of understanding how institutional pressures affect MNEs' engagement in environmental policymaking. This part has resulted in our second objective (Objective II) and the associated study.

**Importance of addressing the research gaps (Potential research contribution)**

MNEs operate in intricate environments influenced by institutional forces, significantly impacting their strategic decision-making processes. Understanding this relationship is crucial for two main reasons.

It helps comprehend how institutional pressures influence MNEs' decisions to adopt sustainable practices. Normative pressures can drive MNEs to embrace sustainability to align with societal

expectations and maintain legitimacy (Tashman et al., 2019). Regulative pressures, conversely, may push MNEs to comply with environmental regulations to avoid sanctions or damage to their reputation (Aragón-Correa et al., 2020).

Furthermore, this understanding informs policymakers in designing effective environmental policies. By recognizing the types of institutional pressures faced by MNEs, policymakers create incentives for sustainable practices and encourage MNEs' involvement in policymaking processes promoting sustainability (Liou & Rao-Nicholson, 2021).

Further studies in this area could improve environmental performance across MNEs and societies, benefiting both MNEs and policymakers in their pursuit of sustainability.

## Objective II and results

Objective II was to investigate the relationship between institutional forces and MNEs' engagement in environmental policymaking for sustainability. The results revealed that normative forces, represented by the number of home-country environmental non-governmental organizations (NGOs) per capita, significantly influenced MNE policy engagement. Countries with a higher density of environmental NGOs put more pressure on MNEs to align their practices with sustainability goals. However, the study did not find a significant link between MNE policy engagement and the home-country's climate change performance or the presence of international environmental agreements (representing mimetic and regulative forces, respectively).

Furthermore, the research demonstrated that home-country institutional voids[1] negatively impacted MNE policy engagement. Weak institutional frameworks could make it challenging for MNEs to implement environmental regulations, reducing their motivation to engage in policymaking for sustainability. On the host-country level, international environmental agreements did not significantly influence MNE policy engagement, highlighting the complexities of MNE decision-making across borders.

While the influence of host-country environmental NGOs on MNE policy engagement approached significance, further investigation is required to understand their impact better.

Our findings for Objective II revealed the importance of normative forces and strong institutional frameworks in shaping MNE behavior in environmental policymaking. Policymakers were urged to strengthen institutions, combat corruption, and promote civil society participation to create an enabling environment for MNEs to actively contribute to environmental policy development and implementation.

Please note that subjects such as pollution haven countries that in some cases might deliberately be manufacturing house of MNEs are very important and relevant; but they are excluded from the scope of this research.

## Objective III and results

Objective III aimed to investigate the relationship between institutional forces and the environmental performance of MNEs. Through a comprehensive analysis, valuable insights were

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[1] Institutional voids refer to the absence or inadequacy of supportive regulatory and governance structures.

obtained, shedding light on the factors that significantly impact MNEs' environmental performance while identifying those that do not.

Among the significant variables, the number of environmental NGOs per capita in the MNE's home country emerged as the most influential factor positively affecting environmental performance. This finding aligns with previous research that highlights the crucial role of civil society organizations in promoting environmental sustainability. Environmental NGOs play a pivotal role in pressuring MNEs to adopt environmentally responsible practices and contribute to creating a supportive regulatory environment.

Another key factor that positively influenced MNEs' environmental performance was the presence of international environmental agreements in both home and host countries. Such agreements signify a commitment to environmental protection and provide a regulatory framework that encourages MNEs to adopt sustainable practices in their operations in home and host countries.

Conversely, the study found that home-country institutional voids had a negative effect on MNE environmental performance. MNEs operating in countries with weaker institutional frameworks may encounter challenges in implementing robust environmental practices. This finding reinforces the importance of strong institutional environments in facilitating environmental responsibility among MNEs.

The study also examined control variables, including primary industry and total fossil fuel subsidies per GDP, which were found to have no significant influence on MNE environmental performance. This suggests that operating in a specific primary industry sector or the level of

fossil fuel subsidies relative to GDP does not substantially impact MNEs' environmental performance.[1]

Analyzing the relative importance of the variables, it became evident that the number of home-country environmental NGOs per capita played the most crucial role in influencing MNE environmental performance, followed by the presence of international environmental agreements in both the home and host countries. Home-country institutional voids also had a substantial impact but in the opposite direction, hindering MNE environmental performance.

This research highlights the critical role of civil society organizations, regulatory frameworks, and supportive institutional environments in driving MNEs' environmental performance. The findings support the significance of normative and regulative forces while indicating that mimetic forces, such as emulating peer companies, do not predict MNEs' environmental performance.

The findings of the study addressing Objective III have important implications for policymakers, MNEs, and civil society organizations aiming to enhance environmental sustainability in the context of multinational corporations. Understanding the influence of institutional forces can assist in devising effective strategies to encourage environmentally responsible practices among MNEs and foster a positive environmental impact.

## Research Implications

***Policymakers*** should be aware of the influential role that normative forces, particularly environmental non-governmental organizations (NGOs), play in driving MNEs' engagement in

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[1] Canada could be a good example for this.

environmental policymaking. Encouraging the formation and active participation of environmental NGOs can foster an environment conducive to sustainability practices and establishing stricter environmental regulations. While mimetic forces and international environmental agreements have limited influence, policymakers should not rely solely on regulatory compliance and industry peer pressure. Instead, they should focus on creating comprehensive and effective regulatory frameworks, ensuring the involvement of relevant stakeholders in the policymaking process. Additionally, policymakers should prioritize strengthening institutional frameworks, combating corruption, and improving regulatory enforcement to enable MNEs to engage in sustainability efforts. This may involve promoting transparency, providing incentives for sustainable practices, and fostering collaboration between MNEs and civil society organizations.

*Industry leaders* should recognize the significance of normative forces and the importance of engaging with environmental NGOs to enhance their environmental performance. A more significant number of environmental NGOs in the MNE's home country positively affect their environmental sustainability. Therefore, industry leaders should actively collaborate with environmental NGOs, seek their guidance, and align their practices with sustainability goals advocated by these organizations. Relying solely on mimetic forces or peer companies to improve environmental performance may not be sufficient. Instead, industry leaders should develop unique strategies and initiatives based on normative and regulative forces, such as engaging with environmental NGOs and complying with international environmental agreements. Moreover, industry leaders operating in countries with weaker institutional frameworks should be aware of the challenges they may face in implementing robust

environmental practices. They should work towards strengthening institutional environments through collaboration with policymakers, advocating for regulatory improvements, and promoting corporate social responsibility.

***Civil society organizations and environmental activists*** should continue their advocacy and engagement efforts to push forward the sustainability agenda with industry leaders for adopting sustainability best practices and policymakers for implementing stricter environmental regulations. The study highlights the significant influence of normative forces on MNE policy engagement and environmental performance, represented by the number of environmental NGOs. To leverage their role as influential stakeholders, environmental NGOs should actively work towards building partnerships with MNEs and policymakers. Such collaboration can help drive positive change by influencing MNEs' strategic decision-making and encouraging policymakers to design effective environmental policies. Civil society organizations are crucial in shaping corporate behavior and promoting sustainability practices. Therefore, environmental activists should continue to raise awareness, conduct research, and mobilize public support to hold MNEs and policymakers accountable for their environmental performance and policy actions.

## Future Research

Future research on MNE policy engagement and climate-change governance could focus on several areas to enhance our understanding of MNEs' policy engagement and environmental sustainability efforts. Firstly, exploring the influence of contextual factors, such as different countries' cultural, political, and economic characteristics, can provide valuable insights into how

institutional forces shape MNEs' responses to environmental pressures. Cross-national comparisons can help identify country-specific factors influencing MNEs' engagement in climate-change governance. Moreover, a comparative analysis of environmental governance systems across countries can shed light on the effectiveness of regulatory frameworks, enforcement mechanisms, stakeholder involvement, and industry-specific regulations, contributing to improving environmental governance in the context of multinational business operations. The role of multi-stakeholder collaborations in driving environmental sustainability is another area for future research. Investigating the dynamics, challenges, and outcomes of partnerships between MNEs, civil society organizations, governments, and local communities can provide insights into effective mechanisms for promoting sustainable practices and achieving environmental goals. Additionally, exploring the interplay between normative and regulative forces in shaping MNEs' policy engagement can provide a comprehensive understanding of the drivers behind MNEs' engagement in climate-change governance.

Regarding future research on MNE environmental performance, longitudinal studies can offer insights into the dynamic relationship between institutional forces and MNEs' environmental performance. By examining changes over time, researchers can uncover mechanisms, temporal dynamics, and long-term effects of institutional pressures on MNEs' environmental performance. Understanding the mediating and moderating factors that influence the relationship between institutional forces and MNEs' environmental performance is also essential. Factors such as organizational characteristics, industry-specific dynamics, and stakeholder interactions can shape MNEs' responses to institutional pressures, and exploring these factors can provide a nuanced understanding of the relationship. Moreover, considering sector-specific contexts and conducting

sector-specific studies can provide valuable insights into the relationship between institutional

forces and MNE environmental performance. By addressing these research directions, scholars

can contribute to a better understanding of MNEs' policy engagement and environmental

performance, thus informing policymakers, industry leaders, and civil society organizations in

developing effective strategies and policies to promote environmental sustainability within the

global value chain.

# Chapter 1

# Introduction

## Chapter 1: Introduction

In 2015, the United Nations introduced 17 global goals as Sustainable Development Goals (SDGs) to address the grand challenges of our and subsequent generations (Van der Byl et al., 2020). At least seven SDGs, including SDGs 6, 7, 11, 12, 13, 14, and 15 (Figure 1), directly or indirectly, are linked to environmental issues. Climate change is a grand challenge requiring substantial and immediate action (SDG 13).

Climate change is a serious threat to ecosystems and societies. Consequences of climate change, such as extreme weather, hurricanes, and floods, might damage infrastructures and disrupt supply chains (Goldstein et al., 2019; Whitmarsh, 2009; Zhenmin & Espinosa, 2019). Climate change also could increase droughts and water shortages, which lead to poverty and undermine food security (Mann & Gleick, 2015). To combat such issues, humanity must address factors causing climate change, such as greenhouse gas (GHG) emissions, land conversion, water pollution, the decline in biodiversity, chemical exposure, and waste disposal in the next few decades (Arora et al., 2018; UNEP, 2021). Many of these challenges are linked to businesses and organizations across the globe and could affect and disrupt their operations. On the brighter side, however, businesses and organizations can contribute to overcoming such challenges through their responsible actions and innovations. Nonetheless, due to the multi-dimensionality and complexity of grand challenges, all efforts require orchestration and normative directionality by policymakers and macro-level environmental governance (Köhler et al., 2019). Environmental governance refers to modes and mechanisms to steer society toward environmental sustainability (Jordan et al., 2015).

*Figure 1: 17 SDGs initiated by the UN in 2015 (Source: UNEP[1])*

Multinational Enterprises (MNEs) as actors in societal Sustainability Transition (ST) contribute to environmental governance through partnerships and coalitions. They also create intermediary institutions, such as associations and unions, to lead collective actions. Intermediaries connect different actors to facilitate and accelerate the sustainability transition (Barrie et al., 2017; Ingram, 2015). Moreover, intermediaries help destabilize incumbent regimes in transitions by influencing policies (Barrie et al., 2017; Ingram, 2015). In addition, MNEs' engagement in public-private partnerships (PPPs) and other forms of cross-sectoral social partnerships (CCSPs) play crucial roles in sustainability transitions, which will be discussed in the following sections.

Regarding environmental governance, sustainability transition is a multi-actor process and requires the engagement of various stakeholders such as NGOs, corporations, and states. The

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[1] https://www.unep.org/explore-topics/sustainable-development-goals

actors interact to determine modes and mechanisms for steering society toward environmental sustainability, called environmental governance (Jordan et al., 2015). Environmental governance consists of policy and regulatory systems to help to achieve environmental goals. While environmental governance literature has substantially developed in recent years, the role of MNEs in environmental governance, including hybrid, private, and transnational governance, has not received sufficient attention.

MNEs also tend to participate in sustainability transition from the power and agency perspective in transitions. It is believed that sustainability transition could result in winners and losers (Köhler et al., 2019). Therefore, incumbent industries would try to maintain their vested interests by influencing policies and transition pathways. Corporations have the power to try to lobby for political coalitions to either expedite or obstruct the sustainability transition (Geels & Schot, 2007). In summary, MNEs are not solely impacted by societal sustainability transition; but also influence other actors in a dynamic network of actors that affect transition policies. Such policies could either destabilize (and eventually phase out) incumbent industries or expedite and accelerate new regimes.

The role of MNEs in sustainability transition and combatting climate change has attracted considerable attention in recent decades. MNEs play an essential role in the global economy due to their footprint across different countries and their impacts on global value chains (GVCs). MNEs account for one-third of the world GDP and half of the global exports (Cadestin et al., 2018).  From a climate change perspective, a significant portion of global CO2 emissions relates to MNEs' global value chain. In 2016, 18.7% of total global CO2 was emitted by MNEs (Zhang et al., 2020). To reduce GHG emissions, MNEs face different local, national, and transnational

environmental policies and regulations. Thus, MNEs adopt different strategies in responding to climate-change-induced policies and regulations, and each strategy could have different implications for MNEs and their stakeholders. Therefore, MNEs tend to influence environmental policies in their operational jurisdictions.

The arguments on the relationship between government regulations and corporate environmental and business performance in contemporary management literature go back to the landmark paper of Porter and van der Linde in 1995. They believe environmental regulations improve firms' innovativeness and environmental and economic performance. Majumdar & Marcus (2001) found that well-designed regulations contribute to firms' productivity. Regulation, generally, is seen to be a driver for eco-innovations and higher firm environmental responsibility. For MNEs, green innovations enable them to enjoy first-mover advantages in new markets and build firm-specific advantages (Lieberman & Montgomery, 1988). While several studies in international business have been focused on the role of government regulations (usually in the sense of regulatory pressures) on MNEs environmental performance, our study aims to (1) map recent literature on the interplay between sustainability actors and environmental-policy institutions (2) shed light on the contemporary efforts in linking policy environment to MNE environmental sustainability performance, (3) propose new avenues for research that have not attracted sufficient attention in international business literature. Our study also strives to distinguish the complexities MNEs face in dealing with the multi-institutional environment in their home and host countries.

## Statement of the problem

Our study is built upon the premise that MNEs' response in addressing climate-change policies are part of a broader phenomenon as societal Sustainability Transition (ST). The theoretical rationale behind that is the notion of Giddens's Structuration Theory. MNEs as agencies are constrained by "rules and resources, or sets of transformation relations, organized as properties of social systems" (Giddens, 1984, p25). In other words, macro-level changes in societal transitions toward sustainability could prompt corporate-level strategic decision-making or agentic roles. Structuration theory emphasizes the influence of structure and agency equally in the sense that we cannot understand one without the other. While MNEs are impacted by a transformational change toward sustainability, for example, they undergo a stringent regulatory environment; they also contribute to such transitions by influencing policymaking processes in environmental governance (Figure 2).
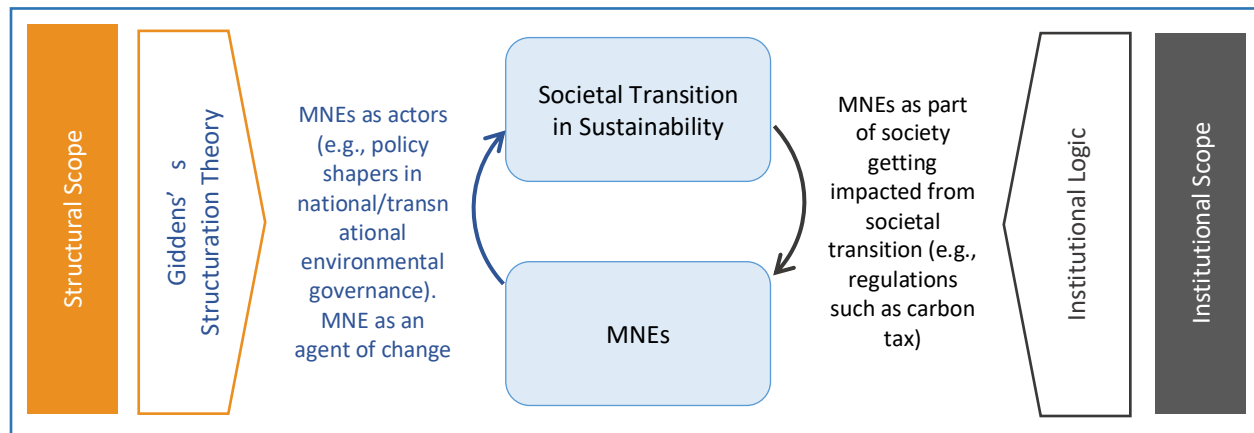


*Figure 2: Interplay between societal sustainability and MNEs' environmental sustainability*

Transition refers to changing from one system and method to another (Cambridge Dictionary, 2021). Sustainability Transition (ST) is a shift to a re-imagined and sustainable society (Silva & Stocker, 2018). Grin et al. (2010) believe that transitions toward an environmentally sustainable society require radical shifts in socio-technical systems. Markard et al. (2012, p 956) highlight societal sustainability transition as a "long-term, multi-dimensional, and fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption." Such characteristics make the sustainability transition a complex phenomenon.

Köhler et al. (2019) explain some characteristics of ST. First, ST involves different socio-technical systems such as markets, cultural meanings, policies, and technologies. Thus, ST requires multi-dimensionality and co-evolution of socio-technical systems. Second, ST is a multi-actor process. Actors and social groups with various resources, capabilities, beliefs, and interests interact to push their agenda forward. Third, ST includes both changes in systems transforming to sustainable practices such as electric vehicles and the existence of locked-in unsustainable path-dependencies such as fossil-fuel-based transportation. Fourth, ST can be contested due to actors' interests and tendencies toward different innovations and pathways. Finally, ST requires normative directionality by policymakers through regulations, standards, and other instruments, which is a central theme of this study.

One of the key concepts in sustainability transition is a shift in socio-technical systems. Such a shift involves dynamic processes at three levels of analysis: landscape, socio-technical regime, and niche (Geels, 2002, 2004; Smith et al., 2010). First, a landscape refers to an exogenous environment, such as social change and grand environmental challenges impacting socio-

technical development. Second, socio-technical regimes include rules and institutional structures. This part would be a main input to our study. Third, niches, which is a protected space for radical innovations. Pioneers and entrepreneurs initiate novelties at the niche level. Emerging radical innovations need protected space to thrive. The protected space is built by policies and rules, forming new regimes (Geels, 2006). While radical innovations emerge, they also put pressure on incumbent regimes. The alignment of radical innovations and landscape triggers transformative changes from incumbent regimes to new regimes.

As mentioned earlier, sustainability transition encompasses various actors, policies, and regulations. Both destabilizing policies that result in the phase-out of unsustainable methods and innovation policies that encourage and incentivize sustainable practices play a crucial role in sustainability transitions (Loorbach et al., 2017; Rogge & Johnstone, 2017; Stegmaier et al., 2014). The question that may arise here, and has not attracted much attention, is how such policies and regulations impact MNEs' behavior in environmental governance and their environmental performance. This would contribute to MNEs' environmental sustainability literature, given that most scientific endeavors in exploring MNE environmental sustainability have been focused on either corporations per se or those external policies and regulations that have become obsolete in the contemporary policy literature. Along with structuration theory, our study utilizes institutional logic to explain how normative and regulative pressures influence MNEs' environmental engagement in environmental governance.

According to institutional theory, firms seek legitimacy by responding to external pressures. DiMaggio & Powell (1983) argue that firms tend to adjust to external forces to increase their similarity with other firms. They identify three types of mechanisms, including coercive,

mimetic, and normative isomorphisms. Corporations tend to gain legitimacy by adapting to formal and informal rules and regulations. Another implication of institutional theory in our research is the degree of strength/weakness of institutional environment (i.e., institutional void) in various jurisdictions that might impact MNEs' environmental sustainability differently. Our study aims to investigate three pillars to better understand the interplay between societal sustainability transition and MNEs' environmental performance: institutional forces, MNEs' engagement in environmental governance, and MNEs' environmental performance improvement (Figure 3).
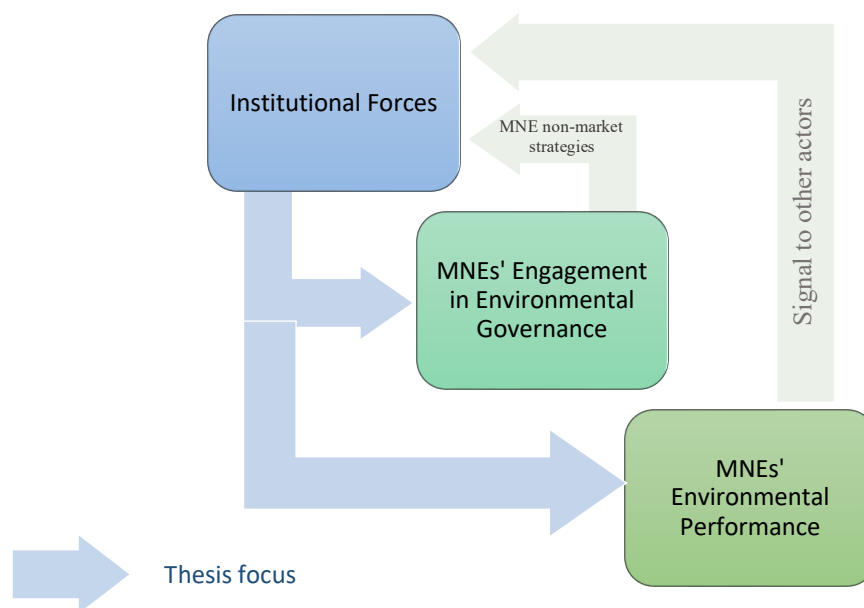


*Figure 3: Three pillars of the study*

## Research questions

Considering the discussion above, our study strives to contribute to the scholarship by filling some gaps in the literature. The following are the questions that our study aims to answer:

**Research Question 1:** What are the institutional factors (at the country level) impacting MNEs' engagement in environmental governance? How do they influence MNEs' engagement in policymaking for environmental policies?

**Research Question 2:** How do institutional pressures affect MNEs' environmental performance in home and host countries?

Both questions encompass the institutional forces in home and host countries.

## Thesis structure

To address the questions above, we strive to attain three objectives. Objective I (one): Conduct a thorough literature review to identify gaps in prior studies concerning institutional forces and MNEs' environmental sustainability. This review allows for a better understanding of the existing body of knowledge in the field and lays the groundwork for subsequent empirical investigations (Studies addressing Objectives II and III).

Objective II: To undertake empirical research to examine the relationship between institutional pressures and MNEs' climate policy engagement. This objective delves into the influence of the institutional environment in both home and host countries on MNEs' engagement in policymaking processes concerning environmental sustainability.

Objective III: Conduct an empirical investigation to explore the impact of institutional pressures on MNEs' performance in reducing greenhouse gas (GHG) emissions. This objective seeks to ascertain how the strength or weakness of institutional environments in MNEs' home and host countries influence changes in their environmental performance.

To achieve the objectives above, the thesis is divided into five chapters. In the next chapter (chapter two), we discuss the background and theoretical underpinnings of the study. It also includes a thorough systematic literature review describing the research subject from the perspective of the seminal and most recent papers, delineating key findings from prior studies, and finally identifying gaps in the literature on MNE's environmental sustainability and institutional theory. Chapter two basically addresses Objective I (one) of this thesis. Chapter three deals with research design and methodology. It encompasses research philosophy and paradigms (including ontology, epistemology, and axiology), research approach, research design, and methodology, and finally, discusses how to ensure the validity and reliability of the research. At the end of chapter three, we discuss the governing philosophical and methodological approaches applied to this study. Chapter four is concerned with theoretical development, where we develop and discuss the key Hypotheses of this study and provide the respective modeling and statistical analysis. It is divided into three sub-chapters: sub-chapter one, theoretical development for Objectives II and III. Then we have sub-chapters two and three, where we conduct modeling and statistical analysis to address Objective II and III. The study associated with Objective II aims to test hypotheses related to the relationship between the institutional environment and MNE's policy engagement. That includes hypotheses one, three, and five. The study associated with Objective III examines the relationship between institutional pressures and environmental performance. That encompasses hypotheses two, four, and six. Then, there is chapter five, which provides conclusion and discussion. In chapter five, we discuss the results obtained from this study and their implications for both the academic community and

practitioners. We also discuss the limitations of our study and directions for future research.

Figure 4 depicts the overall structure of the thesis and the key deliverables in each step.

Introduction
(Ch1)

KD
▪ Statement of the problem
▪ Research questions

*You are here*

Literature Review
(Ch2)
O1

KD
▪ Thorough literature review
▪ Research gaps
▪ Research contribution

Research Design and Methodology (Ch3)

Institutional Pressures & MNEs Environmental Sustainability (Ch4)

Theoretical Development

Institutional Pressures and MNE's Engagement in Climate Policies
O2

Institutional Pressures and MNE's Environmental Performance
O3

KD
▪ Research propositions
▪ Variable profiles
▪ Data attributes
▪ Method description
▪ Descriptive results
▪ Discussion

Conclusion, Implications, and Future Research (Ch5)

KD
▪ Conclusion
▪ Research implications
▪ Research limitations
▪ Suggestions for future studies

**Legend**   O1 [Main] Objective 1   O2 [Main] Objective 2   O3 [Main] Objective 3   KD : Key Deliverable (S)   Ch: Chapter

*Figure 4: Thesis structure and key deliverables*

# Chapter 2

# Literature Review
# (Background
# and theoretical underpinnings)

# Chapter 2: Background and theoretical underpinnings

Theories are nets to catch what we call 'the world': to rationalise, to explain, and to master it. We endeavour to make the mesh ever finer and finer.

Karl Popper (1902–1995)

## Objective 1: To conduct a thorough literature review to identify research gaps

## Literature Review

### Design and approach of the systematic review

The selection of articles for the literature review included two steps: (I) identifying relevant articles and (II) screening the articles. To study the regulatory and policy environment on MNE environmental performance, this study uses five sets of keywords for searching in international business, policy, and sustainability literature. Keywords for search include set 1: Coercive, Environmental, Government pressure OR Government power, Institutional pressure OR Institutional power, Regulatory pressure OR Regulatory power, and Stakeholder pressure OR Stakeholder power; set 2: Policy + Environmental sustainability, Environmental management, Environmental performance; set 3: Regulation + Environmental sustainability, Environmental

management, Environmental performance; set 4: Regulative distance, environmental, Regulatory

distance, Institutional distance; and set 5: Regulation, CSR, Policy. Table 1 shows a summary of

search strings used in the literature review.

*Table 1: Search strings for the literature review*

| | |
|---|---|
| Set 1 | Coercive + Environmental<br>"Government pressure" OR "Government power" + Environmental<br>"Institutional pressure" OR "Institutional power" + Environmental<br>"Regulatory pressure" OR "Regulatory power" + Environmental<br>"Stakeholder pressure" OR "Stakeholder power" + Environmental |
| Set 2 | Policy + "Environmental sustainability"<br>Policy + "Environmental management"<br>Policy + "Environmental performance" |
| Set 3 | Regulation + "Environmental sustainability"<br>Regulation + "Environmental management"<br>Regulation + "Environmental performance" |
| Set 4 | "Regulative distance" + environmental<br>"Regulatory distance" + environmental<br>"Institutional distance" + environmental |
| Set 5 | Regulation + CSR<br>Policy + CSR |

After the search process with keywords above, the articles were analyzed for data extraction and

coding. The articles came out from the search were published in journals such as Journal of

International Business Studies (JIBS), Journal of World Business (JWB), International Business

Review (IBR), Management International Review (MIR), Journal of International Business

Policy (JIBP), Journal of International Management (JIM), and Global Strategy Journal (GSJ).

*Table 2: Journals associated with articles used for the literature review*

| Journal category | Journal |
|---|---|
| Specialized IB Journals | Journal of International Business Studies (JIBS) |
| | Journal of World Business (JWB) |
| | International Business Review (IBR) |
| | Management International Review (MIR) |
| | Journal of International Business Policy (JIBP) |
| | Journal of International Management (JIM) |
| | Global Strategy Journal (GSJ) |
| Specialized CSR and sustainability journals | Business & Society (BAS) |
| | Business Strategy and the Environment (BSE) |
| Specialized economics, policy, and politics journals | Research Policy (RP) |
| | Global Environmental Change (GEC) |
| | Business & Politics (BAP) |
| | Politics & Society (PAS) |
| | American Journal of Political Science (AJPS) |
| Generic management journals | Academy of Management Journal (AMJ) |
| | Strategic Management Journal (SMJ) |

The articles found in the policy and political science realm, were published in five journals, including Research Policy (RP), Global Environmental Change (GEC), Business & Politics (BAP), Politics & Society (PAS), American Journal of Political Science (AJPS). For sustainability related topics, the search brought up articles from Business & Society (BAS) and Business Strategy and the Environment (BSE). Finally, the rest of the articles for the literature review came out from generic management journals such as the Academy of Management Journal (AMJ) and the Strategic Management Journal (SMJ). Table 2 and Figure 7 depict number of articles used in this literature review, and their respective journals.

The literature review addresses the following questions:

- What is the role of stakeholder and institutional pressures on MNEs' engagement in environmental governance and their environmental performance?

- How do institutional void and regulatory quality impact MNEs' engagement in environmental governance and their environmental performance?

- How does the regulatory environment affect firm-specific advantages (FSAs) and home/host country location advantages (CSAs)? What are the implications of such advantages for MNEs?

- How does home (or host) country environmental policy impact MNEs subsidiary in another jurisdiction (i.e., spillover effect)?

To answer the questions above, I found 152 articles from scholarly. Forty-six articles are not in the organizational context and are excluded. Among 106 articles remaining, forty-eight articles are closely related to the topic, but they are not in the IB context. Therefore, the final sample includes fifty-eight articles addressing three contexts: environmental sustainability, policy environment, and MNEs. In terms of research methodology, as depicted in Figure 7, 72.4% of articles are based on quantitative studies (QN), 25.8% qualitative studies (QL), and 1.8% mixed method (MM).

Figure 5 shows the processes completed for article selection.
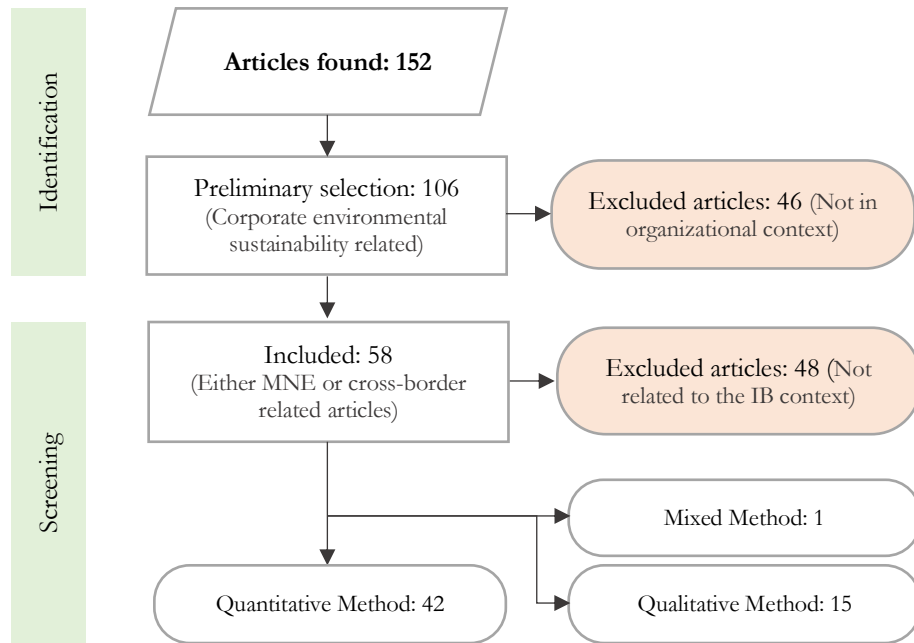
*Figure 5: Article identification and screening process*

For data coding, this study uses article titles, authors, journal titles, year articles published, research methodology, the industrial sector of research samples, sample size, the home and host countries in which MNEs operate, policy-related constructs (PRC), the role of PRC, operationalization of PRC (usually in quantitative method), response variable to PRC, and key findings. The term 'Policy-related constructs' (PRC) refers to variables and constructs in the sample articles that are directly related to environmental policy. Data prepared for this study are summarized in Table 3 to Table 11. Figure 6 shows countries that contributed to the samples of the articles in the literature review (% of contribution).
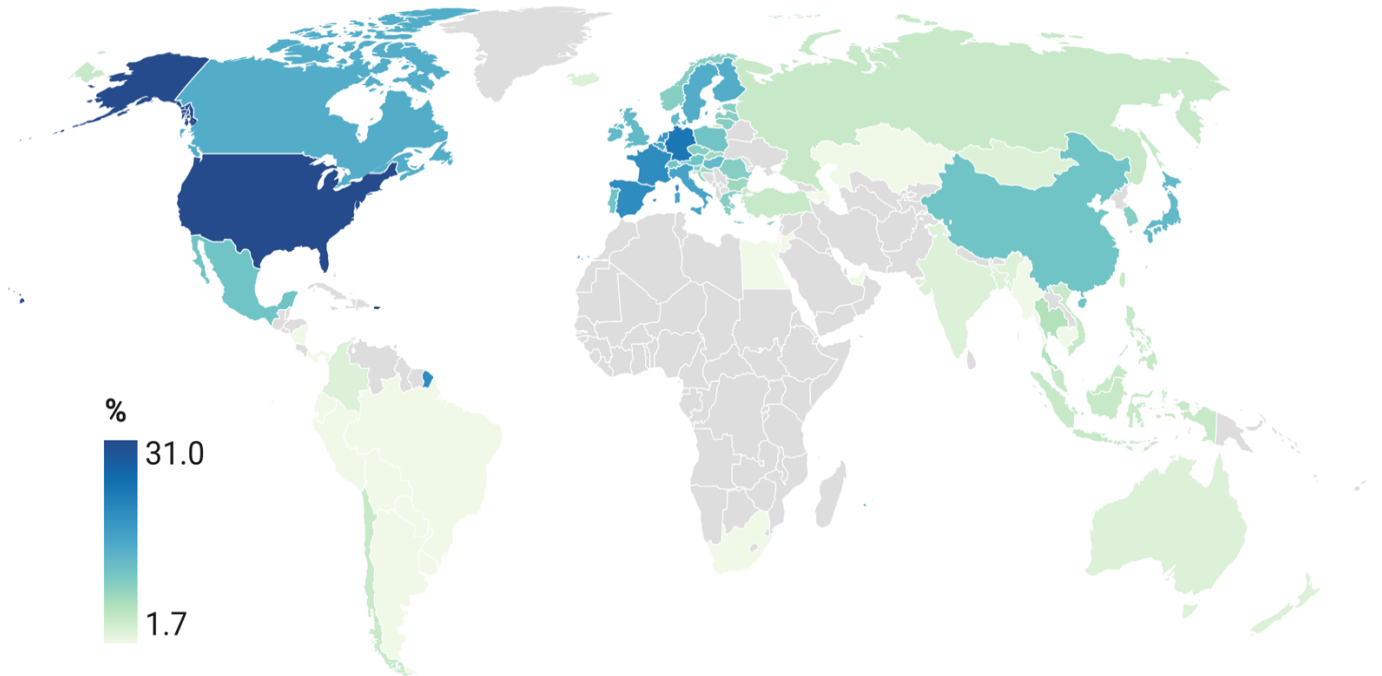
*Figure 6: Countries contributed to the samples of the articles in the literature review*
*(% of contribution).*

The samples of the articles used in this review consist of data from 74 countries. The greatest

contribution to the samples comes from the US MNEs, in which 31% of articles used data from

the US MNEs. As depicted in Figure 6, the following top contributors include Germany (24.1%),

France (20.7%), and Spain (20.7%).

Regarding the journals, 62% of articles come from specialized IB journals, 14% from specialized

policy and political science journals, 14% from specialized sustainability and CSR journals, and

10% from generic management journals. Details about each journal are shown in Figure 7.
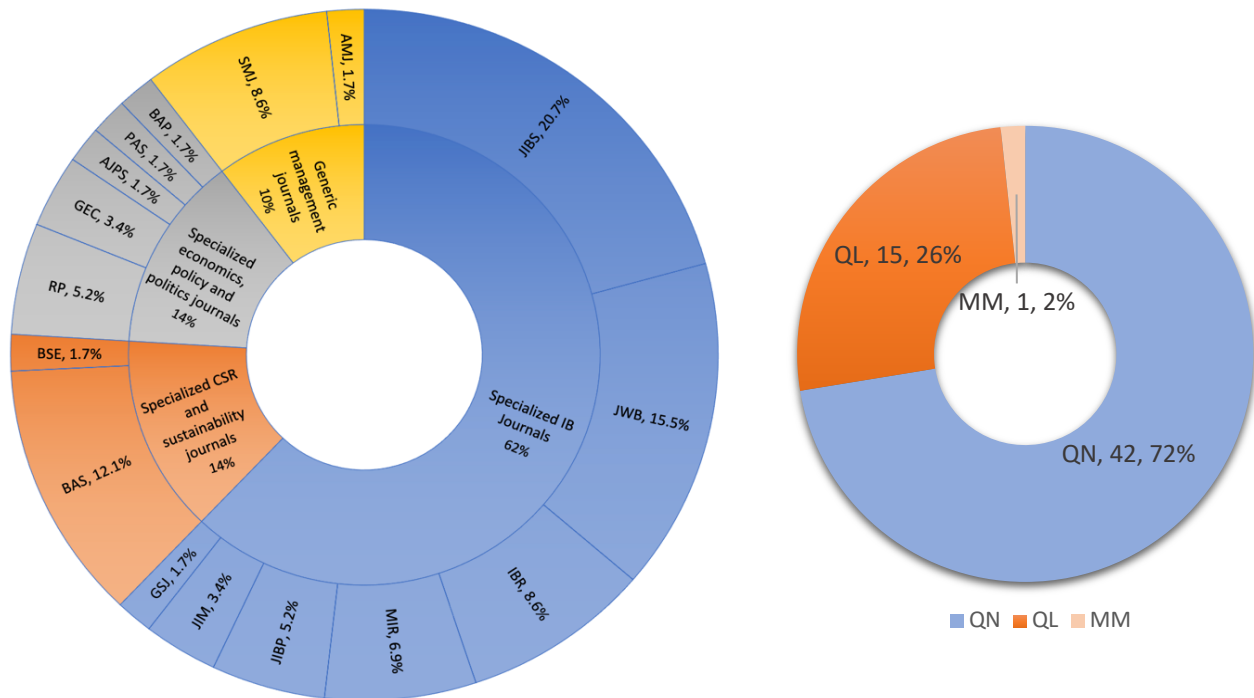
*Figure 7: Percentages of articles used from each journal (left). Articles by research methods (right)*
*QN: Quantitative, QL: Qualitative, and MM: Mixed Method*

Figure 8 depicts the number of articles in the sample journals based on the year published. The graph shows that the number of articles has increased throughout the last decade.
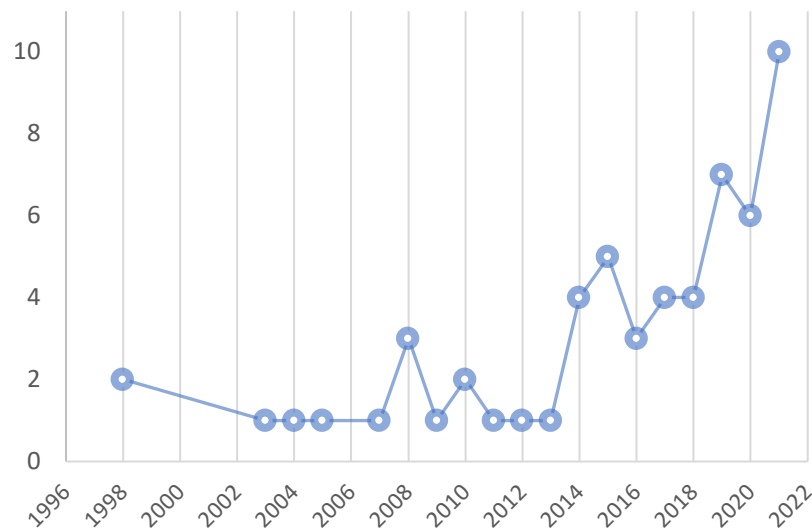
*Figure 8: Number of articles published by year*

## Porter and van der Linde's hypothesis on environmental regulations and firm competitiveness

Porter & van der Linde (1995) contend that strict but flexible environmental regulations improve firms' innovativeness and environmental and economic performance. Their arguments were built on six premises. First, regulations are to address resource inefficiencies and potential improvements. Porter & van der Linde (1995) believe pollution is a form of resource inefficiency hidden in the product life cycle and undermines competitiveness. Second, regulations would require data gathering, which would make corporations more aware of their systems. Third, regulations make environmental investments more attractive due to reduced risks and uncertainties. Fourth, regulations stimulate and trigger innovativeness. Fifth, regulations provide minimum requirements for every entity to ensure actors cannot behave opportunistically (i.e., leveling the playing field). In other words, all entities in a field need to invest in innovations and

other related processes to meet regulatory requirements. Finally, if regulations cannot offset compliance expenses in the short term, they'll at least enhance environmental outcomes. Porter and van der Linde's hypothesis highlights that firms should be able to offset compliance expenses in the long run through their innovations and improve business and environmental performance. For MNEs, as Porter & van der Linde (1995) and Lieberman & Montgomery (1988) argue, when firms initiate new practices and innovations, they can take advantage of first-mover (or early-mover) advantages. Porter & van der Linde (1995) point out two responses firms provide while encountering government regulations: fighting regulations and finding solutions. They believe some firms in the US tend to fight regulations while some firms, such as German and Japanese, try to innovate and find a solution. The following section discusses how first-mover advantages lead to MNEs' green Firm-Specific Advantages (FSAs).

In addition, Porter & van der Linde (1995) argue the notion of bad versus good regulations. They believe the quality of regulations contributes to the level of expected competitiveness.

### Location-specific advantages, firm-specific advantages, and environmental regulations

The notion of Location (Country) Specific Advantages (CSAs) and Firm-Specific Advantages (FSAs) are cornerstones in international business literature. CSAs refer to advantages provided by locations (foreign countries) where MNEs operate (Rugman & Verbeke, 1998). Growing markets, effective financial systems, and industrial clusters are examples of CSAs. In terms of this study, a high-quality environmental regulatory regime in a jurisdiction that stimulates investments in MNEs' environmental sustainability could be a good example of a CSA.

On the other hand, Firm-Specific Advantages (FSAs) come from firms' competencies and resources within their boundaries (Rugman & Verbeke, 1998). Firm knowledge absorptive capacity, experience, and innovation capacity are examples of FSAs. As Porter and van der Linde (1995) and Lieberman and Montgomery (1988) argue, first-mover (or early-mover) advantages can lead to FSAs for firms that adopt environmental sustainability practices and innovate accordingly before other rivals.

Using a resource-based view, Rugman & Verbeke (1998) link corporate strategy and international environmental policy. MNEs' environmental innovativeness is associated with MNEs' resource capacity in the sense that when MNEs have strong resource capacity, they can further develop national and international-level capabilities (FSAs) in response to the pertinent environmental pressures. However, when a resource-based response is weak, that could result in compliance rather than the creation of FSAs. Thus, policies offering new resources are critical in developing green capabilities (green FSAs).

Moreover, Rugman and Verbeke (1998) discuss the interaction between environmental policy alignment in home and host countries and the resource problem at a national level, arguing that when government regulations are consistent between home and host countries, MNEs operating in countries with stronger economies can better compete internationally by developing green competitive advantages in their home countries.

In dealing with environmental regulations, MNEs need to consider two primary factors: (1) time horizon, in a sense that when environmental regulations impact MNEs, and (2) whether the impact of environmental regulations is conflicting or complementary with MNE's performance

(Rugman & Verbeke, 1998). Various configurations of FSA-CSAs are applied to assess the impacts of environmental regulations on MNEs' competitiveness and strategies.

Another location-specific characteristic of MNEs' business environment is pollution haven countries. Pollution haven countries usually suffer institutional void and lack strong environmental regulations and enforcement, consequently attracting pollutant industries. Rugman and Verbeke (1998) argue that MNEs can take advantage of pollution haven countries to avoid regulatory pressures. Regulations may also induce MNEs to locate their polluting activities in countries with less stringent environmental regulations to benefit from the host country's institutional void (Ans Kolk & Pinkse, 2008).

In terms of the cross-border mobilization of FSAs-CSAs, Kolk & Pinkse (2008) investigate the impact of environmental regulations on CSAs and FSAs' transferability. They utilized the idea that climate change-induced FSAs can be formed by three mechanisms: evolution, transformation, and substitution. These mechanisms are connected to MNEs' capacities to develop new upstream and downstream value chain capabilities. Regarding the transferability of green FSAs, the author believes that MNEs' capability development can occur in their headquarters, regional centers, and national subsidiaries. Kolk & Pinkse (2008) conclude that environmental decisions made at the corporate headquarters and resulting in non-location-bound FSAs tend to have a more lasting impact on the sustainability outcomes than location-bound FSAs initiating in subsidiaries.

Moreover, the authors found that country and regional regulations (such as EU ETS) contribute to their institutional environment and consequently impact CSAs and MNEs' green FSAs

transferability. They believe newly adapted FSAs (green FSAs) can be a key driver of MNEs' growth and longevity.

Prior studies have also discussed the role institutional pressures play in MNE FSA/CSAs. Institutional pressures comprise coercive mechanisms such as formal regulations and rules (DiMaggio and Powell, 1983). A lack of appropriate regulations and environmental policies could result in an institutional void that might impact MNEs' ability to create FSAs. Moreover, the degree to which MNEs are embedded in the institutional environment of home and host countries may contribute to FSA creation. Pinkse & Kolk (2012) argue how home, host-country and supranational institutional embeddedness can affect MNEs' green FSAs.  They found that in response to the institutional failure of climate change, MNEs are surrounded by a complex web of the home and host countries and supranational institutions (both formal and informal institutions). MNEs' ability to effectively develop climate change-induced competitive advantages requires a careful balance in their embeddedness in all three contexts. Misalignment (and imbalance) between host, home, and supranational institutional embeddedness (or lack thereof) can be a source of competitive disadvantages for MNEs.

In addition, prior international business studies have investigated MNEs' environmental performance as a component of corporate social responsibility. MNEs' environmental performance as a non-market strategy has strategic value for MNEs operating in countries with weaker market-supporting institutions (El Ghoul et al., 2017).

*Table 3: Policy and regulatory environment and MNE's Specific Advantages (FSAs) and Country Specific Advantages (CSAs) (*: Not Available)*

| Author(s) | Journal | Year | Method-ology | Main Sectors | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|
| Jonatan Pinkse and Ans Kolk | JIBS | 2012 | QL | * | China, US, EU | * | Home, host-country, and supranational institutional embeddedness | Interplay between constructs | MNEs green advantages | In response to an institutional failure of climate change, MNEs are surrounded by a complex web of the home country, host country, and supranational institutions (formal and informal institutions). MNEs' ability to effectively develop climate change-induced competitive advantages requires a careful balance in their embeddedness in all three contexts. Misalignment (and imbalance) between host, home, and supranational institutional embeddedness (or lack thereof) is a source of competitive disadvantages for MNEs. |
| Ans Kolk and Jonatan Pinkse | JIBS | 2008 | QL | Automobile, Oil & Gas, and Steel | US, Japan, Canada, and Germany | * | impact of regulation on CSAs and FSAs' transferability | Explanatory Construct | impact of regulation on CSAs and FSAs transferability | The authors utilized the idea that climate change-induced FSAs can be formed by three mechanisms: evolution, transformation, and substitution. These mechanisms are connected to MNEs capacities in developing new capabilities in the upstream and downstream value chain. In terms of the transferability of green FSAs, they believe that MNEs' capability development takes place in their headquarters, regional centers, and national subsidiaries. Moreover, the authors found that country and regional regulations (such as EU ETS) contribute to their institutional environment and consequently impact CSAs, and MNEs green FSAs transferability. They conclude that new adapted FSAs (green FSAs) is a key driver of MNEs' growth and longevity. Moreover, regulations may also induce multinational enterprises to locate their polluting activities in countries with less stringent environmental regulations to take advantage of the host country institutional void. |
| Alan M. Rugman and Alain Verbeke | SMJ | 1998 | QL | * | * | * | Environmental Regulations | Predictor variable | MNE Strategy; MNE green capability development | Dealing with environmental regulations, MNEs need to consider two preliminary factors: (1) time horizon in terms of evaluating the impact of environmental regulatory on MNEs, and (2) whether the impact of environmental regulations on their performance is conflicting or complementary. Moreover, MNEs should evaluate their FSAs and subsidiaries' CSAs in developing green capabilities. Various configurations of FSA-CSAs need to be considered in assessing the impact of environmental regulations on MNEs competitiveness and strategies. |
| Rugman, Alan, Verbeke, Alain | JIBS | 1998 | QL | * | Canada (case: NAFTA); EU, Japan, US (Triad); Mexico | * | government environmental regulations | Explanatory Construct | See the next cell | Regulations play a critical role in developing green capabilities (FSAs). The degree of MNEs environmental innovativeness is associated with MNEs' resource capacity in a sense that when MNEs' have strong resource capacity, they further develop national and international-level capabilities (FSAs) in response to the pertinent environmental pressures. However, when resource-based response is weak, that result in compliance rather than the creation of FSAs. Moreover, when government regulations are consistent between home and host countries, MNEs operating in countries with stronger economies better compete internationally by developing green competitive advantages in their home countries. MNEs avoid regulatory pressure by moving to pollution haven countries. |

Current scholarship in the CSR sphere suggests that CSR (including environmental performance) helps firms improve their competitive advantages by reducing transaction costs and access to further resources in countries with institutional voids. In other words, environmental performance (as part of CSR) helps firms fill institutional voids (El Ghoul et al., 2017). Such capacity requires further investigations. For example, examining how can firm's size modify that effect. Although the literature has not paid sufficient attention to this question, some studies tried to answer it.

Vormedal & Skjærseth (2020) examined the impact of environmental regulations on fish farming companies of various sizes in Norway, the UK, Chile, Canada, the USA, the Faroe Islands, and Ireland. They found that regulatory burden could have asymmetrical distribution among various players. It may impact firm competitive advantages differently so that small firms in the fish-farming industry tend to oppose stricter regulations, while large companies are not against stricter regulations. This might be due to the ability of larger firms to adapt to new regulations and the struggles of small firms in doing so. Vormedal & Skjærseth (2020) conclude that firms' dynamic capabilities, economy of scale, flexibility in production, and technological capabilities are expected to be antecedents of firms' adaptability to more stringent environmental regulations.

## Regulatory pressures and MNEs environmental sustainability

Prior studies have extensively examined the role of regulatory pressures and regulatory distance between home and host countries on MNEs' environmental sustainability. Our study summarizes the results of several management studies on that front. Many constructs have been used in prior studies, including regulatory pressures, coercive pressures, environmental regulatory stringency,

fines and penalties, regulatory threat, government pressures, perceived pressures from regulators, regulatory influence, regulatory stakeholder influence, regulatory stakeholder pressure, and strict enforcement. Some of the constructs above bear similar concepts to one another.

The findings suggest that overall regulatory pressure positively impacts corporate environmental sustainability. However, the mechanisms of such an impact are different. Maas et al. (2018) found that perceived regulatory pressures positively affect stakeholder pressure, contributing to firms' adoption of environmental practices. The impact of stakeholders' expectations is also examined in prior studies. Chan & Ma (2016) found that external environmental orientation (including stakeholders' expectations) positively contributes to proactive environmental strategies.

In addition, Hartmann et al. (2021) found the role of management commitment as a driver contributing to MNEs' environmental sustainability. They argue that regulative pressure on MNEs in their home country improves their environmental performance and MNE management commitment to renewable energy.

Regulatory pressures also affect MNEs' behavior in voluntary disclosures. For example, Chithambo et al. (2020) argue that regulatory pressure positively impacts voluntary Greenhouse Gas (GHG) disclosure. In addition, GHG politics at the national level contribute to carbon disclosure (Guenther et al., 2016). Fortanier et al. (2011) investigate how strict enforcement of CSR standards enhance the harmonization of CSR reporting. Their findings suggest that MNEs that adhere to global CSR standards demonstrate more harmonized CSR reporting.

Regarding MNE GHG performance variation between home and host countries, Nippa et al. (2021) found that MNEs maintain better carbon performance than domestic firms. However, the

carbon performance gap between MNE-affiliated and domestic plants is narrower in host countries with more stringent market regulatory systems.

Regulatory pressure also predicts the adoption of green practices within organizations. Carberry et al. (2019) examined perceived regulatory pressures, green information system (IS) adoption, and managerial commitment to green IS adoption. Their results suggest that managerial perceptions of the strength of regulative pressures are positively associated with green IS adoption and managerial commitment to green IS adoption.

From the corporate environmental strategy standpoint, regulatory pressures might impact firms differently depending on corporate environmental strategies. Buysse & Verbeke (2003) discuss three corporate environmental strategies: reactive strategy, pollution prevention, and environmental leadership. Their findings suggest that perceived regulatory pressures are higher for firms pursuing pollution prevention strategies. Chan (2010) also conducted a study to examine how regulatory stakeholder influence (RSI) affects environmental strategy. They explored regulatory stakeholder influence using a mediated construct of external environmental orientation. External environmental orientation measures the responsiveness of managers to environmental demands based on managers' perceptions of external stakeholders (Chan, 2010). The author concludes that firms' external environmental orientation positively affects their environmental strategy, contributing to firm performance. In addition, Chan (2010) found that regulatory stakeholder influence has a positive impact on external environmental orientation. Regulatory stakeholder influence also positively moderates the linkage between environmental orientation and environmental strategy.

For firms that lack an accountable approach to environmental sustainability, Halme et al. (2020) argue two configurations that improve their environmental performance: First, the exogenous pathway, in which in the absence of accountable ownership, strong external pressure and environmental management systems improve environmental performance. Second, the endogenous pathway comprises external pressure impacting accountable ownership, environmental system organization, and the integration of environmental responsibility into core business activities.

Along with regulatory pressures, another frequently applied construct in the literature is coercive pressures. Coercive pressures refer to formal and informal rules such as regulations, laws, and codes of conduct (DiMaggio and Powell, 1983). Firms tend to adapt to coercive forces, called coercive isomorphism. Vargas-Sánchez & Riquel-Ligero (2016) investigate the role of coercive pressures on environmental sustainability on a longitudinal basis. Their study suggests a positive relationship between coercive pressures and corporate environmental sustainability. Furthermore, Vargas-Sánchez & Riquel-Ligero (2016) believe coercive pressures maintain and reinforce environmental sustainability over time. Moreover, coercive pressure influences adoption of environmentally sustainable practices (Famiyeh et al., 2021).

Prior sustainability studies have also utilized 'government pressures' and 'environmental regulatory stringency.' Kolk & Pinkse (2007) argue how government regulations could shape MNEs' political activities. They believe MNEs tend to shape policy in countries with strong government pressure for climate change. However, in countries with low government pressure, MNEs tend to adopt more voluntary actions in government programs. In addition, Christmann

(2004) found that perceived government pressures are associated with the adoption of high internal global environmental performance standards and MNE self-regulation.

Some sustainability studies have used the notion of institutional pressures, a broader term than regulatory pressure. Institutional pressures encompass three forces: coercive, mimetic, and normative forces (DiMaggio and Powell, 1983). To gain legitimacy, corporations tend to increase their similarity with other corporations [called isomorphism]. Thus, along with the regulatory pressures, our study includes institutional pressures due to coercive forces in the institutional pressure concept. However, that should be considered with the caveat that institutional pressures encompass other forces (i.e., mimetic and normative). For example, Chang & Gotcher (2020) found a moderating role of institutional pressure between co-production (international buyer-supplier) and environmental innovation ambidexterity. Chang & Gotcher (2020) argue that Institutional pressure positively moderates the direct linkage between co-production and environmental innovation ambidexterity. The relationship between those two variables is stronger where institutional pressures are higher.

Institutional pressures are not the only motives for the adoption of environmentally sustainable practices and their consequent outcomes. Darnall et al. (2008) investigate motivations for adopting Environmental Management Systems (EMS) and their impacts. They found that various motivations tend to have different business outcomes. For example, more comprehensive EMS with employees' commitment and export motivations has a greater contribution to business performance than institutional pressures.

*Table 4: Stakeholder and institutional pressures (*: Not available)*

| Author(s) | Journal | Year | Methodology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operationalization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Julia Hartmann, Andrew C Inkpen, and Kannan Ramaswamy | JIBS | 2021 | QN | Oil and Gas | 90 | 33 countries | * | Regulative pressure | Predictor variable | 1 | * | Management commitment to renewable energy | Regulative pressure on MNEs in their home country to improve their environmental performance contributes to firms' management commitment to renewable energy. |
| Yang Pok Rhee, Chansoo Park, and Bui Petersen | BAS | 2021 | QN | Finance and Insurance service, Transportation/logistics service, Manufacturing (textile/leather, electric/electronic, and auto parts), Food and Grocery | 177 | China, Vietnam, Bangladesh, Indonesia, Russia, Thailand, Philippines, Mexico, Mongolia | Korean foreign subsidiaries | Secondary stakeholder [demand/ pressure] | Predictor variable | using a 7-point Likert scale (See Appendix I) | * | Responsive CSR and Strategic CSR [including environmental initiatives] | Host-country secondary stakeholders (including government) have a strong impact on both responsive and strategic CSR [including environmental activities] of foreign subsidiaries. Furthermore, secondary stakeholders have more influence on strategic CSR initiatives than on responsive actions. |
| Samuel Famiyeh, Robert.A. Opoku, Amoako Kwarteng, Disraeli Asante-Darko | RP | 2021 | QN | Mining | 164 | * | Ghana | Coercive pressure | Predictor variable | Appendix I | * | Environmental sustainability | Coercive pressure is positively associated with the adoption of environmentally sustainable practices in firms. |
| Punit Arora, Prabal De | JWB | 2020 | QN | Textiles and garments, Food, Chemicals, Machinery and equipment, metal products, Plastics & rubber, Non-metallic mineral | 986 | Latin America (Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, | * | Direct stakeholder pressure | Predictor variable | A dichotomous question that asked the respondents if they had received stakeholder pressure to be socially and | * | Environmental Sustainability Practices (ESP) | Direct stakeholder pressure contributes to the adoption of Environmental Sustainability Practices (ESP) by Latin American firms. Moreover, organizational agency such as international quality certification positively moderates the linkage between external pressures and the adoption of proactive ESP policies. |

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[1] Used carbon intensity indicator, change in CO2 equivalent emissions per unit of GDP. Data from Environmental Performance Index by the Yale Center for Environmental Law and Policy.

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | products, and Electronics | | Panama, Paraguay, Peru, and Uruguay) | | | | environmentally responsible. | |
| Kuo-Hsiung Chang, Donald F. Gotcher | IBR | 2020 | QN | IT and Bicycle Industry | 124 | Taiwan | * | Institutional pressures | Moderator | Appendix | Moderating between co-production and environmental innovation ambidexterity | Moderating between co-production and environmental innovation ambidexterity | Institutional pressure has a positive moderating impact on the direct linkage between co-production and environmental innovation ambidexterity. Where institutional pressure is higher, the relationship between those two variables is stronger. |
| Minna Halme, Jukka Rintamäki, Jette Steen Knudsen, Leena Lankoski, and Mika Kuisma[1] | BAS | 2020 | QL | European-based large companies from the automotive, construction, information, and communication technology (ICT), retail, and textile sectors | 19 | Different European companies | * | external pressure (including regulations) | Explanatory Construct | Fuzzy-set value definition (see Appendix A) | * | accountable ownership (Goal setting and shaping strategic CSR management) | Two configurations contribute to improve environmental performance: First, exogenous pathway, in which in the absence of accountable ownership, strong external pressure and environmental management systems improves environmental performance. Second, endogenous pathway, that comprises external pressure impacting accountable ownership, environmental system organization, and the integration of environmental responsibility into core business activities. |
| Julian F. Kölbel, Timo Busch | GSJ | 2019 | QN | Various | 604 | Note[1] | * | Regulatory distance | Moderator | OECD data based on 14 dimensions | PRC is moderating the relationship between CSR ratings and firms' default risk. | PRC is moderating the relationship between CSR ratings and firms' default risk. | While CSR ratings contribute to a risk-mitigating effect, such impact is negatively moderated by regulatory distance (Regulatory distance between home country of rating agencies and firms' home country). |

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[1] Germany, Switzerland, United States, Australia, United Kingdom, Italy, Canada, France, Netherlands, Finland, Sweden, Spain, and Japan

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Edward J. Carberry, Pratyush Bharati, David L. Levy, and Abhijit Chaudhury | BAS | 2019 | QN | Manufacturing, Finance and insurance, Banking, Health care, Education, Government, Professional and other services, Transportation, Information technology (IT) and telecommunications, Utilities, and Retail and wholesale trade | 425 | US | * | [Institutional] Regulative pressure | Response variable | See items are used to measure Regulative institutional pressure (RIP) in Appendix A | Social movement activism | * | Social movement activism influences the perception of institutional regulative pressure and diffusion of green IS. |
| Dawn L. Keig, Lance Eliot Brouthers, Victor B. Marshall | IBR | 2019 | QN | Financials, Materials, Energy, Consumer Discretionary, Consumer Staples, Telco, Information Tech., Healthcare, and Utilities | 408 | Europe, Asia, and North America | * | Formal institutional distance | Predictor variable | all six dimensions of the Worldwide Governance Indicators, updated and published by the World Bank. | * | Corporate Social Performance (including environmental) | Formal institutional distance negatively moderates between MNEs international scope (# countries MNE operates in) and their social performance (including environmental). |
| Byung Il Park, Adam H. Cave | IBR | 2018 | QN | Various | 118 | South Korea | * | Local government | Predictor variable | Appendix I | * | IJV CSR | The role of Government on the pursuit of Corporate Social Responsibility for IJVs in foreign markets is not supported. |
| Colin David Reddy and Ralph Hamann | BAS | 2018 | QN | Mining, oil & gas, consulting, finance, and information technology hardware and software | 93 | Europe, Asia, NA | South Africa | Regulatory distance | Moderator | Using "institutions" data in the World Economic Forum Global Competitiveness Report by utilizing the section governments' efforts to regulate economic activity focuses on respondents' perception of regulatory burden. | * | Moderates between Global CSR commitment and Local CSR responsiveness (CSR is measured based on Environmental and Human rights criteria) | MNEs global commitments to Environmental CSR (as well as Human rights) positively contributes to MNEs local responsiveness in host countries. Such a phenomenon is stronger when the regulatory distance between home and host country is lower. |

| Authors | Journal | Year | Type | Industry | Sample | Country | Scale | IV Concept | IV Role | IV Measure | Mediator | DV Concept | Finding |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Greg Distelhorst, Richard M. Locke | AJPS | 2018 | QN | Manufacturing and retail | 981 | 35 developing countries | * | Compliance with environmental standards | Independent Variable | Inspections conducted by external auditors | * | Order volume in trade | Compliance with environmental standards contributes to increased average order volume of 4% in export. Results also suggest that compliance with environmental standards is gained without undermining performance on price, delivery, or product quality. |
| Norifumi Kawai, Roger Strange, Antonella Zucchella | IBR | 2018 | QN | Manufacturing | 123 | Japan | Note[1] | Regulatory stakeholder pressure | Predictor variable | (1 item; 3-point Likert scale: 1=not important, 2=moderately important, 3=very important); How important do you consider the influence of local government on your subsidiary's environmental practices? | * | EMS Implementation | The impact of regulatory stakeholder pressures on Environmental Management System implementation in subsidiaries is not supported. |
| Ricky Y. K. Chan, Katherine H. Y. Ma | MIR | 2016 | QN | Electronics and data processing, Textiles and garments, Electrical appliances, and Toys | 414 | China | * | External environmental orientation | Predictor variable | Appendix I | Firms' efforts in scanning developed markets | Proactive environmental strategies | External environmental orientation (including stakeholders' expectation) positively contributes to the practice of proactive environmental strategies. |
| Alfonso Vargas-Sa nchez and Francisco J. Riquel-Ligero | MIR | 2016 | QN | Recreation | 108 | Spain | * | Coercive pressures | Predictor variable | Appendix | * | Environmental Responsibility | In a longitudinal basis, results suggest that the positive impact of coercive pressures on environmental sustainability is maintained and reinforced over time. |
| Julia Hartmann, Klaus Uhlenbruck | JWB | 2015 | QN | * | 2724 | 42 countries | * | Number of international environmental treaties ratified | Predictor variable | Data from United Nations | * | Corporate Environmental Performance | The number of environmental treaties ratified by a country is positively associated with corporate environmental performance of manufacturing firms in that country. |

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[1] United States, Czech Republic, United Kingdom, Germany, Hungary, Poland, France, Netherlands, Canada, Belgium, Portugal, Spain, Turkey, Italy, Mexico, Romania, Russia, Sweden, Denmark, Ireland, Montenegro, Slovakia, and Switzerland

| Authors | Journal | Year | Method | Industry | Sample | Country | | Predictor 1 | | Predictor 1 details | | Outcome | Findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antoine Dechezleprêtre, Eric Neumayer, Richard Perkins | RP | 2015 | QN | Automobile | 183101 | 45 countries | * | Environmental regulatory stringency and distance | Predictor variable | Based on the classification scheme of the European Union's (EU), Euro emission standards (e.g., Euro 2, 3, etc.), Countries' regulatory stringency is coded on a scale of 0 to 5. | * | cross-border diffusion of new technologies (green tech) | Environmental regulatory distance between countries predicts cross-border eco-innovation patent inflow. The lower the environmental regulatory distance, the higher cross-border patent inflow. Environmental regulatory stringency is not associated with cross-border patent inflow. |
| Adam R. Fremeth and J. Myles Shaver | SMJ | 2014 | QN | Renewable Power | 127 | US | * | Peer regulations | Predictor variable | Applying a state-level regulatory policy called Renewable Portfolio Standard (RPS), the authors identify the stringency of the RPS policies in states. | * | Share of total power generated by utilities from renewables (the more renewables, the better environmental performance of the plant) | Utilities that need to enhance their environmental performance by adding renewable sources to their portfolio, face two regulatory spillovers: Peer regulations in external jurisdictions and regulations in neighbor jurisdictions. Findings suggest that firms tend to increase their portfolio in renewables to improve their environmental performance when peer firms face more stringent regulations in other jurisdictions. Similar linkage for neighbor jurisdiction is not supported in this study. |
| Fabienne Fortanier, Ans Kolk, and Jonatan Pinkse | MIR | 2011 | QN | low-tech manufacturing, high-tech manufacturing, and services | 250 | Note[1] | * | Strict enforcement of CSR standards | Predictor variable | Ordinal variable based on Lenient, Average, and Strict | * | Harmonization of CSR reporting | MNEs that adhere to global CSR standards would demonstrate more harmonized CSR reporting. However, stricter enforcement mechanisms of such standards do not lead to stronger harmonization. |
| Ricky Y.K. Chan | JWB | 2010 | QN | Light industry (e.g., textile & wearing apparel, plastics, electronics, leather & fur, foods) and Heavy (e.g., industrial machinery, chemicals, production and distribution of | 356 | Hong Kong, US, Japan, Western Europe, Taiwan, and South EastAsia | China | Regulatory Stakeholder Influence | Predictor variable | Appendix I | * | Firm external environmental orientation | External environmental orientation positively impacts firm environmental strategy, which then it affects firm performance. Regulatory stakeholder influence has a positive influence on external environmental orientation. |

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[1] US, Japan, South Korea, France, Germany, UK, Belgium, Finland, Italy, Luxembourg, the Netherlands, Norway, Spain, and Switzerland

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| | | | | energy, transport equipment) | | | | | | | |
| R. Scott Marshall, Michele E.M. Akoorie, Ralph Hamann, Paresha Sinha | JWB | 2010 | QN | Winery | 486 | US and New Zealand | * | Perceived pressures from regulators | Predictor variable | Not available | * | Implementation of environmental practices | External pressures from regulators are not associated with three environmental practices including implementation of energy reduction practices, implementation of practices for measurement and monitoring of environmental impacts, and practices for recycling of materials. |
| Nicole Darnall, Irene Henriques, Perry Sadorsky | JIM | 2008 | QN | * | 1355 | Canada, Germany, Hungary, and the United States | * | Regulator influences | Predictor variable | Question for environmental managers about "how important the influence of public authorities was on the environmental practices of their facility?" Answers: "not important," "moderately important," and "very important." | * | Business Performance | Different motivations in the adoption of Environmental Management Systems (EMS) have different business outcomes. More comprehensive EMS with employee's commitment, export motivations, environmental R&D have greater contribution to business performance than institutional pressures. |
| Yousef Eiadat, Aidan Kelly, Frank Roche, Hussein Eyadat | JWB | 2008 | QN | Chemical Industry | 119 | Jordan | * | government environmental regulation; Managerial perceptions of importance of stakeholder pressures | Predictor variable | Appendix | * | Adoption of an environmental innovation strategy | Government environmental regulation is negatively associated with environmental innovation strategy. Furthermore, perceived stakeholder pressures (including local public agencies) are not associated with environmental innovation strategy. |
| Pratima Bansal | SMJ | 2005 | MM | Forestry, mining, and oil and gas | 45 | Canada | * | Fines and penalties | Predictor variable | Note[1] | * | Corporate Sustainable Development | While the coefficient for fines and penalties is positive, it is not significant. However, the author believes that the regulation enforcement for sustainable development |

[1] Two components: (1) the number of times that a firm gets a fine or penalty under the Canadian Environmental Protection Act (CEPA) and the Canadian Fisheries Act (CFA). (2) Other number of fines or penalties that were not covered under CEPA and CFA. (i.e., disclosed in the annual report)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | was new and not consistent at the time of the study. |
| Petra Christmann | AMJ | 2004 | QN | Chemical Industry | 512 | US | * | Governme nt pressures | Independ ent Variable | Perceived government pressures (Appendix A) | * | Adoption of high internal global environmental performance standards | Perceived government pressures is associated with adoption of high internal global environmental performance standards and MNE self-regulation. |
| Kristel Buysse and Alain Verbeke | SMJ | 2003 | QN | Chemical, Natural resources, Manufacturing, Light industries | 197 | Belgium | * | Regulatory stakeholder | Predictor variable | Two items: Influence of national (and regional) governments and Influence of local public agencies | * | Environmental strategy | Three strategies are discussed as firms' environmental strategies: reactive strategy, pollution prevention, and environmental leadership. Results suggest that perceived regulatory pressures is higher for firms pursuing prevention strategy. |

*Table 5: Actors' dynamism and co-evolution of institutions (\*: Not available)*

| Author(s) | Journal | Year | Method ology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operational ization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Serge Poisson-de Haro, Alex Bitektine | JWB | 2020 | QL | Electric utilities | 3 | Spain | * | Interplay between firms' non-market capabilities, implementation of organizational change, firms' core capabilities, and stakeholder pressures | * | Case study | * | Interplay between firms' non-market capabilities, implementation of organizational change, firms' core capabilities, and stakeholder pressures | Firms' strategic responses to institutional pressures are driven by social norms, firms' ability in non-market negotiations and political ties, and the companies' ability to modify their structure, particularly their core technical capabilities. The fit between those drivers is crucial in firms strategic choices while responding global sustainability pressures. |
| Ans Kolk and Stephen Tsang | BAS | 2017 | QL | Automobile | * | China | * | Co-evolution between institutional environment (including policy environment) and industry/firm dynamics | * | Co-evolution between institutional environment (including policy environment) and industry/firm dynamics | Co-evolution between institutional environment (including policy environment) and industry/firm dynamics | The interrelationships between firms (including IJVs), local governments, and the central government are dynamic and co-evolutionary in adopting CSR and sustainability policies. Environmental (and social) priorities could be different among different actors including local and central governments of a country. |

| Byung Il Park, Agnieszka Chidlow, Jiyul Choi | IBR | 2014 | QN | Various | 312 | South Korea | * | Local government | Predictor variable | Appendix I | * | MNE CSR (including environmental) | Local governments affect MNEs CSR particularly when primary stakeholder such as consumers are not strong enough. However, when primary stakeholders are strong, the role of local governments will not prevail. |

*Table 6: Policy mix and policy instruments (*: Not available)*

| Author(s) | Journal | Year | Methodology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operationalization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panikos Georgallis, Joao Albino-Pimentel and Nina Kondratenko | JIBS | 2021 | QN | Solar energy investment | 202 | EU | EU | FiT (feed-in-Tariff) Policy Generocity | Predictor variable | A continuous variable that measures the average price (in €/KWh) of the FiT offered by a potential host country. | * | Location choice (for FDI in solar energy) | Results suggests that higher levels of host-country Feed in Tariff policy generosity is positively associated with a firm's choice of location for an investment in solar energy. Moreover, firm's non-market experience positively moderates the relationship between host-country FiT policy generosity and investment in solar energy. |
| Michael Nippa, Sanjay Patnaik and Markus Taussig | JIBS | 2021 | QN | Various industries | 6279 | EU | 25 EU Countries | Host country institutions | Moderator | Using comparative analysis between firms in different areas based on the parent's home country including Foreign EU-New MNE Parent, Foreign EU-15 MNE Parent, and Foreign Non-EU MNE Parent. | * | Plant Carbon Emissions CAGR | MNEs maintain better carbon performance over domestic firms. In host countries with more stringent market regulatory systems, the carbon performance gap between MNE-affiliated plants and domestic plants is narrower. |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Samuli Patala, Jouni K. Juntunen, Sarianna Lundan, and Tiina Ritvala | JIBS | 2021 | QL | Energy Utilities | 17 (289 Greenfield investment) | 14 countries | 42 countries | Host-country public incentives | Predictor variable | A composite measure of three incentive-related policy indicators from World Bank's Regulatory Indicators for Sustainable Energy-RISE. | * | Greenfield FDI in renewables | Among different configurations of the drivers of FDI in renewables by MNEs, state-owned MNEs tend to be more risk averse than private firms. State-owned firms tend to take advantage of host-country incentives. However, private firms overall tend to invest more than state-owned firms in renewables. |
| Cristina Penasco, Pablo del Rio, Desiderio Romero-Jordan | JIM | 2017 | QN | Various industries | 932 | Spain | * | Subsidies from (1) national sources (2) International sources. (3) EU ETS regulation | Predictor variable | Binary variables: 1 if public subsidies received from local, regional or central government. 1 if subsidies received from international sources. 1 if firms are affected by EU ETS. | * | Likelihood of investing in eco-innovations | National source of funding for eco-innovation contributes to firms' decision in investing in eco-innovation, but international funding does not. In addition, when it comes to EU, results suggest that decision for eco-innovation adoption is associated with the EU ETS for firms that are covered by that system. |
| Valeria Costantini, Francesco Crespi, Alessandro Palma | RP | 2017 | QN | Residential sector | * | 23 OECD countries | * | Balanced policy mix | Predictor variable | Appendix I | * | eco-innovation performance in energy efficiency technologies | Policy mix with a more balanced instruments (both demand-pull and technology-push instruments) tends to have a greater impact on eco-innovation performance of energy efficiency technologies. |
| Valeria Costantini, Francesco Crespi, Alessandro Palma | RP | 2017 | Quant | Residential sector | * | 23 OECD countries | * | Comprehensive policy mix | Predictor variable | Appendix I | * | eco-innovation performance in energy efficiency technologies | The comprehensiveness of policy mix is positively associated with eco-innovation performance. Nonetheless, extra simultaneous policy tools might diminish policy mix effectiveness. |

*Table 7: Voluntary environmental initiatives and disclosure*

| Author(s) | Journal | Year | Method ology | Main Sectors | Sampl e size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operational ization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Addisu A. Lashitew | JIBP | 2021 | QL | * | * | EU, US | * | Institutional change | Predictor variable | * | * | Transparen cy and reliability of sustainabilit y reporting and performanc e | Regulatory quality in a sense of stakeholder-supportive regulations is key for the integration, measurement, and reporting of corporate sustainability. In countries that regulations do not give primacy to stakeholders (rather than shareholders), regulations could be partially successful in pushing corporations forward in effective sustainability reporting. New development in regulatory and policy sphere is emerging, such as regulatory regime in the EU. Moreover, other policy initiatives are required, such as policies that incentivize corporations. |
| Lyton Chithambo, Ishmael Tingbani, Godfred Afrifa Agyapong, Ernest Gyapong, Isaac Sakyi Damoah | BSE | 2020 | QN | Consumer goods and services, Utilities, Oil and Gas, Basic materials, Communic ation, and Technology | 215 | UK | * | Regulatory pressure | Predictor variable | Proxied by firm size | * | Disclosure of GHG emission | Regulatory pressure in this study is proxied by firm size. Results suggest that regulatory pressure is positively correlated with voluntary GHG disclosure. |
| Edeltraud Guenther, Thomas Guenther, Frank Schiemann, and Gabriel Weber | BAS | 2016 | QN | Various | 1120 | Europe, NA, Asia-Pacific | * | GHG Politics | Independ ent Variable | Perception of a country's national and international climate politics as provided by Germanwatc h for the year before to the CDP disclosure. | * | Carbon disclosure performanc e | GHG politics contribute to carbon disclosure. |

| Author | Journal | Year | Method | Industry | N | Country | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ekrem Tatoglu, Erkan Bayraktar, Sunil Sahadev, Mehmet Demirbag, Keith W. Glaister | JWB | 2014 | QN | Automotive, electronics and electrical equipment, Food, textile, leather and glass, Chemical and pharmaceuticals, Trade and hospitality, financial services and engineering | 193 | USA, Germany, France, Italy, UK, Switzerland, Netherlands, other EU countries and Asian countries. | Turkey | Stakeholder pressure | Predictor variable | For the government pressure, they measured the item using survey for "Government policy drives the need to green." See Appendix | * | adoption level of voluntary environmental management practices (VEMPs) | Stakeholder pressures (including perceived government policies) influence the level of voluntary environmental management practices (VEMPs) by MNE subsidiaries. |
| Ans Kolk, Jonatan Pinkse | BAS | 2007 | QL | Various | 218 | Europe, NA, Asia-Pacific | * | Government pressures | Explanatory Construct | * | * | MNE political strategy in climate change | MNEs tend to participate in shaping policy in countries with strong government pressures for climate change mitigation. Moreover, in countries with low government pressure, MNEs likely adopt more voluntary actions in government programs. |

Poisson-de Haro & Bitektine (2015) conduct three case studies to explore the interplay between firms' non-market capabilities, implementation of organizational change, firms' core capabilities, and stakeholder pressures. They argue that firms' strategic responses to institutional pressures are driven by social norms, firms' ability in non-market negotiations and political ties, and the companies' ability to modify their structure, particularly their core technical capabilities. The fit between those drivers is crucial in firms' strategic choices while responding to global sustainability pressures.

Another concept that has recently attracted substantial attention is the notion of policy mix (Rogge & Johnstone, 2017; Rogge & Reichardt, 2016). Policy mix refers to a set of various and complementary policy instruments that are applied to address problems in sustainability transition (Borrás et al., 2013).

Costantini et al. (2017) examine how a balanced policy mix impacts eco-innovation performance in energy efficiency technologies. They found that policy mix with more balanced instruments (both demand-pull and technology-push instruments) tends to have a greater impact on the eco-innovation performance of energy efficiency technologies. Their findings also suggest that the comprehensiveness of policy mix positively contributes to eco-innovation performance. Nonetheless, extra simultaneous policy tools might diminish policy mix effectiveness. Furthermore, prior studies indicate the importance of environmental policies in adopting practices and strategies that enhance MNE GHG performance and environmental sustainability. For example, Georgallis et al. (2021) found that higher levels of host-country Feed-in Tariff (FIT) policy generosity is positively associated with a firm's choice of location for an investment

in solar energy. However, such a relationship is positively moderated by MNE's experience dealing with non-market strategies.

## Regulatory and institutional distance between home and host countries

In international business (IB) studies, concepts related to the distance between home and host countries are prominent and highly applied. In the environmental sustainability sphere, regulatory distance and the institutional distance between home and host countries have been discussed in prior international business and sustainability literature. Environmental regulatory distance is usually measured by relative regulatory stringency between host and home countries (Dechezleprêtre et al., 2015).

Dechezleprêtre et al. (2015) investigate how environmental regulatory stringency and distance affect the cross-border diffusion of new technologies (green technologies). They found that environmental regulatory distance between countries predicts cross-border eco-innovation patent inflow; the lower the environmental regulatory distance, the higher the cross-border patent inflow. However, the results suggest that environmental regulatory stringency per se is not associated with cross-border patent inflow, but the regulatory distance between the two countries is. Their findings are intriguing, indicating how important the concept of distance is in IB research.

Regulatory distance is also utilized as a moderator variable in IB sustainability literature. Reddy & Hamann (2018) investigate 93 MNEs in mining, oil & gas, consulting, finance, and information technology hardware and software in Asia, Europe, and North America. They found

a moderator role for regulatory distance in the positive association between MNEs' global commitments to Environmental CSR and MNEs' local responsiveness in host countries. Results suggest this relationship is stronger when the regulatory distance between home and host country is lower. Kölbel & Busch (2021) discuss the moderating role of regulatory distance in the linkage between CSR ratings and risk mitigation effect. Kölbel & Busch (2021), using data from 604 firms, found that CSR ratings contribute to a risk-mitigating effect. That impact is negatively moderated by regulatory distance (i.e., the regulatory distance between the home country of rating agencies and the firms' home country).

The institutional distance between home and host countries is also applied as moderating variable in prior studies. Keig et al. (2019) examine the role of formal institutional distance on MNE social performance (including environmental performance). They conclude that formal institutional distance negatively moderates between MNEs international scope (i.e., the number of countries an MNE operates in) and their social performance (including environmental performance).

### Policy spillover effect and MNEs environmental sustainability

In the environmental policy realm, policy spillover refers to "an effect of an intervention on subsequent behaviors not targeted by the intervention" (Truelove et al., 2014, p 128). Intervention could encompass any attempt to stimulate behavior change and decision-making at the organizational level. A positive spillover effect occurs when a policy increases pro-environmental behavior in a group not initially targeted by the policy. In contrast, when a pro-

environmental policy decreases, the pro-environmental behavior of a non-targeted group is called

a negative spillover effect. Similar concepts are applied in cross-border environmental policies.

Cross-border actors can send and receive environmental policy signals worldwide.

(Dechezleprêtre et al., 2015). This might be due to the possibility of diffusion of innovations in

cross-border and international trade of green technologies, products, and services

(Dechezleprêtre et al., 2012; Huber, 2008). In other words, environmental policy signals received

by MNEs, either from their host countries or countries that they do not operate in, induce MNEs

to innovate in clean technologies. For example, Aghion et al. (2016) show that U.S. policies on

automobile emissions induced Japanese and German manufacturers to respond to the new

regulations rapidly. Within a similar research context to Aghion et al. (2016)'s study, Hascic et

al. (2008) found that foreign regulations are positively associated with firms' domestic

innovations. Lanjouw & Mody (1996) observe that strict regulation in the US automobile

industry stimulates innovations in Germany and Japan. Furthermore, analyzing patent

applications in seven OECD countries between 1985 and 2003, Popp et al. (2011) found that

foreign regulation contributes to domestic innovation.

Peters et al. (2012) observe that demand-pull policies induce country-level innovation spillovers,

which might disincentivize [national] policymakers to engage in domestic market creation. The

authors then suggest the necessity of supranational demand-pull policies to address the spillover

issue.

MNEs' operations in various jurisdictions allow them to develop green FSAs (firm-specific

advantages) in one country and to replicate, redeploy, and recombine those advantages in

countries with different environmental policies and regulatory stringency. For example, eco-

innovations developed by MNEs in a country could bring the first-mover advantage for them in other countries with less stringent environmental regulations.

Fremeth & Shaver (2014) investigate two types of environmental policy spillover effect by exploring 127 US utilities: environmental policies impacting their peers and policies adopted by neighboring jurisdictions. The authors' findings suggest that firms tend to increase their portfolio in renewables to improve their environmental performance when peer firms face more stringent regulations in other jurisdictions. However, the findings do not support the notion of neighbor-jurisdiction policy spillover.

Costantini et al. (2017) examine how environmental policies might affect eco-innovation performance in energy efficiency technologies. The authors found the policy spillover effect as a significant phenomenon that contributes to the eco-innovation activities of host countries. Their findings suggest that both demand-pull and technology-push policies adopted in foreign countries are positively associated with eco-innovation performance in host countries.

*Table 8: Policy spillover effect*

| Author(s) | Journal | Year | Methodology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operationalization of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Valeria Costantini, Francesco Crespi, Alessandro Palma | RP | 2017 | Quant | Real state | * | 23 OECD countries | * | Similarity in policy mix between countries | Predictor variable | Appendix I | eco-innovation performance in energy efficiency technologies | Policy spillover effects are found significant in shaping eco-innovation activities in host countries. Moreover, both demand-pull and technology-push policies adopted in foreign countries contribute to eco-innovation performance in host countries. In terms of the role of similarity between domestic and foreign policy instruments and mixes, findings suggest that cross-border similarity in demand-pull and technology-push policies contributes to eco-innovation performance of Energy Efficiency technologies in host countries. Furthermore, in terms of balance in policy mix (balanced application of instruments), findings show that cross-border similarity in the policy balance between demand-pull and technology-push instruments is associated with eco-innovation performance. |
| Antoine Dechezleprêtre, Eric Neumayer, Richard Perkins | RP | 2015 | Quant | Automobile | 183101 | 45 countries | * | Environmental regulatory distance (relative environmental regulatory stringency) | Predictor variable | Relative environmental regulatory stringency | cross-border diffusion of new technologies (green tech) | Environmental regulatory distance between countries predicts cross-border eco-innovation patent inflow. The lower the environmental regulatory distance, the higher cross-border patent inflow. Environmental regulatory stringency is not associated with cross-border patent inflow. |
| Adam R. Fremeth and J. Myles Shaver | SMJ | 2014 | Quant | Renewable Power | 127 | US | * | Neighboring jurisdiction regulations | Predictor variable | 1 | Share of total power generated by utilities from renewables (the more renewables, the better environmental performance of the plant) | Utilities that need to enhance their environmental performance by adding renewable sources to their portfolio, face two regulatory spillovers: Peer regulations in external jurisdictions and regulations in neighbor jurisdictions. Findings suggest that firms tend to increase their portfolio in renewables to improve their environmental performance when peer firms face more stringent regulations in other jurisdictions. Similar linkage for neighboring jurisdiction regulations is not supported in this study. |
| Erin M. Reid and Michael W. Toffel | SMJ | 2009 | QN | Various | 524 | US | * | Regulatory threat | Predictor variable | Binary variable 1: regulatory threat 0: otherwise | Public disclosure | Firms that are directly threatened by government regulation on a social issue, are likely to engage in practices consistent with the aims of a related social movement. This result could also be supported for a firm that is not directly threatened by regulation but other firms within the same institutional field are threatened by regulation. |

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[1] Applying a state-level regulatory policy called Renewable Portfolio Standard (RPS), the authors identify the stringency of the RPS policies in states.

Environmental performance could be the degree of adoption of eco-innovations. Prior studies suggest that policy instruments have various impacts on the adoption of eco-innovations. For example, Peñasco et al. (2017) examine how subsidies from (I) national sources, (II) International sources, and EU ETS regulation affected investing in eco-innovations in 932 firms based in Spain. Their findings indicate that the national funding sources for eco-innovation contribute to firms' decisions in investing in eco-innovation, but international funding does not. In addition, when it comes to the EU, results suggest that the decision for eco-innovation adoption is associated with the EU ETS for firms covered by that system.

## Regulatory quality and institutional voids in home and host countries

Regulatory quality is a multi-faceted phenomenon. Prior studies have investigated factors such as the flexibility of regulations and clear goal as components of regulatory quality (Majumdar & Marcus, 2001; Porter & van der Linde, 1995). Kaufmann et al. (2011) believe environmental regulatory quality deals with formulating and implementing sound policies and regulations that promote environmental sustainability.

Regulatory quality contributes to the adoption of CSR standards, including environmental standards. Dau et al. (2021) investigate the impact of regulatory quality on adopting CSR standards and the moderating impact of the regulatory quality between global integration and the adoption of CSR standards (including environmental performance). The authors found that (1) regulatory quality significantly contributes to the adoption of CSR standards, and (2) in countries with higher regulatory quality, the impact of global integration on the adoption of CSR standards is more substantial.

A sound regulatory system also supports the private sector. Patnaik (2019) argues that in economies with a supportive regulatory system for the private sector, regulators tend to be more susceptible to influence interest groups. "Even if political actors have a priori ideological preferences, they face established channels within the existing regulatory system that impact their ability to respond to political strategy efforts (Patnaik, 2019, p 1144)."

In addition, regulatory quality impacts sustainability disclosure and reporting behavior. Lashitew (2021) argues that regulatory quality in the sense of stakeholder-supportive regulations is critical for the integration, measurement, and reporting of corporate sustainability. In countries where regulations do not give primacy to shareholders (than stakeholders), regulations push corporations forward in effective sustainability reporting. Moreover, Wang & Li (2019) discuss the interplay between regulatory quality, subsidiary ownership control, and information control by MNEs when it comes to Corporate Social Irresponsibility (CSI). Their findings suggest that public disclosure of CSI in host countries is negatively associated with equity control of foreign subsidiaries when host countries have higher regulatory quality. However, such an impact is weaker and displays a near-zero slope when host countries have lower regulatory quality. In other words, ownership control is more salient in host countries with relatively higher regulatory quality. Furthermore, Li & Zhou (2017) believe that in countries with higher regulatory quality, policies identify a broader range of corporate social irresponsibility formally and explicitly.

On the flip side, however, lack of regulatory quality is identified with various notions such as regulatory fragmentation and policy uncertainty. Lister et al. (2015) investigate the role of regulatory fragmentation and policy uncertainty on the underperformance of transnational environmental governance in maritime shipping. The authors believe a growing regulatory

fragmentation and policy uncertainty stalls environmental regulatory progress. They argue that the maritime shipping sector suffers from the complexities of transnational environmental governance, including international agreements, fragmentation in national and regional regulations, an increasing number of not-necessary-aligned multi-stakeholder initiatives, and rating processes.

The regulatory system is part of the institutional environment. That is why some scholars have investigated the role institutional voids play in MNE environmental performance. Institutional voids, the weakness/lack of institutional structure that enable and support both firm market and non-market strategies, bring in both opportunities and challenges for MNEs (Biggart et al., 2004; J. Doh et al., 2017; T. Khanna & Palepu, 1997). Zheng et al. (2015) found that perceived uncertainty in CSR regulation weakens the positive link between insider CSR pressures and sustainability initiatives.

Kolk & Pinkse (2008) discuss that regulations induce MNEs to locate their polluting activities in countries with less stringent environmental regulations to take advantage of the host country institutional void. The authors also provide insights into how institutional misalignment in the host, home, and supranational context can hamper the development of green FSAs (Pinkse & Kolk, 2012). As discussed earlier, the authors believe that misalignment (and imbalance) between host, home, and supranational institutional embeddedness (or lack thereof) can be a source of competitive disadvantages for MNEs. In addition, Rugman & Verbeke (1998) argue the regulatory consistency between home and host countries. They point out that when government regulations are consistent between home and host countries, MNEs operating in countries with more robust economies can better compete internationally by developing green

competitive advantages in their home countries. However, when regulatory forces are inconsistent between home and host countries, MNEs avoid regulatory pressures by moving some operations to pollution haven countries. That might raise a notion of the relativity of institutional voids between home and host countries for further investigation.

*Table 9: Regulatory quality and institutional voids*

| Author(s) | Journal | Year | Methodology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operationalization of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Luis Alfonso Dau, Elizabeth M. Moore, Jonathan P. Doh, and Margaret A. Soto | JIBP | 2021 | QN | Various | 11992 | 133 countries | Various | Regulatory quality | Predictor variable | World Bank Group's Development Indicators (WBGDI) | Adoption of CSR standards (including environmental responsibility) | Regulatory quality has a positive and significant impact on the adoption of CSR standards. In addition, in countries with higher regulatory quality, the impact of global integration on the adoption of CSR standards is stronger. |
| Irja Vormedal and Jon Birger Skjarseth | BAP | 2020 | QL | Fish-farming industry | 15 | Norway, UK, Chile, Canada, USA, the Faroe Islands, and Ireland | * | Stricter environmental regulations | Predictor variable | * | Corporate responses | Regulatory burden have asymmetrical distribution among various players and may impact their competitive advantages differently. In this study, the authors found that small firms in fish-farming industry tend to oppose stricter regulations, while large companies are not against stricter regulations. This is due to the ability of larger firms to adapt with new regulations and struggles of small firms in doing so. Firms' dynamic capabilities, economy of scale, flexibility in production, and technological capabilities could be antecedents of firms' adaptability capacity to stricter environmental regulations. |
| Sanjay Patnaik | JIBS | 2019 | QN | Bricks and Ceramics, Cement and Lime, Coke ovens, Combustion, Glass, Iron and Steel, Paper, Refining, Roasting and Sintering | 1322 | 24 EU members | * | Pro-business regulatory | Predictor variable | World Bank and indicates "perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development." | Allowance gap (Allowance in EU ETS system) | In economies in that regulatory system is perceived to be more supportive of the private sector, regulators tend to be more susceptible to be influenced by interest groups. "Even if political actors have a priori ideological preferences, they face established channels within the existing regulatory system that impact their ability to respond to political strategy efforts." Research findings suggest that collective political strategy, competition between interest groups to gain more benefits, has led to an average of eighteen percent surplus of emissions permit between 2005 and 2012. |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Peter Rodgers, Peter Stokes, Shlomo Tarba, Zaheer Khan | MIR | 2019 | QL | Logistics and Transportation, IT, Retail, and Telecommunication | 9 | Austria, France, Poland, Russia, Romania, USA, Norway, and Turkey | Ukraine | Coercive pressures | * | * | Evolving interplay of CSR, CPA, and Coercive actions of government agencies | Service MNEs utilize various CSR tactics along with Corporate Political Activities (CPA) to compensate institutional voids. Such CSR activities evolve with actions (including coercive activities) initiated by government agencies. |
| Stephanie Lu Wang and Dan Li | JIBS | 2019 | QN | several industries | 3528 | * | 140 countries | Regulatory quality | Moderator | World Bank | Moderating the relation between public disclosure of corporate social irresponsibility in the host country and subsidiary ownership control | MNEs adopt information control as a strategic response to public disclosure of Corporate Social Irresponsibility (CSI) in host countries. CSI contributes to MNEs' higher subsequent information control. In terms of regulatory environment, host-country regulatory quality, "the degree to which policies and regulations are effectively formulated and implemented", has different impacts on ownership control. Public disclosure of CSI in host countries is negatively associated with equity control of foreign subsidiaries when host countries have higher regulatory quality. However, such an impact is much weaker and displays a near zero slope when host countries have lower regulatory quality. In other words, ownership control is more salient in host countries with relatively higher regulatory quality. |
| Peter Tashman, Valentina Marano and Tatiana Kostova | JIBS | 2019 | QN | several industries | 333 | Brazil, China, Egypt, Hong Kong, India, Malaysia, Mexico, S. Korea, Russia, Singapore, S. Africa, Taiwan, Thailand, Turkey, and UAE | * | Institutional void | Predictor variable | World Bank WGI | CSR Decoupling | Home-country institutional voids contribute to MNEs' CSR decoupling (including environmental CSR), particularly in emerging-market countries. CSR decoupling occurs when firms overstate their CSR performance in their disclosures. |

| Author | Journal | Year | Method | Industry | Sample | Country sample | Country | IV | IV role | IV source | DV | Findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sadok El Ghoul, Omrane Guedhami and Yongtae Kim | JIBS | 2017 | QN | 41 industries | 11672 | * | 53 countries | Institutional void | Moderator | From Fraser Institute's Economic Freedom of the World | Moderating between CSR performance (including environmental performance) and firm value | CSR (including environmental performance) as a non-market strategy helps to improve firms' competitive advantages by reducing transaction costs and access to further resources in countries with institutional voids. In other words, CSR has the capacity to help filling institutional voids. As a moderator, country-level institutional environment impacts the relation between CSR and firm value, the weaker institutions the more positive the linkage between CSR and firm value. Thus, CSR has the strategic value for MNEs operating in countries with weaker market-supporting institutions. |
| Marcus Wagner | JWB | 2015 | QN | Various industries | 2000 | 1 | * | Regulatory innovativeness | Predictor variable | From World Values Survey | level of EMS implementation | Regulatory innovativeness (applying various policy instruments and tools) is positively related to the implementation of environmental management systems. |
| Qinqin Zheng, Yadong Luo, Vladislav Maksimov | JWB | 2015 | QN | Information and technology, social service, machinery, and others. | 289 | China | China | Perceived uncertainty in CSR regulations[2] | Moderator | Appendix I | PRL moderating between insider & outsider pressures and Sustainability initiatives | Perceived uncertainty in CSR regulation weakens the positive link between insider CSR pressures and sustainability initiatives. Similar hypothesis for outsider pressures is not supported. Although findings suggest that firms will respond to outsider stakeholder CSR pressures by adopting sustainability initiatives. |
| Susan L Young and Mona V Makhija | JIBS | 2014 | QN | Apparel manufacturing | 612 | 23 countries | * | Rule of law | Predictor variable | Heritage Foundation Indices (HFI). | CSR Responsiveness | Rule of law is positively associated with cross-country differences in CSR responsiveness. In addition, that relationship would be weaker for smaller firms as well as firms with fewer customers. In terms of customer size, the impact of rule of law on CSR responsiveness would be stronger for firms with smaller customers. Finally, the positive effects of rule of law on CSR responsiveness will be stronger for firms with a high skilled workforce. |
| Paola Perez-Aleman | PAS | 2013 | QL | Agri-food | 2 | Nicaragua | * | Rewarding regulation | Interplay between constructs | * | Environmental sustainability | Rewarding regulations, that stimulate learning and help to create network in local communities, is conducive to change in organizational practices and routines. This type of regulations helps to seize local know-how to upgrade production process and products. |

[1] Belgium, France, Germany, Hungary, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom.

[2] PRL is moderating between (a) insider and (b) outsider pressures and Sustainability initiatives

El Ghoul et al. (2017) discuss that CSR activities, including environmental initiatives as a non-market strategy, can mitigate institutional voids. They argue that CSR successes reduce transaction costs and provide MNEs with further access to resources in countries with institutional voids. In other words, CSR has the capacity to help fill institutional voids. Moreover, as a moderator, country-level institutional environment impacts the relation between CSR and firms' value; the weaker the institutions are, the more positive the linkage between CSR and firms' value. Thus, CSR has the strategic value for MNEs operating in countries with weaker market-supporting institutions. Along with CSR initiatives, MNEs adopt political activities to compensate for institutional voids (Rodgers et al., 2019).

Institutional voids also affect MNE's disclosure strategies and sustainability reporting. Tashman et al. (2019) found that home-country institutional voids contribute to MNEs' CSR decoupling (including environmental CSR), particularly in emerging-market countries. CSR decoupling occurs when firms overstate their CSR performance in their disclosures.

In summary, the interplay between regulatory quality and institutional voids in host and home countries and their impacts on MNE environmental sustainability have not received sufficient attention in prior studies.

### Rule of law and MNE environmental sustainability

The rule of law refers to the extent to which established legislatures are the basis of conduct for governmental organizations and the size and quality of law enforcement by governments (Bingham, 2011). Gainet (2011) believes that consistency in laws and policies over time results in a clear and predictable regulatory system. In the bigger picture, the rule of law indicates that everyone should be subject to the law, including governments (Brander et al., 2017). MNEs'

operations in various countries require a better understanding of the rule of law in each jurisdiction.

One of the prominent research themes in the nexus of the rule of law and MNEs' non-market strategies is how the rule of law affects corporate social responsibility (including environmental responsibility). For example, Young & Makhija (2014) investigate the relationship between the rule of law and CSR Responsiveness. They found both a direct effect and moderating effect on the rule of law. In a direct impact, the rule of law tends to be positively associated with cross-country differences in CSR responsiveness. In addition, that relationship is weaker for smaller firms as well as firms with fewer customers. Concerning customer size, the impact of the rule of law on CSR responsiveness tends to be stronger for firms with smaller customers. Finally, the positive effects of the rule of law on CSR responsiveness are stronger for firms with a highly skilled workforce.

Another avenue in prior studies was how corruption influences MNE sustainability activities. Ramirez (2021) conducted case studies to explore how public policy affects energy democracy and partnership building for renewables. The author found that corruption (along with poor accountability and poor dissemination of information about renewable energy) is a crucial impediment to achieving energy democracy, and partnership building is a lack of good governance. Ioannou & Serafeim (2012) apply panel data from 42 countries to investigate the impact of corruption on corporate social performance. They found that corporate social performance (including environmental performance) is lower for companies located in countries with a higher level of corruption.

Please note that our study does not ignore the possibility that MNEs deliberately benefit from the corruption in ways that allow them to avoid environmental or social responsibility. Some may argue that corruption is also co-created a la structuration. While that is a valid discussion to pursue, we address that as a limitation to our study, as it has been excluded from the scope of our research.

In summary, the number of articles addressing the rule of law, corruption, and MNE environmental sustainability in the targeted journals is relatively low. Given the importance of the subject, it seems that it is a research gap in the literature.

## Environmental governance, actors, and MNE environmental performance

Environmental governance is modes and mechanisms to steer society toward environmental sustainability (Jordan et al., 2015). Environmental governance involves policy interventions, regulatory systems, knowledge mobilization, and environmental incentives (Lemos & Agrawal, 2006). It comprises various processes that engage stakeholders such as corporations, NGOs, governments, and communities. Environmental governance also incorporates the notion of social justice in the sustainability transition. Paavola (2007) believes environmental governance should deal with conflicts between actors in the sustainability transition. The central concept in the latter definition is that environmental governance is not just a matter of efficiency but social justice (Lemos & Agrawal, 2006). Environmental governance generally consists of seven functions: exclusion of unauthorized users, regulation of authorized resource uses and distribution of their benefits, provisioning and recovering costs, monitoring, enforcement, conflict resolution, and collective choice (Paavola, 2007).

Environmental governance structures or modes of environmental governance vary from a top-down, centralized monocentric system to a decentralized, community-based polycentric arrangement (Andersson & Ostrom, 2008; Morrison et al., 2019; Ostrom, 2010).

Abbott & Snidal (2009, 2010, 2013, 2021) discuss the notion of the governance triangle comprising the public, civil society organizations, and the market. The public indicates individual states, coalitions between states, and international organizations. Market signifies corporations, investors, and industry associations and intermediaries. Civil society organizations (CSOs) include NGOs, coalitions, networks between NGOs, and other CSOs. Figure 9 depicts an example of the environmental governance triangle in climate change.

State

Market          CSO
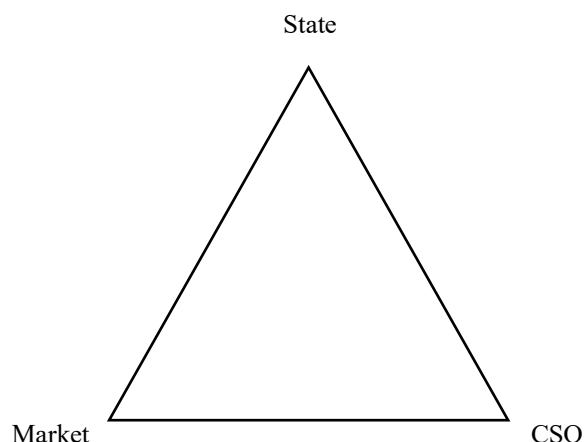
*Figure 9: Governance triangle*

Driessen et al. (2012) list various modes of environmental governance based on the type of actors and their roles in governance. It includes centralized, decentralized, public-private, interactive, and self-governance (Figure 10).

→ dominant role; ⟷ equivalent role; - - - background role
S, central state; s, decentralized state; M, market; CS, civil society
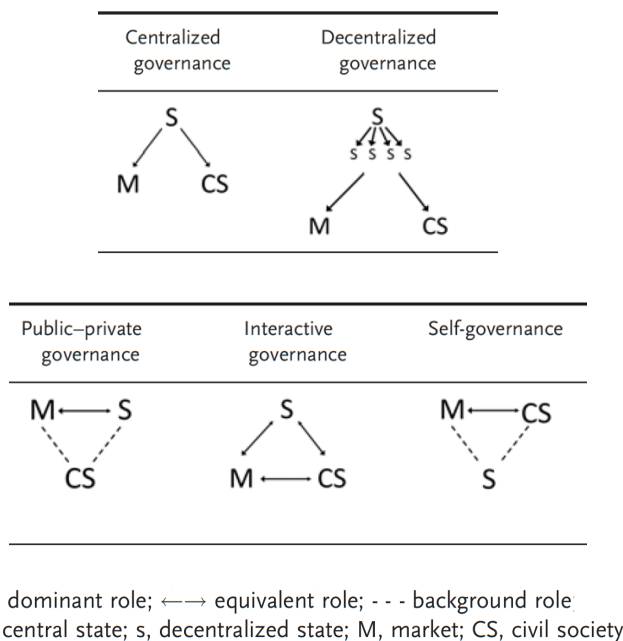
*Figure 10: Environmental governance structure*
*(Driessen et al., 2012)*

As an example of the importance of environmental governance with the engagement of MNEs, Ramirez (2021) investigates the role of governance in developing renewable energies in local communities. Ramirez (2021) believes MNEs' partnership with local communities facilitates achieving a decentralized renewable energy configuration. In addition, the dissemination of information about renewable energy investments should be facilitated by public policies at various levels, including federal, state, and municipalities. Finally, the author argues that the critical challenge in achieving energy democracy and partnership building is the lack of good governance.

*Table 10: Environmental governance*

| Author(s) | Journal | Year | Methodology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operationalization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dennis Kolcava, Lukas Rudolph, Thomas Bernauer | GEC | 2021 | QN | * | 1941 | Switzerland | * | Public-private co-regulation | Response variable | Appendix I | * | * | Environmental co-regulation is supported by citizens subject to firms' transparency and monitoring requirements and existence of regulatory threat if voluntary activities fail. |
| Jacobo Ramirez | JIBP | 2021 | QL | Wind energy investment | 30 | Mexico | * | Public policy | * | * | * | Energy democracy, Partnership building for renewables | (1) Public policies should enhance educations in terms of sustainable development and renewable energy. MNEs should contribute to developing renewable energy education programs. (2) Local communities should be encouraged by public policies to be engaged in renewable energy investments. MNEs partnership with local communities facilitates achieving a decentralized renewable energy configuration. (3) Dissemination of information about renewable energy investments should be facilitated by public policies at various levels including federal, state, and municipalities. (4) Along with corruption, poor accountability, and poor dissemination of information about renewable energy, the key challenge in achieving energy democracy and partnership building is lack of good governance. |
| Jane Lister, René Taudal Poulsen, Stefano Ponte | GEC | 2015 | QL | Maritime shipping | 37 | Denmark, Germany, Canada | * | Regulatory fragmentation and policy uncertainty | Predictor variable | * | * | Underperformance of transnational environmental governance in maritime shipping | Maritime shipping is under-regulated sector in environmental realm. Four conditions are identified that stall regulatory progress including a growing regulatory fragmentation and policy uncertainty (other conditions are low environmental issue visibility, poor interest alignment, and a broadening scope of environmental issues). Authors believe that maritime shipping sector suffers the complexities of transnational environmental governance including a combination of international agreements, fragmentation in national and regional regulations, an increasing number of not-necessary-aligned multi-stakeholder initiatives and rating processes. |

### Hard law and state regulation

Governments can impose and enforce a command-and-control type of environmental regulations to control the environmental conduct of MNEs under their jurisdiction. As discussed earlier, several studies have suggested that such efforts, overall, make a positive impact on MNE environmental sustainability (Maas et al., 2018; Vargas-Sánchez & Riquel-Ligero, 2016). In prior studies, top-down governance and state regulations have been discussed with concepts such as regulatory pressures, government pressure, coercive pressures, environmental regulatory stringency, and the magnitude of fines and penalties for non-compliance.

### Private governance, MNEs, and civil society organizations

Private governance encompasses private actors in the environmental regulatory sphere. It includes corporate self-regulation, private politics and civil society pressures as civil regulations, and co-regulation between the market (firms and the relevant associations) and civil society organizations (CSOs). Private governance, also called soft law, refers to the environmental actions of non-governmental institutions, self-regulation, and voluntary initiatives. Establishing and adopting voluntary standards, memberships of environmental-advocacy institutions, and voluntary goal setting in GHG emission reduction are examples of self-regulation and the components of the soft law (Jordan et al., 2013; Kolk & Pinkse, 2007). Prior studies suggest various notions in terms of how government pressures affect MNEs' voluntary actions and self-regulation. Christmann (2004) found that the perceived government pressures are associated with the adoption of high internal global environmental performance standards and MNE self-regulation. Kolk & Pinkse (2007) investigated government pressures on MNE political strategies

in climate change. They found that MNEs tend to shape policy in countries with strong

government pressures for climate change mitigations. This can be part of the efforts that MNEs

might take to impact sustainability policies either with or without positive intentions.

Moreover, Kolk & Pinkse (2007) argue that MNEs are likely to adopt more voluntary actions in

government programs in countries with low government pressure. Chithambo et al. (2020) also

examine the relationship between regulatory pressures and voluntary GHG disclosure. The

authors argue that regulatory pressure contributes to voluntary GHG disclosure.

On the other hand, some scholars believe that the lack of government pressure for environmental

regulations allows firms to take advantage of first-mover adopters and leadership benefits in

voluntary actions (Bonardi & Keim, 2005; Child & Tsai, 2005).

In addition, some studies examined how civil society affects organizational practices. For

example, Carberry et al. (2019) found that social movement activism influences the perception of

institutional regulative pressure and diffusion of green information systems.

### Hybrid governance, private-public partnerships, and co-regulations

Hybrid environmental governance involves a network of public institutions and private actors

steering society toward environmental sustainability (Salamon, 2002). In the hybrid governance

model, negotiation among actors and persuasion is critical. Prior studies in the MNE sphere

demonstrate that MNEs tend to participate in public-private partnerships for environmental

governance. Kolk & Pinkse (2007) found that MNEs tend to cooperate with policymakers in

reducing GHG emissions. The authors observe that MNEs try to push their agenda forward

through voluntary initiatives and market-based policies such as emission trading schemes. In

addition, from a broader stakeholder perspective, public-private partnerships in environmental

governance have public support in democratic societies. Nonetheless, the authors believe their findings do not support that the goals of MNEs in getting engaged in public-private partnership is confined to public good. The literature suggests that in many cases MNEs try to forge public-private partnerships to protect their vested interest. For example, Christmann and Taylo (2002) belive that MNEs tend to participate in environmental policymaking to protect their business interests.

Kolcava et al. (2021) investigate the public support of partnerships in hybrid environmental governance. They found that in democratic societies, people tend to support hybrid environmental governance and private-public co-regulation subject to some conditions. Those conditions include inclusive decision-making, transparency, sufficient monitoring, and the possibility of government intervention if the co-regulation arrangement fails.

In addition, the literature includes two other important modes of environmental governance, including polycentric and transnational governance. Grand environmental challenges such as climate change are complex and transnational phenomena. Ostrom (2010) argues that environmental problems require collective action by actors. While global efforts should continue addressing grand environmental challenges, polycentric efforts facilitate and expedite environmental sustainability performance, such as reducing GHG emissions (Jordan et al., 2015; Ostrom, 2010). Polycentricity in environmental governance consists of public and private actors and links various decision-making nodes that previously were independent. In the polycentric system, each unit is still independent regarding norms and rules at their local level, but they cooperate with and learn from one another in terms of experimentation and knowledge in the social learning process (Jordan et al., 2015; Ostrom, 2010). This demonstrates the notion of mutual adjustments, adaptive learning, and social learning among actors in polycentric

environmental governance (Andersson & Ostrom, 2008; Ostrom, 2008, 2012). In other words,

polycentricity in environmental governance deals with actors at various levels of governance that

impact each other's decisions.
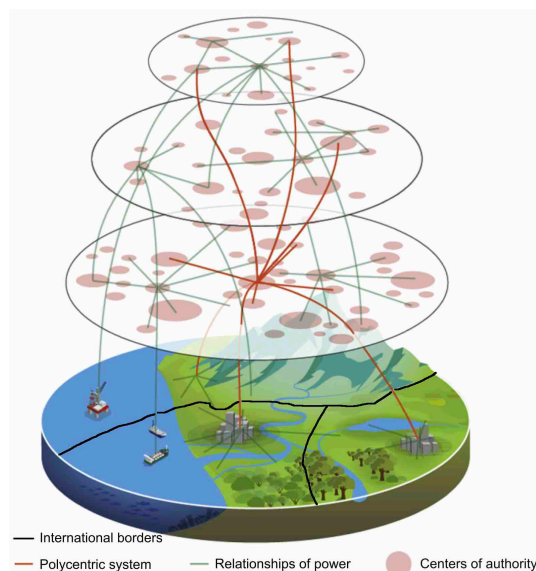


*Figure 11: Polycentric environmental governance.*
*Adapted from Morrison et al. (2019)*

Moreover, MNEs face transnational environmental governance, which refers to the cooperation

between states/sub-states and/or non-state actors operating in at least two countries to set rules

and practices addressing environmental issues and/or climate change (Andonova et al., 2009,

2017). In transnational environmental governance, states and/or inter-governmental

organizations (IGOs) tend to orchestrate regulatory regimes (Abbott & Snidal, 2009, 2010). The

orchestration role of states and IGOs can be directive and facilitative to enhance private

regulatory standards (Abbott et al., 2021; Abbott & Snidal, 2009). Andonova et al. (2017) argue

that transnational environmental governance is complementary to national policy mechanisms.

Moreover, transnational environmental governance can potentially improve regulatory standards,

particularly regarding a gap in the regulatory system (Abbott & Snidal, 2009). Figure 12 shows

various examples of institutions created by transnational environmental governance.
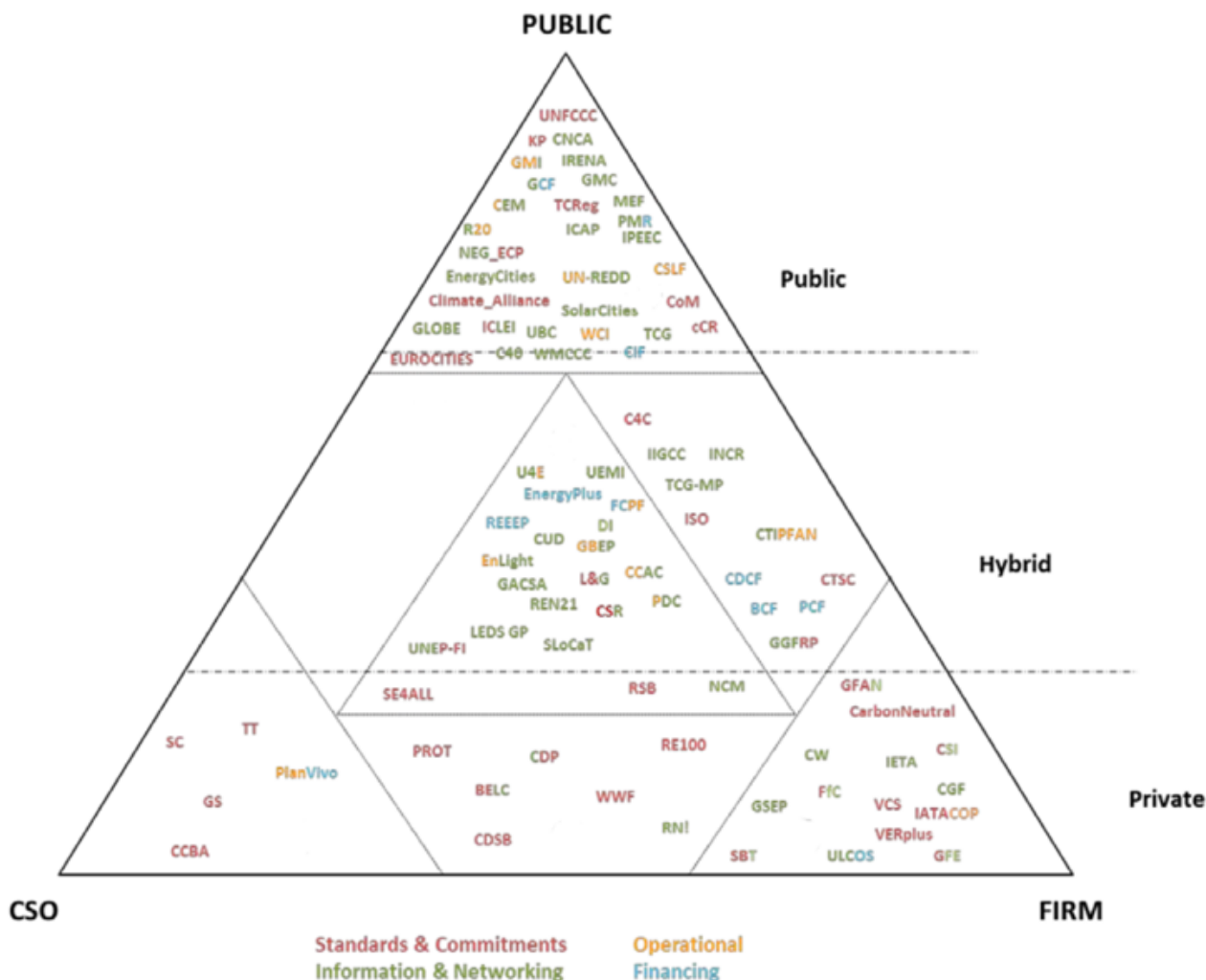


*Figure 12: Examples of institutions created through transnational governance*
*Adapted from Widerberg et al. (2016)*

MNEs need to deal with a multi-institutional environment between their home and host

countries. That includes normative and regulative institutions in a complex web of civil society

organizations and states in the home and host countries (Figure 13).
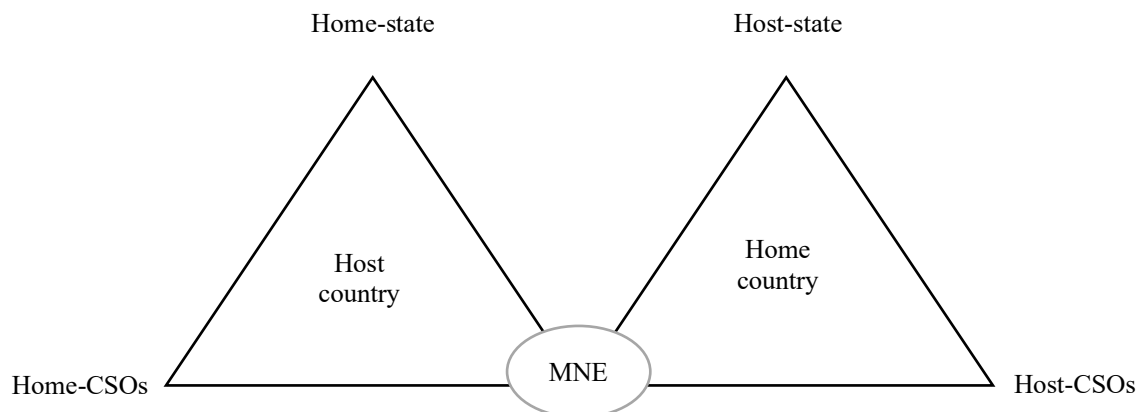
*Figure 13: MNEs and governance triangle in home and host countries*

# Results and Discussion I: Research gap and the contribution of our study to the scholarship

The purpose of this section is to summarize areas in the literature that require further research. The analysis came from two key questions. (1) what contradictions or inconsistencies have been found in the literature? (2) what questions or issues have been left unanswered by the literature reviewed? Or what areas of research have been overlooked or underdeveloped? We try to answer both questions in the sections below. The first section discusses the inconsistencies in prior studies, and then the following section provides further details to address the latter question.

## Gaps from potential inconsistencies in the results of prior studies

While most findings in this literature review are consistent with one another in terms of theory rationale and results per se, a few examples not wholly align with the rest of the findings. Table 11 summarizes the studies that potentially have different results.

In terms of the adoption of environmental practices, such as the implementation of Environmental Management Systems and energy efficiency initiatives, some scholars (Arora & De, 2020; Christmann, 2004; Darnall et al., 2008; Fremeth & Shaver, 2014; Maas et al., 2018; Peñasco et al., 2017; Tatoglu et al., 2014; Wagner, 2015) believe environmental regulation and stakeholder pressures including government pressure influence the adoption of environmental practices. However, Marshall et al. (2010) investigate the relationship between perceived pressures from regulators and the implementation of environmental practices in 486 US and New Zealand wineries. Their findings suggest that external pressures from regulators are not associated with three environmental practices, including implementation of energy reduction practices, practices for measuring and monitoring environmental impacts, and practices for recycling materials. Another study was conducted by Kawai et al. (2018) in 123 manufacturing firms based in Japan. The author found no association between regulatory stakeholder pressures and the implementation of the Environmental Management System in their subsidiaries.

The inconsistency about the impact of environmental regulations on the adoption of environmental practices root in regulatory quality. As Dau et al. (2021) discuss, regulatory quality has a positive and significant impact on adopting CSR standards.

The second potential inconsistency is observed in a study by Eiadat et al. (2008) examining the impact of government environmental regulation on a firm environmental innovation strategy. Their research context was 119 firms in the chemical industry based in Jordan. Their findings do not support the impact of government environmental regulation on environmental innovation strategy. That could not be aligned with Porter and van der Linde's hypothesis when it comes to regulations that are flexible enough to support firm innovation and competitiveness (Porter & van der Linde, 1995).

Another potential inconsistency in results is about spillover effects of home-country regulations on host-country subsidiaries. As discussed earlier, studies from several scholars such as Aghion et al. (2016), Lanjouw & Mody (1996), Hascic et al. (2008), Popp et al. (2011), and Cohen (2000) suggest a positive spillover effect of home-country environmental regulations on MNE environmental performance in host countries. However, some studies suggest different results. For example, findings from a study conducted by Park & Cave (2018) surveying 118 firms in South Korea do not support the role of government regulations in the pursuit of corporate social responsibility for international joint ventures in foreign markets. Note that measures related to environmental protection (in CSR measurement) were included in the operationalization of the study (Park & Cave, 2018, p 1221).

Finally, a mixed-method study by Bansal (2005) that investigates 45 firms in Canadian forestry, mining, and oil and gas sectors does not support the relationship between environmental fines and penalties and firm sustainable development. Although the coefficient for the variable related to fines and penalties is positive, it is not significant. Nonetheless, the author discusses the potential inconsistency, reasoning that the regulations for sustainable development had just been enforced in Canada when the research was about to begin.

Having that all mentioned, further studies seem to be needed to better understand the relationship between institutional pressures and firm environmental performance.  This study aims to address this gap in study 3.

*Table 11: Studies that their findings seem to be some degree inconsistent with the findings of the rest of the articles in the sample*

| Author(s) | Journal | Year | Method ology | Main Sectors | Sample size | Home country | Host country | Policy Related Construct (PRC) | Role of PRC | Operational ization of PRC | Predictor Variable of PRC | Response Variable to PRC | Key findings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Byung Il Park, Adam H. Cave | IBR | 2018 | QN | Various | 118 | South Korea | * | Local government | Predictor variable | Appendix I | * | IJV CSR | The role of Government on the pursuit of Corporate Social Responsibility for IJVs in foreign markets is not supported. |
| R. Scott Marshall, Michele E.M. Akoorie, Ralph Hamann, Paresha Sinha | JWB | 2010 | QN | Winery | 486 | US and New Zealand | * | Perceived pressures from regulators | Predictor variable | Not available | * | Implementation of environmental practices | External pressures from regulators are not associated with three environmental practices including implementation of energy reduction practices, implementation of practices for measurement and monitoring of environmental impacts, and practices for recycling of materials. |
| Pratima Bansal | SMJ | 2005 | MM | Forestry, mining, and oil and gas | 45 | Canada | * | Fines and penalties | Predictor variable | Note[1] | * | Corporate Sustainable Development | While the coefficient for fines and penalties is positive, it is not significant. However, the author believes that the regulation enforcement for sustainable development was new and not consistent at the time of the study. |
| Yousef Eiadat, Aidan Kelly, Frank Roche, Hussein Eyadat | JWB | 2008 | QN | Chemical Industry | 119 | Jordan | * | government environmental regulation; Managerial perceptions of importance of stakeholder pressures | Predictor variable | Appendix I | * | Adoption of an environmental innovation strategy | Government environmental regulation is negatively associated with environmental innovation strategy. Furthermore, perceived stakeholder pressures (including local public agencies) are not associated with environmental innovation strategy. |
| Norifumi Kawai, Roger Strange, Antonella Zucchella | IBR | 2018 | QN | Manufacturing | 123 | Japan | Note[2] | Regulatory stakeholder pressure | Predictor variable | Note[3] | * | EMS Implementation | The impact of regulatory stakeholder pressures on Environmental Management System implementation in subsidiaries is not supported. |

[1] Two components: (1) the number of times that a firm gets a fine or penalty under the Canadian Environmental Protection Act (CEPA) and the Canadian Fisheries Act (CFA). (2) Other number of fines or penalties that were not covered under CEPA and CFA. (i.e., disclosed in the annual report)

[2] United States, Czech Republic, United Kingdom, Germany, Hungary, Poland, France, Netherlands, Canada, Belgium, Portugal, Spain, Turkey, Italy, Mexico, Romania, Russia, Sweden, Denmark, Ireland, Montenegro, Slovakia, and Switzerland

[3] (One item; 3-point Likert scale: 1=not important, 2=moderately important, 3=very important); How important do you consider the influence of local government on your subsidiary's environmental practices?

### Gaps from areas that have been underdeveloped

As discussed earlier, environmental governance has attracted little attention in MNE environmental sustainability sphere (although there are some studies outside of MNEs' realm). As such, our findings suggest that institutional pressures and their roles in environmental governance are underdeveloped research areas. Such studies would show how normative, regulative, and mimetic isomorphisms might explain MNEs' engagement in environmental policymaking.

Moreover, the literature review suggests that the relationship between societies and MNEs is not a one-way road. Institutions are dynamic entities. They do not act in a vacuum. From the theories we discussed earlier, particularly the notion of Giddens' structuration theory, it is understood that MNEs' engagement in environmental governance could be a response to institutional pressures; nonetheless, there are very few studies examining such an important phenomenon. Borrowing from structuration theory, actors in a social system are embedded in and constrained by societal structures and institutions called rules and resources (Giddens, 1979, 1984). Actors are in a dynamic relationship that requires the interaction of meaning, standards, values, and power. According to Giddens (1979), structures could be both the medium and outcome of the action (i.e., the duality of structure). In other words, members of society can be agents of change while constrained by powerful societal structures and institutions. In this section, our study aims to examine how institutional pressures might be associated with MNEs' engagement in policymaking for environmental sustainability.

This thesis aims to address this gap in the study associated with Objective II.

## The importance of addressing the research gaps (research contribution)

Further studies are required to better understand the relationship between institutional pressures and MNEs engagement in policymaking for environmental sustainability. MNEs operate in complex environments shaped by institutional forces. Such forces might have a significant impact on MNEs' strategic decision-making processes.

The study of the relationship between institutional pressures and MNEs' engagement in policymaking for environmental sustainability is essential for at least two reasons. To begin with the decision-making side, such studies can help us understand how institutional forces influence MNEs' decisions to adopt sustainable practices. For example, normative pressures may lead MNEs to embrace sustainability practices to align with societal expectations and preserve their legitimacy. Regulative pressures, conversely, may push MNEs to comply with environmental regulations to avoid sanctions or reputational damage.

Moreover, understanding the relationship between institutional pressures and MNEs' engagement in policymaking can inform policymakers' efforts to create effective environmental policies. By recognizing the different types of institutional pressures that MNEs face, policymakers can design policies that incentivize sustainable practices and encourage MNEs to engage in policymaking processes that promote sustainability.

Both reasons above might be applied to environmental performance (study 3). Further studies can help both MNEs and policymakers better understand how to improve environmental performance across MNEs and societies.

# Chapter 3

# Research Design and Methodology

## Chapter 3: Research Design and Methodology

## Introduction

Research in social science helps to better understand social phenomena and to acquire knowledge about human society and organizations. Because of the dynamics of human behaviors and society, research in social science requires robust methodologies to ensure the results of such studies are reliable and valid. This chapter will set out some discussions about the philosophy of social and managerial science in corporate social responsibility and the way in which the institutional environment interacts with them. In addition, the chapter describes research methods and designs in management studies, including observational, quasi-experimental, and experimental designs. Then it explains which design is used in our study and why. This chapter also explores qualitative and quantitative methodologies in management studies and describes the method used in our research.

Moreover, chapter three describes various methods of data collection and the thesis approach on that front. Finally, this chapter addresses the reliability and validity of research in management studies. Chapter three explores some aspects depicted in Figure 14 and explains which items and why are used in this thesis.
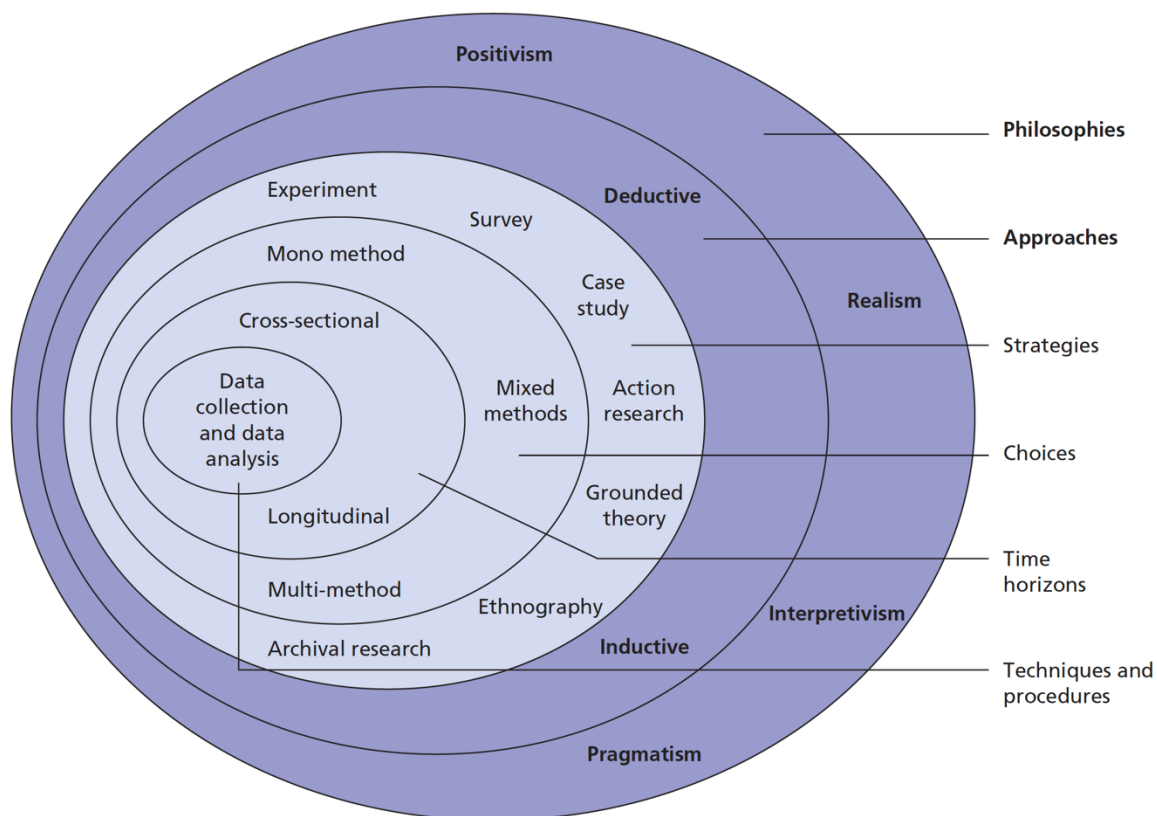
*Figure 14: The research onion.*
*Source: Saunders et al. (2012)*

## Research philosophy and paradigms

Philosophy of science is a critical component of social and natural science research endeavors as it helps scholars better understand various aspects of scholarly inquiries. Scientific research, particularly in social science, encompasses researchers' thoughts and beliefs, which impact the problem statement, problem formulation, choice of research method and strategy, and the interpretation of research results (Mouton & Marais, 1990). That is why the knowledge of research philosophy and how it affects key components and stages of scientific research, such as methodology, is of the essence. Natural and social scientists develop research methodologies based on ontological and epistemological assumptions (Easterby-Smith, M., Thorpe, R., &

Jackson, 2012). Selecting an appropriate research methodology requires a reasoning process to ensure alignment between the researchers' belief system, research paradigm, and methodology (Durant-Law, 2005). Holden & Lynch (2006) also believe scientific research paradigms need to be aligned with the philosophical position of the scientists and the phenomenon being studied. In other words, to choose an appropriate methodology, one will need to understand research philosophy first. That being said, this section aims to shed light on the ontological and epistemological aspects of phenomena in this thesis.

## Ontological approach [to corporate environmental sustainability] (what exists?)

As Burrell & Morgan (2019) define in their seminal book, ontology refers to philosophical assumptions about the way we see the world and whether social order or constant change shapes the world. In other words, ontology is about general assumptions created to perceive the real nature of society (Easterby-Smith, M., Thorpe, R., & Jackson, 2012) or described by Burrell & Morgan (2019) as a nature of reality (or the existence of things).

According to Guba & Lincoln (1994), the ontological question is "what is the form and nature of reality and, therefore, what is there that can be known about it?" There are four approaches to address such a question: Realism, Internal realism, relativism, and nominalism (Easterby-Smith, M., Thorpe, R., & Jackson, 2012). Realism is a position that emphasizes observations as means of scientific advancement. In a realist school, facts exist and can be revealed through scientific observation. Similar to realism, in internal realism, truth exists, but it is not accessible by direct observations. Internal realism relates to scientific inquiry by collecting indirect evidence from phenomena (Putnam, 1987). Relativism, however, is about the linkage between research and

reality, the idea that researchers and reality are not independent entities. In other words, in a relativistic position, there might be many truths, depending on the viewpoint of researchers (Žukauskas, P., Vveinhardt, J., & Andriukaitienė, 2018). Nominalism discusses whether truth exists at all. Nominalists believe that facts are rooted in language, labels, and names, and they are all created by humans (Easterby-Smith, M., Thorpe, R., & Jackson, 2012).

In corporate sustainability studies, corporations need to decide whether they want to stick to the classic, static, and predetermined view of the firm or they want to move on to a new position that requires dynamism and called ontological re-conceptualization (Berrier-Lucas & Rambaud, 2013).

Ehrnström-Fuentes & Böhm (2023) argue that corporate social responsibility (CSR) is an inherently ontological practice as it made some realities exist. They provide three examples of stakeholders formed from community engagement, CSR infrastructure such as reporting system and public disclosures, and certification and standard ecosystem. One of the phenomena in our study is the degree to which MNEs participate in policymaking for environmental sustainability. That cab be another example of the existence of a CSR infrastructure for environmental sustainability.

### Epistemological positions (How do we know?)

Epistemology is concerned with how knowledge about a phenomenon is gained (Hughes & Sharrock, 2016). In other words, how we know what we know. Researchers' assumptions on the most appropriate method of study and what is considered acceptable knowledge are key in epistemology (Burrell & Morgan, 2019). In other words, epistemology helps to distinguish between knowledge, scientific justifications, and researchers' opinion (Audi, 2010). Therefore,

epistemology deals with the validity of scientific inquiry. Durant-Law (2005) believes the seminal epistemological concern for researchers is if and how a real relation between social phenomena is identified. To address such a concern, two generic approaches have been developed by philosophers: positivism and social constructivism.

Positivism suggests that properties of the social world can be measured by objective instruments and methods rather than human beliefs and interests. As such, concepts need to be operationalized by quantitative measurements. In the positivist approach, researchers are independent of the phenomena of the study. Moreover, researchers use a deductive justification to develop hypotheses that must be either falsified or approved.

Social constructivism deals with truth as a socially constructed and ever-changing phenomenon. The core assumption in social constructivism is that reality is independent of social context and its dynamics and created collectively. In other words, knowledge is a product of mental structures based on relative agreements (Žukauskas, P., Vveinhardt, J., & Andriukaitienė, 2018). In contrast with positivism, in constructivism, ideas are induced from a small number of samples chosen for a particular reason.

Table 12 summarizes the ontological-epistemological positions and research methodological implications for each position, including research goal and design, data type and analysis, and expected outcomes.

In a realism and positivism approach, the aim of a scientific inquiry tends to be discovery. Scientists begin with hypotheses and conduct experiments to verify or falsify the pertinent hypotheses. The expected outcome is usually confirmation or failure to confirmation of existing theories. The second position is scientific inquiry in internal realism and positivism approaches. The generic goal of scientists in such a position is exposure to the phenomena and trying to test

theories. They apply large surveys, multi-cases, statistical concepts, and techniques such as correlation and regression to test their propositions. In relativism-constructivism, the goal of scientific inquiry is typically theory generation through triangulation and comparisons. Finally, the nominalism-strong constructivism approach is where scientists gain new insights through engagement, reflexivity, and sense-making. Table 12 provides further details of each ontological-epistemological position.

*Table 12: Ontology-Epistemology and Methodology*
*Adapted from Easterby-Smith, M., Thorpe, R., & Jackson (2012)*

| Methodology | Ontology - Epistemology | | | |
| --- | --- | --- | --- | --- |
| | Realism – Strong positivism | Internal realism - Positivism | Relativism – Constructivism | Nominalism – Strong constructivism |
| Aims | Discovery | Exposure | Convergence | Invention |
| Starting points | Hypotheses | Propositions | Questions | Critiques |
| Designs | Experiments | Large surveys, multi-cases | Cases and surveys | Engagement and reflexivity |
| Data types | Numbers and facts | Mainly numbers with some words | Mainly words with some numbers | Discourse and experiences |
| Analysis/ Interpretation | Verification/ falsification | Correlation and regression | Triangulation and comparison | Sense-making; understanding |
| Outcomes | Confirmation of theories | Theory-testing and generation | Theory generation | New insights and actions |

CSR studies have utilized various ontological-epistemological positions to expand our understanding of corporate social responsibilities. From positivism in measuring corporate sustainability performance to social constructivism in understanding why and how corporations adopt CSR initiatives, CSR studies have utilized different philosophical paradigms.

## Axiology (What is valuable?)

Ontology and epistemology are concerned about truth; nonetheless, axiology is about values of being and, in fact, researchers' values and their impacts on research findings (Mingers, 2003). Axiology is a branch of philosophy and refers to the way in which the value systems of researchers could affect their research results (Saunders et al., 2012). The role that researchers' value play in scientific research inquiry is vital. Researchers need to think that if other scholars conducted similar research, would they draw different conclusions due to various value systems? According to Durant-Law (2005), the critical axiological question for scholars is what would be the ultimate objective of research?

Aristotelian School addresses such a question from the perspective of knowledge per se. They believe in the intrinsic value of knowledge for its own sake (Heron & Reason, 1997). On the other hand, there is the Applied [practical] School, which highlights the value of knowledge as a means of positive change, an enabler for the greater good (Borda, 2001; Heron & Reason, 1997). In positivism, researchers are independent of data and maintain an objective position. In other words, research is conducted in a value-free fashion (Cua & Hartmann, 1968; Hartman, 2011). In realism, the value system is of the essence. Researchers can be biased through their beliefs and experience, which could impact their research findings (Creswell, J. W., & Poth, 2016). Interpretivism is a value-bounded paradigm, and researchers are part of their research in the sense that researchers and the phenomena are intertwined, and data will be a subjective stance. Finally, in pragmatism, value still plays an important role. However, researchers need to deal with both objective and subjective stances (Saunders et al., 2012).

## Philosophical alignment

Scientific inquiries begin with research questions, which are sought to develop our understanding of various phenomena. Philosophical aspects of phenomena require a clear understanding of ontological, epistemological, and axiological elements of the research enquires. Therefore, that is vital to be able to select research methodologies that are well suited to philosophical paradigms of research enquires. Durant-Law (2005) discusses the way philosophical alignment is applied in decision-making for methodology selection for scientific inquiries. He coined the term philosophical alignment, which refers to the alignment between the main philosophical aspects of scientific research, ontology, epistemology, and axiology with research methodology. For example, quantitative research methods typically encompass realist ontology, empiricist epistemology, and Aristotelian or applied axiology. Figure 15 depicts the philosophical alignment in scientific research.
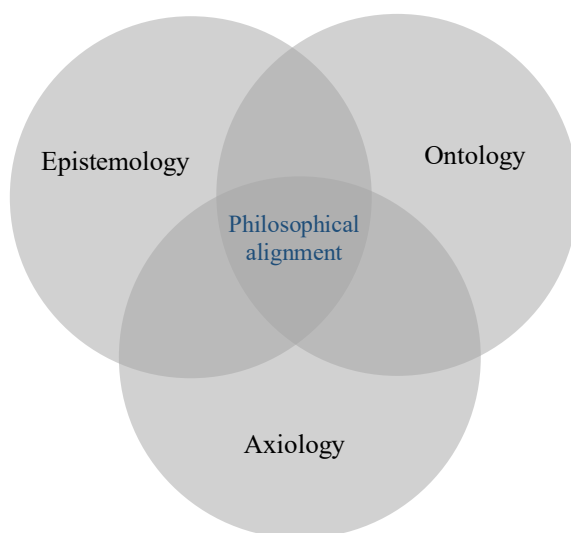
*Figure 15: Philosophical alignment for scientific enquires*
*(Durant-Law, 2005).*

## Research approach

A deductive research approach is a method in which researchers apply existing theories to shape research hypotheses and then test the hypotheses. In contrast, an inductive approach is one where researchers collect data and then try to develop a theory based on data analysis and the findings (Strauss, A., & Corbin, 1990). Researchers also apply abductive reasoning in their research endeavors along with deduction and induction approaches.

Abduction typically begins with empirical puzzles and outliers that require different justifications from what has already been presented in the main part of the research (Behfar & Okhuysen, 2018). Inconsistencies in findings, contradictory results, and discrepant findings are some cases that require an abductive approach to tackle. The outcome of the abductive approach could be either a modification of existing theories or the generation of a new theory. Charmaz (2017) and Timmermans & Tavory (2012) believe abduction is the process of imaginative thinking and double-checking new hypotheses with further data. That resembles the back-and-forth process between data collection (observation) and theory in the grounded theory approach (Timmermans & Tavory, 2012).

One important question on applying various research approaches is the key activities in undertaking deductive, inductive, and abductive approaches. For the deductive approach, there are some specific stages to begin with. First, there should be a clear research question and theory behind it. Then, researchers need to develop hypotheses derived from the theoretical foundations. Moreover, there must be sufficient samples to collect research data for data analysis.

On the other hand, for an inductive approach, along with a clear research question and data availability, researchers tend to identify significant themes from data analysis. Then, they try to recognize the relationships between the themes. Nonetheless, some other features highlight the

differences between deductive, inductive, and abductive reasoning, including the initial impetus for research enquires, philosophical paradigms, the relationship between observation and theory, types of data, the degree of certainty of outcomes, and the generalizability of outcomes. While the deductive approach begins with a hypothesis aiming at theory testing, inductive reasoning typically seeks to build a new theory by working on new hypotheses. The abductive approach, however, is applied once there are empirical puzzles or unexplained outliers and anomalies, which result in inconsistencies and discrepancies in research findings. With respect to the relationship between observation and theory, deduction deals with a theory-to-data approach, moving from a generic explanation to a specific prediction. In contrast, the inductive approach begins with a particular case and moves to a generic explanation. Such an approach will change abductive reasoning to an interplay between theory and data, so that researchers need to move back and forth between observation and theory to be able to either find a new theory or modify an existing theory.  Typical data for the deductive and inductive approaches are quantitative and qualitative, respectively. Both types of data can be used in an abductive approach. In terms of the generalizability of research findings, for the deductive approach, it is critical to have a sufficient and reasonable number and types of samples to claim relative generalizability of results. In the inductive approach, however, there is less concern about the generalizability of findings. Finally, the abductive approach is more about explaining anomalies and unexplained phenomena in the context of a being-investigated scientific inquiry. Thus, the abductive approach provides a plausible justification for a specific observation. Further details are provided in Table 13.

*Table 13: Research approach*

*Adapted from: Behfar & Okhuysen (2018); Charmaz (2017); Kelle (2012); Sætre & Van De Ven (2021); Timmermans & Tavory (2012)*

|  | **Deduction** | **Induction** | **Abduction** |
|---|---|---|---|
| Starting point for scientific inquiry | Hypotheses (with the aim of theory testing) | Working hypotheses (with the objective of theory building) | Empirical puzzles or anomalies (e.g., inconsistent, contradictory, or discrepant findings) to help modify or generate theories |
| Paradigm | Positivism | Interpretivism | Pragmatism |
| Progress (Direction between observation and theory) | Theory to data (i.e., Moving from general explanation to specific prediction) | Data to theory (i.e., Moving from specific cases to general explanation) | Interplay between theory and data (i.e., Moving from specific observations to particular explanations) |
| Typical data used in research enquires | Quantitative data | Qualitative data | Both quantitative and qualitative data |
| Research structure | highly structured approach | More Flexible | Highly flexible between theory and observations |
| Expected outcomes | Theory testing | Theory building | Theory generation or modification |
| Certainty of outcomes | More certain knowledge than other approaches | Probable knowledge | Plausible knowledge |
| Degree of generalization | Needs sufficient sample to generalize findings | Less concern with respect to generalizability | Provides particular explanation for a specific observation |

# Research design

## Experimental and non-experimental design

Among various types of research designs, scientists typically apply three categories:

experimental design, quasi-experimental design, and non-experimental design. In addition,

research designs include one of the sub-designs: cross-sectional research, longitudinal studies,

correlational studies, and observational research. Research design is critical in scientific inquiries as an inappropriate research design significantly impact the validity of results.

Experimental designs refer to studies in which scientists provide deliberate interventions to observe their effects. Experimental design usually implies a randomized experiment, by which manipulation among units of the study (i.e., experimental units) takes place randomly (Cook, T. D., Campbell, D. T., & Shadish, 2002). In other words, in experimental designs, independent variables are deliberately manipulated to assess subsequent changes in the response variable(s). Experimental units can be any type of entity being investigated, such as companies, groups, individuals, periods, etc. Quasi-experiment is an experimental design so that units of study are not randomly manipulated, and researchers pick specific cases to assign the manipulation (White, H., & Sabarwal, 2014). Non-experimental design is about the lack of deliberate manipulation by researchers on units of the study (i.e., no manipulation of independent variables) in the scientific inquiry processes.

Non-experimental design is vital to answer some of the research inquiries. For example, when the relationship between two variables needs to be examined. Another example is when independent variables cannot be manipulated (Price, P. C., Jhangiani, R. S., & Chiang, 2015). That is why the scientific community extensively utilizes correlational design and observational studies.

Correlational design is a type of non-experimental design that refers to the study of relationships between variables so that researchers are not allowed to influence the variables (Tharenou et al., 2007). The observational study refers to researchers' observations about individual variables without any attempt to influence them.

### Cross-sectional and longitudinal studies

The cross-sectional design is applied when researchers aim to study a phenomenon in a snapshot of a given point in time. In other words, cross-sectional studies, from a time perspective, are inherently static (T. R. Mitchell & James, 2001). While many scientific studies take place in cross-sectional design, some studies require longitudinal research to study changes over time. Otherwise, for such studies, a cross-sectional design results in little insight and inaccurate findings (Maxwell & Cole, 2007).

Longitudinal design refers to conducting a study same sample over time and at several points in time to be able to investigate changes over time. Ployhart & Vandenberg (2010) emphasize that for a valid longitudinal design, researchers need to study changes at least three points in time, while the more, the merrier.

## Research Methodology

### Quantitative, qualitative, and mixed method

Researchers collect qualitative and quantitative data to conduct a research analysis. Quantitative methods use numerical data in scientific enquiries and refer to the applicability of objective measurements and statistical and mathematical data analysis to generate new insights (Burns, R., & Burns, 2008). In contrast, qualitative methods typically deal with non-numeric data. Using qualitative methods, researchers structure qualitative data to recognize relationships between constructs. Qualitative research generally employs in-depth interviews, focus groups, and direct field observations for data collection. Content analysis, grounded theory analysis, thematic analysis, and narrative analysis are key approaches in qualitative data analysis.

In summary, quantitative methods involve data that are based on meanings derived from numbers, and then such data is used for statistical/mathematical analysis. Qualitative methods, however, revolve around data from meanings expressed by words, pictures, videos, and similar observations. Such data usually requires classifications, categorization, and analysis through conceptualization (Dey, 1993; Healey & Rawlinson, 1993).

As its name says, mixed methods are the applicability of quantitative and qualitative methods in scientific enquires. Such applications take place either concurrently in a parallel way or they could be used sequentially, one after the other. But their weights regarding the extent to which they contribute to the research are not expected to be the same (Tashakkori & Teddlie, 2003). Mixed method design benefits the research for several reasons. Mixed methods could be applied for corroboration and triangulation of the findings.

Moreover, mixed methods can complement one another by shedding further light on research phenomena from different perspectives. Finally, with the combination of deductive and inductive approaches, the research can have a top-down and bottom-up view of the research phenomena (Bryman, 2016). Again, this is not an upside of a research design that convinces researchers to select them. As described earlier, research design is determined by considering the alignment between the research and research questions' ontological, epistemological, and axiological approaches.

### Data collection methods

As mentioned earlier, data collection methods vary between different research designs. Researchers usually apply case studies, focus groups, interviews, and observations for qualitative methods. Case studies involve data collection from a specific phenomenon in the real context.

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Focus groups deal with data collection from small groups of subject matters experts through interview and dialogue among them. Interviews are structured, semi-structured, and unstructured, depending on the degree of formality of them. Unstructured interviews tend to be informal, with no pre-developed and firm pathway for asking questions. Finally, researchers directly record what they see in the field (e.g., people's actions) through observations.

For quantitative methods, there are two main data collection instruments: experiments and questionnaires. Using experiments, researchers collect data by manipulating independent variables and observing the pertinent changes in the outcomes of the response variables. Questionnaires include questions that can be filled out by researchers (by recording the participants' answers) or by participants themselves. Another form of data extensively applied in quantitative and qualitative scientific inquiries is secondary data, discussed in the next section.

### Applicability of secondary data in scientific enquiries

Secondary data refers to a data set already collected by other researchers or institutions and made available by scholars other than primary users. Secondary data includes raw (unprocessed) data and pre-analyzed summaries (Boslaugh, 2009). Research enquires on both primary and secondary data. However, researchers may sometimes encounter limitations in collecting primary data. For example, individual scholars may not be able to collect some types of data. Nation-level economic data, such as GDP, national labor cost, etc., cannot be collected by individuals. In addition, time and budget constraints play a vital role in the viability of data collection for individual researchers. Therefore, applying secondary data is inevitable to answer some research questions. Nonetheless, researchers need to consider some caveats while applying secondary

data. To better understand the challenges of using secondary data and its advantages, it is important to understand what types of secondary data are available to the scientific community. Saunders et al. (2006, 2012) summarize various types of secondary data into at least three categories and seven groups: documentary data (written and non-written materials), survey data (censuses, continuous and regular surveys, and ad-hoc surveys), and multiple source data (area-based and time-series).

Documentary secondary data includes written and non-written materials. Written materials provides both quantitative and qualitative data. Emails, meeting minutes, and annual financial reports are examples of written documentary materials. Non-written materials, such as data from media such as radio, TV, and voice recordings usually used as qualitative data.

Survey-based data predominantly includes publicly available data provided by governments and large institutions. Survey questionnaires are often the main instruments to collect this type of data. Survey-based secondary data generally encompasses censuses, continuous and regular surveys, and ad-hoc surveys. Census is a systematic procedure of data collection and recording about a given population's members. Another group of survey data is continuous and regular surveys, which refers to public surveys taking place repeatedly over time. Labor market trends and household spendings are examples of continuous and regular surveys. Finally, ad-hoc surveys involve one-off data acquisition with a specific goal in a specific subject matter.

Multiple-source data can be an amalgamation of two other types of secondary data. For example, compiling industry data from several years could be time-series-based multiple-source data. University rankings from different sources is a good example for the area-based group. Overall, depending on a research question and the availability of secondary data, one may use other groups of secondary data. Nonetheless, the upsides and downsides of applying secondary data

should be considered by researchers to ensure that they mitigate the downsides by appropriate initiatives.

## Why methodological fit matters

One of the most important challenges in international business studies is producing credible and reliable research that leads to valid findings (Knight et al., 2022). Therefore, developing a rigorous research design consistent with appropriate theory, data, and analytical techniques is critical. That is where methodological fit comes into play. Methodological fit refers to internal consistency between key research elements, including research questions, prior work, research design, and theoretical contribution (Edmondson & Mcmanus, 2007). In methodological fit, there is no preference for one method over another; but the idea is to justify how methodological choices might result in more rigorous research. For example, Edmondson and McManus (2007) believe there might be different methodologies for studying theories that tend to be more nascent than those more mature. Once there is a greater consensus on a theory in the scientific community, and it has become more mature, the need for quantitative methods tends to be higher over qualitative. Moreover, a greater extent and amount of data would be required for testing mature theories.

Knight et al. (2022) suggest a contingency framework for empirical research in international business to advance methodological fit in international business studies. They argue that inquiries on mature international business theories tend to apply archival data and surveys in a positivist approach, where they usually couple with a confirmatory quantitative analysis. In contrast and on the other side of the spectrum, international business theories in nascent stages

require exploratory and qualitative studies in an interpretivism paradigm, where interviews, observations, and documents would be the most appropriate forms of data.

In summary, the methodological fit has two key aspects. First, the logic of how to identify and apply the most appropriate combination of theory, prior studies, research design, data, and expected contribution. Second, appropriate methodological choices are expected to result in reliable and rigorous research with valid findings.

## Philosophical and Methodological Approaches Governing This Study

While methodological aspects specific to this research are discussed in the next chapter, here is an overview of philosophical and methodological approaches governing our study. This research is built upon realism, internal realism ontology, and positivist epistemology. It also aims to provide new insights into how the institutional environment impacts MNEs' engagement in policymaking and offers new insights for practitioners. Thus, from the perspective of axiology, our study lies between the Aristotelian and Applied schools.

With respect to methodology, this study is deductive non-experimental research that strives to better understand the phenomenon of interest using a cross-sectional basis. Figure 16 depicts the philosophical and methodological foundations of our study. The graph describes various possibilities of research methods (see the Legend), and the dotted piece indicates what methods and approaches are used in this study.
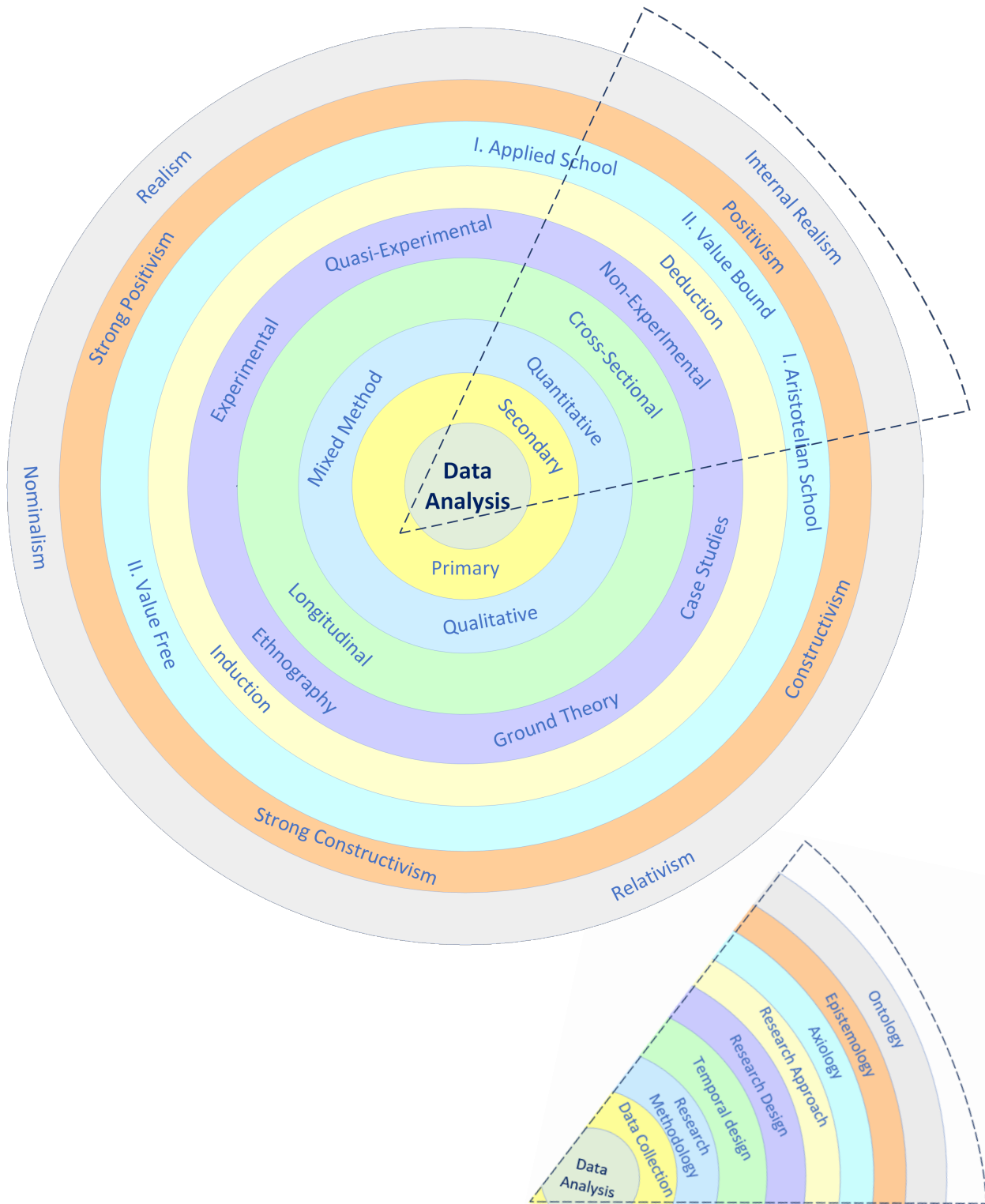
*Figure 16: Summary of research method governing this study (Dotted piece)*

# Chapter 4

# Institutional pressures, MNE's engagement in climate policies, and MNE's environmental performance

# Chapter 4: Institutional pressures, MNE's engagement in climate policies, and MNE's environmental performance

## Theoretical development

### Institutional theory and isomorphic pressures on firms

Institutional theory in management studies has roots in the sociology of organizations and has evolved to become a key perspective. One of the earliest works on institutional theory in management science and sociology can be traced back to the late 19th century when theorists such as Max Weber and Emile Durkheim examined formal organizations' role in society (Brown, 1978; Dwyer, 2005).

Max Weber's notion of ideal types was used to analyze the relationships between social and economic institutions (Aronovitch, 2012). He argued that institutions, including organizations, could be understood by examining the underlying principles and norms that guided their behavior. This idea of ideal types laid the foundation for later developments in institutional theory, which sought to understand how institutions shape and are shaped by the larger social context.

Emile Durkheim's contribution to institutional theory centers on his concept of social solidarity, which refers to the bonds that hold a society together (Johnson et al., 2017). Durkheim argued that social institutions, including organizations, play a crucial role in maintaining social order and stability by promoting social cohesion. He also recognized that institutions, including organizations, can change as society evolves and new forms of solidarity emerge (Dobbin, 2009).

In the 1970s and 1980s, institutional theory in management began to take shape as a distinct field of study, with the work of scholars such as John W. Meyer and W. Richard Scott, who sought to explain why organizations conform to societal norms and expectations.

A significant contribution made by Meyer to institutional theory is the concept of institutional logic. According to that notion, institutions consist of common norms, beliefs, and values that regulate behavior and can profoundly impact organizational behavior (Thornton, P. H., Ocasio, W., & Lounsbury, 2012). Meyer and Rowan (1977) have demonstrated how various institutional logic affects organizational structures, strategies, and results. Moreover, Meyer helped develop the idea of institutional entrepreneurship, which refers to individuals and organizations shaping and establishing new institutions, such as values and norms, to achieve their objectives (Hardy, C., & Maguire, 2008).

Another key evolution in instructional theory is the notion of institutional dimensions. The three-institutional-domains framework developed by Scott (1995) divides institutions into three categories: regulative, normative, and cultural-cognitive (Scott, 1995). The regulative domain includes laws, regulations, and rules that prescribe behavior. The normative domain includes shared norms and values that guide behavior. The cultural-cognitive domain includes shared beliefs, knowledge, and understanding that shape perceptions and attitudes.

Another significant contribution by Scott is his emphasis on the role of agency in institutional change. Scott et al. (2000) argue that individuals and organizations can play an active role in shaping institutions and that institutional change is a process of negotiation and struggle between different actors.

During the 1990s and 2000s, institutional theory in management continued to evolve, focusing on understanding how institutions and organizational fields shape organizational behavior and

decisions. Powell and DiMaggio significantly contributed to institutional theory through their seminal research on the notion of isomorphism. They defined isomorphism as a process of organizational change in which organizations adopt similar structures, practices, and strategies due to pressure from external forces (DiMaggio & Powell, 1983). In their seminal article, "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," Powell and DiMaggio argued that isomorphism was a key mechanism through which institutions influence organizations. They also suggested that isomorphism was a way for organizations to achieve legitimacy and reduce uncertainty in their environments.

The institutional theory posits that institutions exert three types of isomorphic pressure on organizations: coercive, normative, and mimetic (DiMaggio & Powell, 1983). Coercive isomorphism occurs when organizations are subjected to pressure from entities that have control over the resources that the organization depends on. This pressure can come from legal regulations, resource constraints, or government policies.

Normative isomorphism refers to organizations' pressure to conform to professional standards and practices established through education and training methods, professional networks, and employee movement among firms. This pressure is driven by the desire for organizations to be recognized as reputable and legitimate by their stakeholders.

Mimetic isomorphism, on the other hand, occurs when organizations imitate the strategies and practices of successful peers. This often happens when an organization is uncertain about what to do and seeks to follow the example of others.

In recent years, institutional theory in management studies has broadened its focus to include a variety of organizational contexts, including MNEs, non-profit organizations, and public institutions. One of the growing and key areas of interdisciplinary research underpinned by

institutional theory has been the study of corporate environmental sustainability from the perspective of institutional theory.

Institutional theory and corporate environmental sustainability are closely related because institutional theory provides a framework for understanding the role of institutions in shaping organizational behavior, including behavior related to environmental sustainability. In particular, institutional theory highlights the importance of social and cultural norms, laws, and regulations in shaping organizational behavior. This is relevant for understanding corporate environmental sustainability because organizations often respond to social and cultural norms and regulations when making decisions about their environmental practices. Institutional theory can be used to explain why some organizations are more proactive in adopting environmentally sustainable practices than others. For example, organizations operating in industries or regions with a strong environmental responsibility norm are more likely to adopt environmentally sustainable practices (Babiak & Trendafilova, 2011). In addition, organizations that operate in regulatory regimes with strong environmental protections are also more likely to adopt environmentally sustainable practices (Hojnik & Ruzzier, 2016).

Moreover, institutional theory can be used to understand how institutions change can promote corporate environmental sustainability. Institutional entrepreneurship can be initiated by environmental advocacy groups, which work to create new norms and regulations around environmental sustainability and to encourage organizations to promote sustainability (Jolly et al., 2016).

In the following sections, this study aims to discuss how various aspects of institutional theory impacts MNEs' engagement in policymaking and their environmental performance. Next, the

study provides pertinent propositions, which will be tested through statistical analysis in the following sections.

### MNEs' engagement in policymaking

When it comes to environmental sustainability, MNEs' engagement in policymaking refers to the process by which they participate in creating, implementing, and enforcing public policies related to environmental sustainability (Schuler et al., 2017). This can include various activities such as lobbying and direct involvement in developing and implementing environmental policies (which will be discussed shortly). Furthermore, this section comprises MNE's motives for participating in policy engagement. In terms of motives of MNEs for policy engagement, there are some generic motives. MNEs aim to gain legitimacy and reputation, create competitive advantage, make long-term cost savings, and mitigate environmental risks.

Moreover, it is important to note that MNEs' engagement in policymaking could lay under various terminologies such as MNEs' political activity, MNEs' political behavior, and MNE-government relations. Nonetheless, they all include corporate lobbying, advocacy, campaign contribution, coalition building, and direct policy involvement.

MNE's engagement might be in the form of lobbying. Lobbying involves direct efforts to influence policy through direct communication with elected officials, bureaucrats, and other policymakers. This can include meeting with decision-makers and participating in public policy organizations (Gullberg, 2008). MNEs lobby to protect their interests, promote their policies, and shape the regulatory and legislative environment in which they operate (Kraft & Kamieniecki, 2007; Tienhaara, Orsini, & Falkner, 2012). A study by Lexchin (2023) indicates that the

pharmaceutical MNEs operating in Canada tended to lobby government officials to influence policies related to code violations.

Another form of policy engagement is advocacy, which refers to using communication and persuasion to influence public opinion and policy outcomes. This can include participating in public debates, running public relations campaigns, and engaging in grassroot-organizing efforts (Austin et al., 2019). Companies engage in advocacy to shape the public discourse around key issues and build support for their policies.

One common way of engagement in some nations is through campaign contributions. Campaign contributions involve financial support to political candidates, parties, and political action committees (Cho et al., 2006). Campaign contributions can be used to gain access to and influence policymakers. MNEs engage in campaign contributions to support candidates and political parties that align with their interests and policies. The oil and gas industry is a good example of this. Goldberg et al. (2020) show that oil and gas companies in the US invested in campaign contributions to influence 33 members of Congress for environmental legislation.

Coalition building is another form of policy engagement. Coalition building involves working with other organizations and interest groups to build support for a particular policy goal (Delmas et al., 2019). This can include forming alliances, joining advocacy groups, and engaging in collective lobbying efforts. Companies engage in coalition building to build a broad support base for their policies and increase their bargaining power.

Direct policy involvement is another form of activity that firms undertake in their efforts to influence environmental policies (Katic & Hillman, 2023). Direct policy involvement refers to the direct involvement of MNEs in the policymaking process, such as participating in regulatory proceedings and submitting comments on proposed regulations. MNEs engage in direct policy

involvement in order to ensure that their voices and perspectives are heard in the policymaking process (Windsor, 2007).

As mentioned earlier, along with MNEs' influence on environmental policies, they have various motives for doing so. Here is a summary of MNE's motives in practicing political behaviors to influence environmental policies.

To begin with, reputation, MNEs are often under public scrutiny, and their reputation can be negatively impacted if they are seen as being environmentally irresponsible. Prior studies suggest that companies are under substantial public reputation threat (Lenway et al., 2022; McDonnell & King, 2013). Therefore, by policy engagement, they tend to demonstrate their commitment to sustainability (Lenway et al., 2022). Consequently, we expect that by participating in policymaking for environmental sustainability, MNEs can demonstrate their commitment to sustainability and improve their public image.

In addition, policy engagement for MNEs facilitate regulatory compliance. Environmental regulations and standards are becoming increasingly stringent, and MNEs need to comply with these regulations to avoid legal penalties and reputational damage.

Furthermore, MNEs might pursue a competitive advantage from their policy involvement (Rajwani & Liedong, 2015). MNEs that adopt sustainable practices can gain a competitive advantage (Rugman & Verbeke, 1998).

Moreover, some MNEs might find long-term cost-saving opportunities in their policy engagement. Implementing environmentally sustainable practices can lead to cost savings in the long term, such as reducing energy and resource consumption and improving resource efficiency (Dalhammar, 2016). By participating in policymaking for environmental sustainability, MNEs can help shape regulations that incentivize sustainable practices.

Another motive stems from risk management and how MNEs might mitigate regulatory risks. Climate change and other environmental issues can pose significant risks to firms, including supply chain disruptions, increased regulatory scrutiny, and reputational damage (Hossan Chowdhury & Quaddus, 2021). By participating in policymaking for environmental sustainability, MNEs can help mitigate these risks and ensure their businesses' long-term stability.

That said, in the following few sections, we strive to discuss how institutional pressures (from the perspective of three key elements: regulative, normative, and mimetic) can impact MNEs' policy engagement, as well as their environmental performance.

## Coercive isomorphism and regulatory pressures

Coercive isomorphism refers to the adoption of similar rules, standards, and regulations by organizations in response to external pressures (DiMaggio & Powell, 1983). The main form of coercive isomorphism is the adoption of similar regulatory pressures. Regulatory pressures (or regulative pressures or regulatory forces) refer to the specific rules and regulations imposed by the state or other governing bodies that organizations must comply with (Berrone et al., 2013). This can include laws, regulations, or policies dictating how organizations behave or operate.

### Regulatory forces and MNEs' engagement in policymaking

Regulatory forces and the degree to which MNEs could be engaged in public policymaking vary among countries. Companies may be allowed to make unlimited political contributions in some countries, while in others, they may be subject to strict limits on their political spending (Lawton et al., 2013). Similarly, some countries may have regulations prohibiting MNEs from lobbying

government officials, while others may have more permissive rules allowing MNEs to engage in lobbying activities.

In addition, a country's political and cultural context can also shape corporate political activities for environmental sustainability. In countries with a strong tradition of political activism, companies may be more likely to engage in political activities and support some specific policies (Lord, 1995). In contrast, in countries where political activism is less accepted, MNEs may be more cautious about their political activities for environmental policies. Therefore, these differences in regulatory pressures and political context can have significant implications for the strategies that MNEs adopt when it comes to their political activities for environmental sustainability. This can be not only from regulatory pressures on MNEs but also from normative forces (i.e., NGOs), where political activities of MNEs might be perceived a normal behavior or as a corrupt exercise.

In terms of MNEs' motives to pursue political activities in environmental management, there are several motives in the literature. From MNEs' vested interest perspective, they tend to participate in environmental policymaking to protect their business interests (Christmann & Taylor, 2002). While this includes MNEs' interests above all the other interests they might pursue. MNEs may seek to influence environmental policies to protect their business interests and to ensure that regulations do not put undue strain on their operations (Wagner, 2013). They may advocate for policies that reduce the cost of complying with environmental regulations or provide financial incentives for environmentally friendly practices. A good example is the efforts that some MNEs in industries with high amounts of CO2 emission have been putting on environmental policies. They tend to support the adoption of carbon capture and storage (CCS) and price-based GHG reduction policies such as carbon tax (Lau et al., 2021). These types of policies seem to be

preferable for some MNEs in fossil fuel and other pollutant industries because they might be considered alternatives to policies that could demand the phase-out of their operations.

In addition, MNEs participate in policymaking if they perceive such efforts might improve their innovativeness and competitiveness (Konara & Shirodkar, 2018). In other words, by advocating for policies that support the development and deployment of innovative environmental technologies, MNEs can help to improve their competitiveness and to position themselves at the forefront of environmental innovation.

Furthermore, MNEs manage risks and uncertainties by getting involved in policymaking under certain circumstances (De Villa et al., 2019). Environmental issues and consequent regulatory regimes can create risks and uncertainties for MNEs, such as the risk of penalties for non-compliance or the uncertainty of future regulations (Delmas et al., 2016). In other words, MNEs may engage in political activity to ensure compliance with environmental regulations, minimize the risk of legal sanctions or penalties, or avoid reputational damage associated with non-compliance. By influencing environmental policies, MNEs can attempt to manage these risks and uncertainties and ensure that environmental regulations do not unduly impact their operations.

Moreover, MNEs seek to be involved in environmental policymaking to enhance their reputation and public image (Luo & Zhao, 2013). By participating in policymaking and advocating for environmentally friendly policies, MNEs can enhance their reputation and position themselves as leaders in environmental sustainability. This can help build public trust and differentiate the brand from its competitors.

Another important motive for MNEs to get involved with environmental policymaking is the pressure from various stakeholders. Stakeholders, including customers, employees, and investors, are becoming increasingly concerned about environmental issues and are calling on

corporations to take a more active role in addressing these issues (David et al., 2007). By

participating in policymaking and advocating for environmentally friendly policies, MNEs can

respond to these stakeholder demands and demonstrate their commitment to sustainability.

In addition, MNEs tend to get involved in policymaking to improve their overall business

environment (Shirodkar et al., 2020). By influencing environmental policies and promoting

sustainable practices, MNEs can help to improve the overall business environment and create a

more favorable context for their operations. This can include MNEs' strategic advocacy whereby

MNEs engage in political activity to advocate for policies consistent with their strategic goals

and objectives, including policies that support sustainable business practices, reduce barriers to

entry, or create new market opportunities. Such initiatives can help MNEs ensure their business's

long-term viability and contribute to society's broader sustainability goals.

Finally, MNEs' involvement in policymaking help them try harmonizing regulations across their

countries (Kim & Milner, 2021). MNEs, in nature, operate in at least two countries; therefore,

the adoption cost of new practices to address the regulatory requirements and the risk of non-

compliance varies in each country. Harmonization of regulations, or the process of aligning and

coordinating regulations and policies across different countries, can help MNEs to reduce costs

and increase efficiency by reducing the need to comply with varying regulations in different

countries. In other words, by aligning regulations across countries, MNEs can benefit from

greater consistency and predictability in their operations, making it easier for them to plan and

execute their business activities.

One of the studies in this realm is the study by Kolk & Pinkse (2007), arguing how government

regulations shape MNEs' political activities. They believe MNEs tend to shape policy in

countries with strong government pressure for climate change. However, in countries with low government pressure, MNEs tend to adopt more voluntary actions in government programs.

In terms of the potential moderating effect of the host-country regulatory regime on the relationship between home-country regulatory forces and MNE policy engagement, the existing theories support the hypothesis.

Host country regulatory forces can create opportunities for MNEs to adapt their CSR practices to the local environment and gain legitimacy from various stakeholders. According to the institutional perspective, MNEs face different institutional pressures in home and host countries that affect their CSR practices (Lee et al., 2021).

When MNEs operate in host countries with different regulative environments from their home countries, they face a trade-off between conforming to local expectations and maintaining their global identity and consistency (Kostova & Zaheer, 1999). This trade-off can be influenced by the institutional distance between home and host countries, which reflects the degree of similarity or dissimilarity between the two contexts (Kostova, 1999). A high institutional distance can increase the costs and risks of operating in a foreign market, but it can also provide opportunities for learning and innovation (Y. Zhao et al., 2020).

One way MNEs can cope with this trade-off is by engaging in political activities and policy advocacy to shape the institutional environment in their favor or reduce uncertainty and gain access to resources (Hillman & Hitt, 1999). MNEs can use various legitimation strategies, such as conforming, compromising, or avoiding, to influence the institutions and stakeholders (Oliver, 1991). MNEs can adopt CSR policies aligned with the host-country expectations or standards or lobby or collaborate with local actors to promote their interests or values (El Ghoul et al., 2016; Rathert, 2016).

The host-country regulatory forces moderate the relationship between home country regulatory forces and MNE policy engagement by affecting the costs and benefits of these strategies. For instance, if the host-country regulatory forces are weak or inconsistent, MNEs may have more room to maneuver and influence the local institutions or stakeholders through their political activities.

That brings us to the first hypothesis of this study:

> *Hypothesis 1-a: MNEs that face stricter environmental regulatory forces for environmental sustainability are more likely to be engaged in climate policymaking.*
>
> *Hypothesis 1-b: There is a positive interaction effect between regulatory forces in home and host countries while impacting the likelihood of MNE policy engagement.*

### Regulatory forces and MNEs' environmental performance

In the previous sections, the concept and definitions of regulatory pressures have been discussed. Prior studies indicate that regulations positively impact corporate environmental sustainability, although the mechanisms of this impact differ. Maas et al. (2018) found that perceived regulatory pressures contribute to stakeholder pressure, leading to firms adopting more environmentally sustainable practices. Similarly, Chan & Ma (2016) found that external environmental orientation, including stakeholders' expectations, contributes positively to proactive environmental strategies. Nippa et al. (2021) found that MNEs generally have better carbon

performance than domestic firms; in countries with more stringent market regulatory systems, the gap in carbon performance between MNE-affiliated and domestic plants is smaller.

Vargas-Sánchez & Riquel-Ligero (2016) conducted a longitudinal study and found a positive relationship between coercive pressures and corporate environmental sustainability. They believe that coercive forces reinforce environmental sustainability over time and influence the adoption of environmentally sustainable practices. Famiyeh et al. (2021) also found that coercive pressure impacts the adoption of environmentally sustainable practices. Wagner (2015) argues that applying various regulatory instruments and tools positively contributes to implementing environmental management systems.

Nonetheless, it is important to explore further specific instruments used as regulatory systems and the way they impact MNEs' environmental performance. Here we discuss three key instruments by which the regulatory system impacts MNEs: environmental regulations, environmental taxes and subsidies, and international environmental agreements (Ovaere et al., 2013).

Environmental regulations refer to laws, policies, and standards aimed at mitigating the negative impacts of human activities on the environment. These regulations impose legal and economic requirements on firms to reduce their environmental impact, which include restrictions on pollution, waste management, and other activities that negatively affect the environment.

The majority of prior studies suggest that the relationship between environmental regulations and corporate environmental performance is significantly positive (Haque & Ntim, 2018; R. Li & Ramanathan, 2018; Sharfman et al., 2004). Several studies have found that firms that face more stringent environmental regulations are more likely to implement environmentally sustainable

practices, technologies, and processes (Famiyeh et al., 2021; Hartmann et al., 2021; Reddy & Hamann, 2018).

Environmental regulations also act as a catalyst for innovation in firms. Some researchers argue that regulations can spur technological innovation as firms seek to comply with regulations and reduce their environmental impact by adopting new, cleaner technologies (Dechezleprêtre et al., 2015; Del Río et al., 2016).

Moreover, environmental regulations influence stakeholders' perception of firms' environmental performance (Eiadat et al., 2008). Firms that are perceived to have better environmental performance are likely to have a better relationship with stakeholders, which result in greater access to capital, higher stock prices, and improved corporate reputation (Kalash, 2021).

Environmental taxes and subsidies are economic instruments that can encourage organizations to adopt environmentally sustainable practices (Qi et al., 2019). A carbon tax, for example, would impose a tax on each ton of carbon dioxide emitted, incentivizing organizations to reduce their emissions or invest in low-carbon technologies.

Research has shown that environmental taxes and subsidies can effectively spur innovations and reduce environmental impacts (A. Zhao et al., 2022).

Finally, international environmental agreements are negotiated between countries to address global environmental issues (Mitchell, 2003). These agreements can provide a framework for cooperation among countries and help coordinate global efforts to address environmental issues. Examples of international environmental agreements include the Paris Agreement on climate change, the Convention on Biological Diversity, and the United Nations Framework Convention on Climate Change. Studies have shown that international environmental agreements can effectively reduce environmental impacts. An analysis of the Montreal Protocol, which aimed to

phase out ozone-depleting substances, found that it led to significant reductions in emissions of these substances (Andersen & Sarma, 2012; Sarma & Andersen, 2011). To sum up, regulatory pressures impact environmental performance because they affect corporate compliance with regulations, adoption of environmental best practices, increased transparency, lower environmental risks, and improved stakeholder relations and engagement (Daddi et al., 2021; Ferrón Vilchez et al., 2017; Kaya, 2016; Shubham et al., 2018).

Compliance is a key antecedent of the effectiveness of regulatory pressures on MNE environmental performance. It involves various activities, including monitoring and reporting emissions, obtaining necessary permits, and implementing pollution prevention and control measures. Compliance aims to ensure that the environment is protected from harmful pollution and that natural resources are conserved for future generations. That is why we argue compliance is a key mechanism in the relationship between regulatory pressures and MNE environmental performance.

Regulatory pressure can lead to adopting environmental best practices and environmental performance by spurring greater awareness of environmental issues and investment in research and development to meet regulatory requirements, which may also result in developing innovative solutions (Huang et al., 2016).

Regulations also help MNEs improve their environmental performance through greater transparency (Toppinen & Korhonen-Kurki, 2013).  Plambeck et al. (2012) found that increased transparency and reporting of environmental impacts can help MNEs to improve their supply chain environmental performance. The study analyzed data from 20 interviews in MNE's supply chain and found that MNEs that transparency is an efficient tool for greater environmental performance.

We are also interested in studying the moderating impact of host-country regulatory forces on MNE environmental performance. Host-country regulatory forces can influence MNE environmental performance. Depending on their risk preferences and competitive advantages, MNEs may seek to avoid or exploit pollution havens (Peng & Jiang, 2021).

In addition, they can affect the degree of adaptation or integration of MNEs' environmental strategies across their subsidiaries. MNEs may adopt a global or a local approach, depending on the institutional distance and diversity between their home and host countries (Peng & Jiang, 2021).

As well, host country regulatory forces can impact the innovation and learning processes of MNEs, along with their social responsibility engagement. MNEs may enhance or reduce their green technology innovation and social responsibility activities depending on the opportunities and pressures they face in their host countries (Y. Zhao et al., 2020).

Finally, host-country regulatory forces may strengthen the positive impact of home-country regulatory forces on MNE environmental performance when they are aligned or complementary with them. When both home and host countries have strict and certain environmental regulations, MNEs may benefit from economies of scale and scope in adopting green technologies and practices across their subsidiaries (Y. Zhao et al., 2020). Therefore, host-country regulatory forces might positively moderate the relationship between home-country regulatory forces and MNE environmental performance.

Another theory that we can use to justify the moderating role of host-country regulatory forces is the real-option theory. Real option theory views an MNE's affiliate network as a portfolio of options that provides the MNE with flexibility and opportunities to cope with changing environmental conditions (Y. Zhao et al., 2020). According to this theory, MNEs can actively

shift their resources and operations across borders to better locations in response to unfavorable events, such as hostile government regulations (Ioulianou et al., 2021). Therefore, host-country regulatory forces can affect the value and exercise of these options and thus moderate the impact of home-country regulatory forces on MNE environmental performance.

Based on the theories discussed, we expect that regulative forces significantly impact the environmental performance of MNEs, as they provide a set of requirements that companies must meet and can result in significant penalties or legal action if these requirements are not met. Therefore, we propose the following hypotheses.

*Hypothesis 2-a: MNEs that face stricter regulatory forces for environmental sustainability are more likely to demonstrate greater environmental performance.*

*Hypothesis 2-b: There is a positive interaction effect between regulatory forces in home and host countries while impacting the likelihood of greater environmental performance.*

### Normative forces

Normative pressures deal with societal norms and values. When it comes to the relationship between normative forces and organizations, it is about the influence of societal norms and values on organizational behavior. In the context of corporate environmental performance, normative pressures can play a key role in shaping organizational attitudes and practices related to the environment. Prior studies suggest that normative pressures are associated with firms'

reputation and brand image (Durand et al., 2019; Yang, 2018). It also impacts people's awareness and education. If the dominant norm and value in society is that MNEs should be responsible for minimizing their environmental impact, they are more likely to adopt environmental practices that align with these norms and values. This can, for example, include reducing their carbon footprint, implementing recycling programs, or investing in renewable energies. This section aims to highlight if and how normative pressures shape MNEs' behavior in their political activities. Besides, if and how such forces affect MNEs' environmental performance.

### Normative forces and MNEs' engagement in policymaking

The goal of this section is to discuss whether normative pressures can impact the way in which MNEs influence environmental policies. In other words, whether normative pressure can be an antecedent for MNE political activities in the environmental policy sphere. Normative pressures stem from expectations and demands on individuals or groups to conform to established norms and values within their social, cultural, or organizational contexts (Aguinis & Glavas, 2012). Compliance with these norms and values is often viewed as essential for maintaining legitimacy and social acceptance, and failure to conform them can lead to negative sanctions, such as social exclusion and reputational damage (Ceesay, 2020; Doh et al., 2010).

Prior studies suggest that normative pressures can promote the adoption of new practices and behaviors as MNEs seek to meet the expectations of their stakeholders and maintain their legitimacy in the face of changing social, economic, and environmental conditions (Acquah et al., 2021; Khan, Lew, & Park, 2015; S. Wang et al., 2018). Following, we discuss how normative pressures contribute to MNEs' engagement in policymaking for environmental sustainability.

One way in which normative pressures can impact MNEs' policymaking involvement is through the creation of shared responsibility and obligation. Bernstein (2021) notes that corporations may feel responsible for engaging in political activities and advocating for environmental policy changes if key stakeholders, such as customers or investors, expect them to behave socially responsible. This sense of obligation can create a normative pressure that motivates MNEs to take action.

Socialization is another mechanism through which normative pressures can impact MNEs' policy engagement. This refers to how organizations internalize norms and values through interaction with their social environment (Berger & Luckmann, 1967). In MNEs and environmental policymaking, socialization can occur through interactions with government regulators, environmental NGOs, and other stakeholders with normative expectations regarding corporate social responsibility (CSR) and environmental sustainability. MNEs may be more likely to engage in environmental policymaking if they perceive their participation will enhance their reputation and social standing among these stakeholders (Windsor, 2007).

Moreover, normative pressures can influence the way MNEs interact with other actors in the political arena. Lin (2012) and Lin & Darnall (2010) note that firms may be more likely to collaborate with policymakers and NGOs to achieve their environmental goals. This can be seen as a way for MNEs to demonstrate their commitment to social responsibility and align their actions with the expectations of their stakeholders. Along the way, such opportunities for collaboration could result in innovation among different stakeholders and eventually lead to the development of more effective and inclusive environmental policies.

Furthermore, normative pressures can increase a firm's exposure to environmental risks and vulnerabilities. Bansal and Roth (2000) suggest that societal awareness of environmental issues

can create a sense of urgency and pressure for companies to take action. This can result in

increased scrutiny and regulation, making firms more important than ever to engage in political

activities and advocate for policies that align with their environmental values and goals.

One common and critical mechanism by which normative pressures could impact MNEs'

engagement in climate policymaking is the adoption of voluntary environmental initiatives

(VEIs). VEIs are programs that encourage MNEs to reduce their environmental impact

voluntarily, often by setting standards for emissions or resource use (Christmann & Taylor,

2002). MNEs may feel compelled to participate in VEIs due to normative pressures from

stakeholders who expect firms to act in environmentally responsible ways. Prior studies suggest

that normative pressures can increase the likelihood of MNEs participating in VEIs (Prakash &

Potoski, 2007). VEIs also could help MNEs in the diffusion of global norms and standards.

Finally, one of the key mechanisms by which normative pressures could impact MNEs' political

activities is their strive to gain legitimacy. Legitimacy is the social acceptance of an

organization's actions and behaviors (Suchman, 1995). MNEs may feel pressure to engage in

environmental policymaking to maintain their legitimacy and social standing among key

stakeholders. This can be particularly relevant for MNEs operating in countries with strict

environmental regulations, where non-compliance can result in negative consequences for MNEs

(Delgado-Márquez & Pedauga, 2017). By engaging in environmental policymaking, MNEs can

demonstrate their commitment to environmental sustainability and enhance their legitimacy in

the eyes of stakeholders (Shirodkar et al., 2020).

Nonetheless, it is important to consider that the potential relationship between normative

pressures and MNEs' political activities and policy engagement might illustrate some

complexities. While normative pressures can incentivize corporations to engage in political

activities, the response of corporations to these pressures might not always be straightforward.

Corporations operating in highly regulated industries are more likely engage in political activities

to shape regulations and policies. In contrast, corporations operating in sectors with low

regulatory oversight are less likely to engage in political activities due to a lack of institutional

pressure to do so (Hadani et al., 2017; Holburn & Vanden Bergh, 2008). Moreover, the response

of corporations to normative pressures can also depend on their corporate culture and values.

Firms with a strong commitment to corporate social responsibility are more likely to collaborate

with NGOs and other stakeholders to address environmental challenges rather than engage in

political activities (Brammer et al., 2012).

Concerning the host country's normative pressures and the potential moderating role of that on

the relationship between the home-country normative forces and MNE policy engagement, it is

worth considering that MNEs' host country normative forces can be a critical factor for MNEs.

MNEs seek to influence the host country's policies to align them with their home country's norms

or to gain competitive advantages over local rivals (Hillman & Hitt, 1999). Here we use some

theories to explore this phenomenon a bit more.

The first theory we discuss is the liability of foreignness (LOF) theory. According to this theory,

MNEs face additional costs and disadvantages when operating in foreign markets due to their

lack of familiarity and legitimacy in the host country (Zaheer, 2015). These costs and

disadvantages can include cultural, political, legal, economic, and social barriers that could

hinder MNEs' access to resources, information, customers, suppliers, partners, and regulators in

the host country (Edman, 2016). Due to the LOF, host-country normative forces can constrain or

discourage MNEs' policy engagement, especially when they perceive a mismatch or conflict

between the norms of host and home countries (Lee et al., 2021). MNEs face resistance or

backlash from the host country stakeholders, such as governments, NGOs, media, or consumers, if they engage in policy activities perceived as inappropriate or illegitimate by the local norms (Hillman & Wan, 2005). Therefore, host country normative forces could negatively affect the relationship between home country normative forces and MNE policy engagement by increasing the liability of foreignness for MNEs. In other words, the liability of foreignness can increase the costs and risks of MNEs' policy engagement in their host countries, such as regulatory uncertainty, legitimacy challenges, stakeholder conflicts, or reputational damage (Y. Zhao et al., 2020).

Some alternative theories that can also justify the negative moderating effect of host country normative forces are real options theory, springboard theory, and stakeholder theory. Real options theory suggests that MNEs may avoid engaging in policy activities in their host countries if they perceive them as irreversible or inflexible investments that reduce their option value of adapting to changing environmental conditions (Tong & Reuer, 2007). Springboard theory suggests that MNEs from emerging economies may avoid engaging in policy activities in their host countries if they perceive them as distractions or liabilities that could hinder their learning and other objectives (Luo & Tung, 2007). Stakeholder theory suggests that MNEs may avoid engaging in policy activities in their host countries if they perceive them as incompatible or inconsistent with their stakeholder expectations and interests (Freeman, Harrison, Wicks, Parmar, & De Colle, 2010; Parmar et al., 2010).

Given the discussions, our following Hypothesis examines the relationship between normative pressures and MNEs' engagement in policymaking.

*Hypothesis 3-a: MNEs that face greater normative pressures for environmental*

*sustainability are more likely to be engaged in climate policymaking.*

*Hypothesis 3-b: There is a negative interaction effect between normative forces*

*in home and host countries while impacting the likelihood of MNE policy*

*engagement.*

### Normative forces and MNEs' environmental performance

The notion of normative pressures and the way they could impact MNE's political activities have

been discussed in the previous section. Thus, this section is focused on how normative pressures

could affect MNEs' environmental performance. Based on prior studies and the literature, we

have found some mechanisms by which normative forces could impact MNEs' environmental

performance, such as the role of normative forces in the adoption of voluntary environmental

initiatives by MNEs, the extent to which normative pressures are tied to MNE's reputations and

brand image, from the environmental performance perspective.

Regarding the voluntary environmental initiatives (VEIs), they are programs or actions firms

take to improve their environmental performance without being required by law or regulation

(Khanna & Brouhle, 2009). Normative pressures could encourage firms to adopt such initiatives

(Hyatt & Berente, 2017). In addition, VEIs can take many forms, including environmental

management systems, eco-labeling programs, and environmental reporting and disclosure,

among others. Environmental Management Systems (EMS) is a framework for managing a

company's environmental impact, typically based on international standards such as ISO 14001.

Phan and Baird (2015) show that the EMS system is positively associated with firm

environmental performance (Phan & Baird, 2015). Eco-labeling is another typical form of VEIs.

Eco-labeling is a certification process that verifies that a product meets certain environmental standards, such as energy efficiency or reduced use of hazardous chemicals. Prior studies suggest that eco-labeling contributes to better environmental performance as eco-labeling schemes often encourage participating firms to use the best technologies to accomplish expected environmental quality. Therefore, in many cases, the adoption of an eco-labeling system indicates that firms consider either modification to existing technologies or new technologies to satisfy a third-party auditor (Amacher et al., 2004; Bleda & Valente, 2009). Finally, environmental reporting and disclosure is another common form of VEIs. Many companies voluntarily disclose information about their environmental performance, such as greenhouse gas emissions, through sustainability reports or other public reporting due to pressures from NGOs and public eyes. Based on findings from Clarkson et al. (2011), the extent of environmental related disclosure and environmental performance are positively associated; therefore, we expect that normative pressures through disclosure mechanisms could impact MNEs' environmental performance. In summary, normative pressures could stimulate MNEs to adopt VEIs. MNEs tend to do so because they might aim to demonstrate their commitment to environmental sustainability, engage with stakeholders on environmental issues, and improve their environmental performance.

Another mechanism by which MNEs could be impacted by normative pressures is the role of MNEs' reputation and brand image (Doh et al., 2010). By adopting environmental practices that align with dominant norms and values, organizations can improve their reputation and brand image, which can benefit MNEs' long-term success and environmental performance (Doh et al., 2010). Moreover, reputation and brand image [and subsequent legitimacy] can also help firms to absorb more resources (such as investment and human resources) that could contribute to their environmental performance (Doh et al., 2010; Dowling & Pfeffer, 1975; Sonpar et al., 2010).

In addition, normative forces could affect MNEs' environmental performance as they might stimulate MNEs to manage environmental risks. MNEs, under public pressure for weak environmental performance, could adopt environmental management practices to reduce pollution and minimize the risk of continuing the status quo. A strong reputation and brand image [greater legitimacy] can help companies to mitigate some risks associated with environmental controversies and environmental liability, as they are seen as being proactive and responsible in their environmental practices (Dowling & Pfeffer, 1975; Sonpar et al., 2010). Finally, normative pressures could increase MNEs' awareness of environmental issues. Normative pressures are about social norms and expectations (Mitnick et al., 2023). Regarding social norms and expectations on environmental issues, they might impact MNEs' awareness in the sense that such institutions signal the right thing to do (Mombeuil et al., 2023). Society's increased concern about climate change has led to a greater awareness of environmental issues among MNEs and it's been a push for them to adopt more sustainable practices over the past few years.

### *Critical roles of NGOs*

One of the key elements of normative pressures comes from non-governmental organizations (NGOs). Prior studies suggest NGOs are crucial in shaping MNEs' environmental performance. Similar to what was discussed earlier, NGOs' monitoring and campaigning activities can influence MNEs to adopt environmentally sustainable practices voluntarily, even when they are not required by law. This influence is due to the NGOs' ability to increase public awareness and pressure MNEs to behave responsibly towards the environment (Asfaw et al., 2017; Ceesay, 2020).

Moreover, as discussed in the previous section, NGOs can also advocate and lobby to influence policymakers to create and enforce stricter environmental regulations (Delalieux et al., 2023). The increased regulatory pressure on MNEs can incentivize them to adopt environmentally sustainable practices, as it reduces the risk of reputational and financial harm.

Furthermore, NGOs can bridge the gap between MNEs and local communities (Boddewyn & Doh, 2011). MNEs could face opposition from local communities concerned about MNEs' environmental externalities. NGOs can act as intermediaries between firms and these communities, facilitating constructive dialogue and helping to resolve conflicts (Greenspan et al., 2022). This engagement can improve the social license to operate for MNEs, enabling them to operate more effectively in the long term. Therefore, the critical role of NGOs in MNEs' environmental performance could be sought through the mechanisms below.

The first mechanism provided here and widely applied in the NGO sphere is advocacy and pressure tactics (Schepers, 2006). NGOs can use advocacy and pressure tactics, such as media campaigns and online petitions, to influence MNEs' environmental performance. According to Ceesay (2020), NGOs can use media campaigns and online petitions to pressure firms to address environmental issues (Ceesay, 2020). Similarly, Nieri et al. (2023) find that NGOs can use social media to pressure MNEs and create social pressure to adopt more CSR practices.

In addition, NGOs could mobilize the stakeholders against MNEs. NGOs can mobilize stakeholders such as local communities, environmental groups, and civil society organizations to influence MNEs' environmental performance (den Hond et al., 2015). Stakeholder mobilization can also help increase NGO campaigns' effectiveness by building alliances and coalitions between different stakeholder groups. NGOs can create social pressure for MNEs to adopt more sustainable practices by mobilizing stakeholders.

Furthermore, NGOs can monitor and evaluate MNEs' environmental performance and provide feedback to stakeholders, including investors and customers. According to Doh and Guay (2004) and Kourula and Laasonen (2010), NGOs can play an important role in monitoring MNEs' environmental performance and providing feedback to stakeholders. By providing information on MNEs' environmental performance, NGOs can help to hold them accountable for their actions and motivate them to improve their environmental performance.

The next mechanism is how NGOs affect voluntary standards and certifications (Nelson, 2007). NGOs can develop voluntary standards and certifications that MNEs can use to demonstrate their commitment to environmental sustainability. Compliance with these standards can create a competitive advantage for MNEs and enhance their reputation, leading to improved environmental performance. According to Christmann and Taylor (2006), voluntary standards and certifications can create a competitive advantage for MNEs by signaling their commitment to environmental sustainability to stakeholders.

In addition, NGOs could build partnerships with MNEs and develop collaborations. NGOs can partner with MNEs to develop joint initiatives to address environmental issues (Liu et al., 2020). As well, NGOs can work with MNEs to develop sustainable supply chain practices or new technologies that reduce environmental impacts. According to Trusty (2017), partnerships between NGOs and MNEs can lead to improved environmental performance by sharing knowledge and expertise, building trust, and creating joint incentives for sustainability.

In addition, NGOs could take legal action against MNEs. NGOs can take legal action against MNEs that violate environmental laws and regulations (M. Zhao et al., 2014). Legal action can create significant financial and reputational risks for MNEs, motivating them to improve their environmental performance. Legal actions by NGOs can be an effective tool for holding MNEs

accountable for their environmental impacts and creating incentives for them to adopt more sustainable practices.

For the moderating effect of host-country normative forces on the relationship between home-country normative pressures and environmental performance, we discuss that firms tend to conform to the institutional pressures and expectations of their external environment to gain legitimacy and support from their stakeholders (DiMaggio & Powell, 1983). According to this argument, when host-country normative forces are aligned with or similar to home-country normative forces, MNEs may face less institutional complexity and uncertainty in their host countries. They thus are more likely to transfer and implement their home-country environmental practices and standards in their host countries. This might result in higher environmental performance for MNEs, as they can leverage their existing capabilities and resources, avoid conflicts and controversies, and benefit from positive reputation and recognition from both home and host country stakeholders.

This brings us to our following Hypothesis.

> *Hypothesis 4-a: MNEs that face higher normative pressures for environmental sustainability are more likely to demonstrate greater environmental performance.*
>
> *Hypothesis 4-b: There is a positive interaction effect between normative forces in home and host countries while impacting the likelihood of greater environmental performance.*

## Mimetic forces

Mimetic forces, also known as mimetic isomorphism, refer to the tendency of organizations to imitate one another in their practices and strategies, often driven by a desire to conform to social norms or predominantly to avoid uncertainty in environment where there is a lack of clear guidance (DiMaggio & Powell, 1983). In institutional theory, mimetic forces are one of three forms of institutional isomorphism, alongside coercive and normative isomorphism.

Mimetic forces are particularly relevant in industries or markets with a high level of uncertainty, such as emerging fields or those subject to rapid technological change. In such contexts, organizations look to their peers or competitors for cues on how to behave and what practices to adopt to minimize risk and maximize their chances of success.

Mimetic pressure can widely take place in the adoption of emerging [new] technologies. Early adopters benefit from a competitive advantage when a new technology or approach emerges. However, as the technology or approach becomes more widely adopted, late adopters may feel pressure to follow early adopters to remain competitive, even if the benefits of the new approach are not fully understood or may not apply to their specific context.

In the following two sections, we strive to provide justifications for if and how mimetic forces could impact MNEs' engagement in climate policymaking and their environmental performance.

## Mimetic forces and MNEs' engagement in policymaking

MNEs operate in a complex web of institutional environment, dealing with various rules, regulations, norms, cultures, expectations from civil society organizations, and a wide variety of stakeholders across borders. That is why MNEs' operations tend to involve complexity (Marano & Kostova, 2016), which could create uncertainty. When it comes to environmental issues, this

can become even more important as stakeholders believe in the salience of the issue. Therefore, MNEs might tend to mimic their industry peers to reduce uncertainty and mitigate risks, and that could be expanded to their political activities.

MNEs imitate their peers in political activities for climate policymaking to reduce uncertainty and manage risk. By observing the behavior of other firms in their industry or context, firms can gain insights into which strategies and tactics are most effective and can reduce their uncertainty if they participate in environmental governance. Following, we discuss some of the mechanisms that might trigger such participation.

Mimetic pressures can impact lobbying activities by influencing the decision of firms. A study by Pan (2023) found that firms in regulated industries were more likely to engage in lobbying activities if their peers had already been involved. Moreover, firms tend to engage in political activities related to environmental issues if their competitors have already been involved (Bendell & Kearins, 2005). This suggests that firms are more likely to engage in lobbying activities if they perceive that their competitors are already doing so and believe this is an effective way to influence policy outcomes.

In addition, MNEs' response to mimetic pressures could be understood as a source of legitimacy for MNEs (Beddewela & Fairbrass, 2016). It can signal stakeholders that the MNE is a responsible and engaged corporate citizen. By engaging in political activities that are appropriate for their industry or context, firms can signal their alignment with social norms and expectations, enhancing their legitimacy and reputation.

Furthermore, mimetic forces are driven by competitive pressures within an industry [stemming from environmental performance]. MNEs imitate their peers in political activities to remain competitive and avoid falling behind their rivals.

Finally, mimetic pressures could encourage MNEs to participate in environmental advocacy and coalition building. Advocacy and coalition building refer to the efforts by organizations to influence policy outcomes by working with other stakeholders, such as NGOs, other firms, and industry associations. Mimetic pressures can impact advocacy and coalition building by influencing the decision of firms to join or support such groups. Firms will likely join environmental advocacy groups if their competitors have already initiated that (Miller, 2008). Similarly, a study by Levy and Kolk (2002) found that MNEs were more likely to join industry associations that advocated for global climate change if their competitors had joined that. This suggests that firms are more likely to engage in advocacy and coalition-building activities if they perceive that their peers or competitors are already doing similar actions and believe this is an effective way to influence policy outcomes.

When it comes to the host country's mimetic forces, our study examines the moderating effect that might host-countries have on the relationship between the home country's mimetic forces and MNE policy engagement. Host-country mimetic pressures can increase the legitimacy and social acceptance of the MNE subsidiaries in the host countries. Home country mimetic forces can influence MNE policy engagement by inducing them to imitate the political behaviors of other successful or legitimate MNEs from their home country. However, these behaviors may not be appropriate or effective in the host countries, where the institutional environment may differ significantly from the home country. Therefore, host-country mimetic pressures can moderate the impact of home-country mimetic forces by providing additional cues and incentives for MNE subsidiaries to adapt their policy engagement strategies to the local context. Host-country mimetic pressures can encourage MNE subsidiaries to adopt CSR practices aligned with the expectations and norms of the host country stakeholders, such as customers, suppliers,

regulators, NGOs, etc. (Park & Xiao, 2021; Lee et al., 2021). By doing that, MNE subsidiaries

can enhance their legitimacy and social acceptance in host countries, which can, in turn, facilitate

their policy engagement and influence (Rodriguez et al., 2006). Thus, we expect that host-

country mimetic pressures can positively moderate the relationship between home-country

mimetic forces and MNE policy engagement by enabling MNE subsidiaries to adjust their

political behaviors to the local institutional conditions.

That said, we conclude our following Hypothesis.


*Hypothesis 5-a: MNEs that face greater mimetic pressures for environmental*

*sustainability are more likely to be engaged in climate policymaking.*

*Hypothesis 5-b: There is a positive interaction effect between mimetic forces in*

*home and host countries while impacting the likelihood of MNE policy*

*engagement.*


### Mimetic forces and MNEs' environmental performance

As described in the previous section, mimetic forces encompass two key attributes: (1) they stem

from uncertainties in the corporate environment and (2) the tendency of organizations to imitate

other industry peers in their practices and strategies. Similarly, when it comes to MNEs'

environmental performance, uncertainties about environmental issues and the environment

around it, as well as the possibility of imitation of the firm from their peers, are equivalent to two

aspects mentioned above. Mimetic pressures impact MNEs through some mechanisms.

The first mechanism is the adoption of best practices by firms. Mimetic pressures can spur the

adoption of environmental best practices that have been proved to be effective by other peers

(Daddi et al., 2016). This can be due to the perception that such practices have already been tested and proven successful. Cordeiro et al. (2009) found that international and domestic normative, coercive, and mimetic institutional pressures impact the likelihood of adopting environmental quality management systems.

Another mechanism is benchmarking. Through mimetic pressures, MNEs compete and benchmark with their peers and competitors, which can improve their environmental performance. This is because organizations are more likely to adopt environmental practices that are perceived to be better than those of their peers or competitors.

Gao and Yang (2022) found that firms respond positively to mimetic [and normative pressures] by adopting corporate environmentally responsible practices. Although, their responses may vary depending on resource slack and green organizational climate. In other words, firms are more likely to increase their environmentally responsible behavior when the organizational environment recognizes the value of green development. Prior studies also approve that such responsiveness could benefit firms in various ways. Sharma and Vredenburg (1998) found that adopting proactive, responsive environmental strategies to the uncertainties around ecological issues results in capabilities that could create competitive advantages. Bansal and Roth (2000) also found that firms that were late to adopt environmental practices were more likely to do so after observing their peers doing the same. Zhu and Sarkis (2007) examined the impact of mimetic forces on the environmental performance of Chinese MNE. They found that these firms were more likely to adopt environmental management practices such as environmental quality management systems when their industry peers had already adopted similar practices (Zhu & Sarkis, 2007).

Moreover, mimetic forces could enhance learning and knowledge sharing, yielding better environmental innovation and performance (Huang et al., 2022). Huang et al. (2022) found a positive relationship between technological knowledge coupling and green innovation, while mimetic pressure has a positive moderating effect on the relationship. Mimetic pressures can facilitate learning and knowledge sharing among firms as they observe and imitate the environmental practices of others and incorporate them into their operations. This can help organizations to build their capacity for environmental management.

Finally, mimetic pressures can impact firms' disclosure and reporting activities, which could augment firms' transparency and environmental performance. A study by Doh and Guay (2006) found that companies were more likely to engage in social and environmental reporting if their peers in the industry were taking similar actions (Doh & Guay, 2006). In addition, a study by Setyorini and Ishak (2012) found that firms were more likely to disclose information on their environmental performance if their competitors had already done so. This suggests that firms are more likely to engage in disclosure and reporting activities if they perceive that their peers or competitors are already doing similar initiatives and believe this is an effective way to communicate their environmental commitments and activities to stakeholders.

Mimetic pressures can create a sense of peer pressure, as MNEs feel pressure to conform to the environmental practices of their peers and competitors. This can drive MNEs to adopt more sustainable practices and improve their environmental performance.

In terms of moderating effect, we use real option theory (ROT) to justify the potential moderating effect of host country mimetic forces on the relationship between home-country mimetic forces and environmental performance. According to ROT, MNEs can benefit from diversifying their host country portfolio in terms of institutional environments, as this can reduce

the exposure to country-specific risks and increase the opportunities for learning and adaptation (Zhao et al., 2020). Therefore, host country mimetic forces can positively moderate the relationship between home country mimetic forces and MNE environmental performance. Therefore, we conclude our sixth Hypothesis.

*Hypothesis 6-a: MNEs that face higher mimetic pressures for environmental sustainability are more likely to demonstrate greater environmental performance.*

*Hypothesis 6-b: There is a positive interaction effect between mimetic forces in home and host countries while impacting the likelihood of greater environmental performance.*

## Institutional voids

### Institutional voids and MNEs' engagement in policymaking

Institutional voids are defined as "the absence or underdevelopment of market-supporting institutions" that facilitate transactions and reduce uncertainty and transaction costs in a given context (Dieleman et al., 2022, p. 2; Yildirim et al., 2022, p. 650). Institutional voids can affect the strategies and performance of MNEs operating in various countries, including emerging markets, where institutions can be weak, unstable, or inefficient (Dieleman et al., 2022; Kostova et al., 2018). Institutional voids can create opportunities and challenges for MNEs to influence the institutional environment through political activities and policy engagement. In this section, we discuss the way in which institutional voids can affect MNEs' policy engagement.

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Institutional voids can pose challenges and risks for MNEs' political activities and policy engagement. In weaker institutional environments, MNEs face ethical dilemmas, legitimacy issues, or backlash from local stakeholders when engaging in policymaking and political activities (Dieleman et al., 2022). MNEs encounter corruption, state capture, governmentality, institutional braiding, or selective enforcement when dealing with local governments and institutions (Dieleman et al., 2022). Such phenomena can undermine the effectiveness and legitimacy of MNEs' policy engagement and expose them to uncertainty and risk (Dieleman et al., 2022).

In countries with fewer institutional voids, social movements tend to be stronger. They could challenge MNEs' political activities and policy engagement. Social movements are collective actions by groups of people who share a common identity, goal, or grievance (Preuss et al., 2022). In a weaker institutional environment, social movements can mobilize collective action to close institutional voids, demand accountability and transparency from MNEs and governments, and create alternative institutions that affect MNEs' operations and strategies (Preuss et al., 2022). Social movements can protest against MNEs' environmental or social impacts, expose MNEs' corruption or misconduct, or establish new norms or standards that regulate MNEs' behavior (Preuss et al., 2022). As well, social movements can challenge the status quo and disrupt the existing institutional order, creating opportunities or threats for MNEs depending on their alignment or conflict with the social movement's goals and values (Preuss et al., 2022). Therefore, we argue that institutional voids, either weak or strong, could trigger mechanisms by which MNE's policy engagement can be differently impacted.

In some market settings, MNEs often use political activities to offset institutional voids (Khanna & Palepu, 2010). As mentioned earlier, institutional voids are the gaps or deficiencies in the

formal and informal institutions that support market transactions and interactions (Khanna &

Palepu, 2010). In other words, markets tend to lack effective legal systems, regulatory

frameworks, information channels, or financial markets to facilitate business activities (Khanna

& Palepu, 2010). To cope with these institutional voids, firms may engage in policy engagement

to influence the political and regulatory environment in their favor (Hillman et al., 2004; Rodgers

et al., 2019). MNEs tend to lobby for favorable policies, donate money to political parties or

candidates, or build a good sociopolitical reputation through CSR activities (Hillman et al., 2004;

Rodgers et al., 2019). By engaging in policies, MNEs can reduce uncertainty and transaction

costs, gain competitive advantages, and fill institutional gaps in emerging markets (Hillman et

al., 2004; Rodgers et al., 2019).

Institutional voids can also spur MNE policy engagement to gain access to resources,

information, and legitimacy in markets (Doh et al., 2017). Policy engagement is a deliberate

action influencing governmental policy or process (White et al., 2014). MNEs can engage in

various policy strategies, such as lobbying, donating money, building coalitions, engaging in

CSR, or self-regulating, to fill institutional gaps, reduce institutional uncertainty and risk,

increase institutional legitimacy and trust, and create institutional value and innovation

(Dieleman et al., 2022; Hillman et al., 2004; Rodgers et al., 2019; White et al., 2014). By

engaging in policy strategies, MNEs can overcome institutional voids and enhance their

performance in emerging markets (Doh et al., 2017).

Furthermore, MNEs might engage in policy advocacy or collaboration with local governments

and institutions to facilitate technology transfer and upgrade local suppliers (Adomako et al.,

2021; Khan et al., 2016; Khan, Lew, & Sinkovics, 2015). MNEs seek policy engagement for

intellectual property rights protection, R&D subsidies, or quality standards. However,

institutional voids also limit the effectiveness of such policy engagement or create barriers for local suppliers to access and benefit from MNEs' technology (Adomako et al., 2021; Khan et al., 2016; Khan, Lew, & Sinkovics, 2015).

As a result, the discussion demonstrates that institutional voids can pose challenges and risks for MNEs' political activities and policy engagement, as they create ethical dilemmas, legitimacy issues, or social movements that could challenge MNEs' influence on the institutional environment. Institutional voids can also create opportunities for MNEs' policy engagement, as they motivate MNEs to fill institutional gaps, reduce institutional uncertainty and risk, increase institutional legitimacy and trust, and create institutional value and innovation. Moreover, institutional voids can affect the technology transfer and upgrading of local suppliers through MNEs' policy engagement, as they require MNEs to collaborate with local governments and institutions to facilitate knowledge and capability development.

> *Hypothesis 7-a: MNEs that face less institutional voids for environmental sustainability are more likely to be engaged in climate policymaking.*
>
> *Hypothesis 7-b: There is a positive interaction effect between institutional voids in home and host countries while impacting the likelihood of MNE policy engagement.*

### Institutionnel voids and MNEs' environmental performance

In this section, we discuss if and how the environmental performance of MNEs could be influenced by the institutional voids of their home and host countries.

To begin with risks, institutional voids can increase the environmental risks and costs for MNEs, such as regulatory uncertainty, social unrest, corruption, lack of enforcement, or reputational damage (Doh et al., 2017; Liedong et al., 2020; Tashman et al., 2019). MNEs may face inconsistent or arbitrary environmental regulations that increase compliance costs or expose them to legal sanctions (Stimpson et al., 2016). They may also encounter social resistance or protests from local communities or civil society groups that oppose their environmental practices or impacts (Asuncion, 2021).

The second impact of institutional voids is that they provide MNEs with strategic advantages, such as innovation potential, market differentiation, stakeholder engagement, or institutional entrepreneurship (Amaeshi et al., 2016; Khanna et al., 2015; Khanna & Palepu, 2010). MNEs leverage their technological capabilities or resources to develop innovative solutions or products that address emerging markets' environmental challenges or needs.

Institutional voids also can influence the choice and mode of entry of MNEs in new markets, as well as their level of resource commitment and localization (Liedong et al., 2020; A. Yildirim et al., 2022). MNEs may choose entry modes that allow them more control or flexibility over their environmental operations or decisions, such as wholly owned subsidiaries or joint ventures.

From the host and home country perspectives, the impact of institutional voids on MNEs' environmental performance may vary depending on the perspective of home and host countries and the potential differences and interactions between them.

From a home country standpoint, institutional voids motivate or constrain MNEs to engage in outward foreign direct investment (OFDI) and seek better environmental conditions or opportunities in host countries. This is known as institutional escapism or arbitrage (Nayyar & Maity, 2021; Stoian & Mohr, 2016). To put it into the context of our research, MNEs from

developing countries with high institutional voids escape to developed countries with low institutional voids to improve their environmental performance and legitimacy. Conversely, MNEs from developed countries with low institutional voids arbitrage to developing countries with high institutional voids to exploit their environmental advantages or avoid stringent regulations.

From a host country perspective, we can have a similar argument to home country, where institutional voids affect the choice and mode of entry of MNEs, as well as their level of resource commitment and localization. As discussed earlier, these factors may, in turn, influence their environmental performance and innovation in host countries (Lee et al., 2021; Liedong et al., 2020; A. Yildirim et al., 2022). As mentioned in the previous section, MNEs enter host countries with lower institutional voids or higher institutional quality to reduce their environmental risks and costs. From a resource perspective, they commit more resources and localize more if they perceive institutional voids as opportunities for value creation and capture (Liedong et al., 2020). Conversely, they commit fewer resources and localize less if they perceive institutional voids as threats or constraints to their environmental performance.

Moreover, institutional distance is of the essence. It is about potential differences between home and host countries in terms of institutional quality or development status. These differences moderate the impact of institutional voids on MNEs' environmental performance (Konara et al., 2021; Konara & Shirodkar, 2018; Lee et al., 2021). MNEs face more challenges or pressures when operating in host countries with higher institutional quality or development status than their home countries. They have to adapt to more stringent or complex environmental regulations or standards or face more competition or scrutiny from local firms or stakeholders. On the other hand, MNEs may enjoy more advantages or opportunities when they operate in host countries

with lower institutional quality or development status than their home countries. Depending on

the relative institutional quality or development status, MNEs may transfer their environmental

practices or standards from their home countries to their host countries or vice versa.

That said, institutional voids impact MNEs' environmental performance differently in various

countries. These impacts can be positive or negative depending on how MNEs perceive and

respond to the institutional conditions in these markets. Therefore, MNEs need to understand and

adapt to the institutional voids in emerging markets to enhance their environmental performance

and competitiveness.

*Hypothesis 8-a: MNEs that face greater institutional voids for environmental*

*sustainability are more likely to demonstrate weaker environmental*

*performance.*

*Hypothesis 8-b: There is a negative interaction effect between institutional*

*voids in home and host countries while impacting the likelihood of greater*

*environmental performance.*

Models below represents the conceptual model of study II and study III, with expected

relationships and directions among independent and dependent variables.
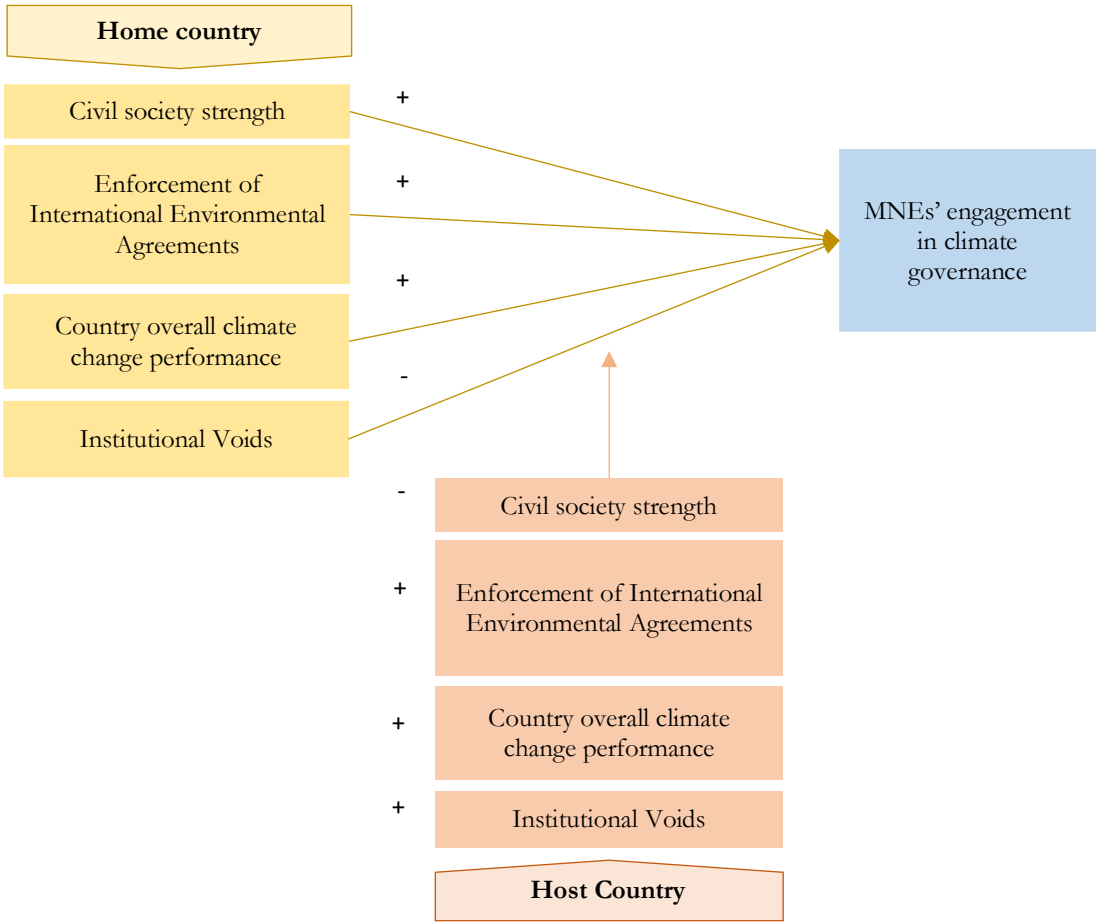
*Conceptual model for study II*
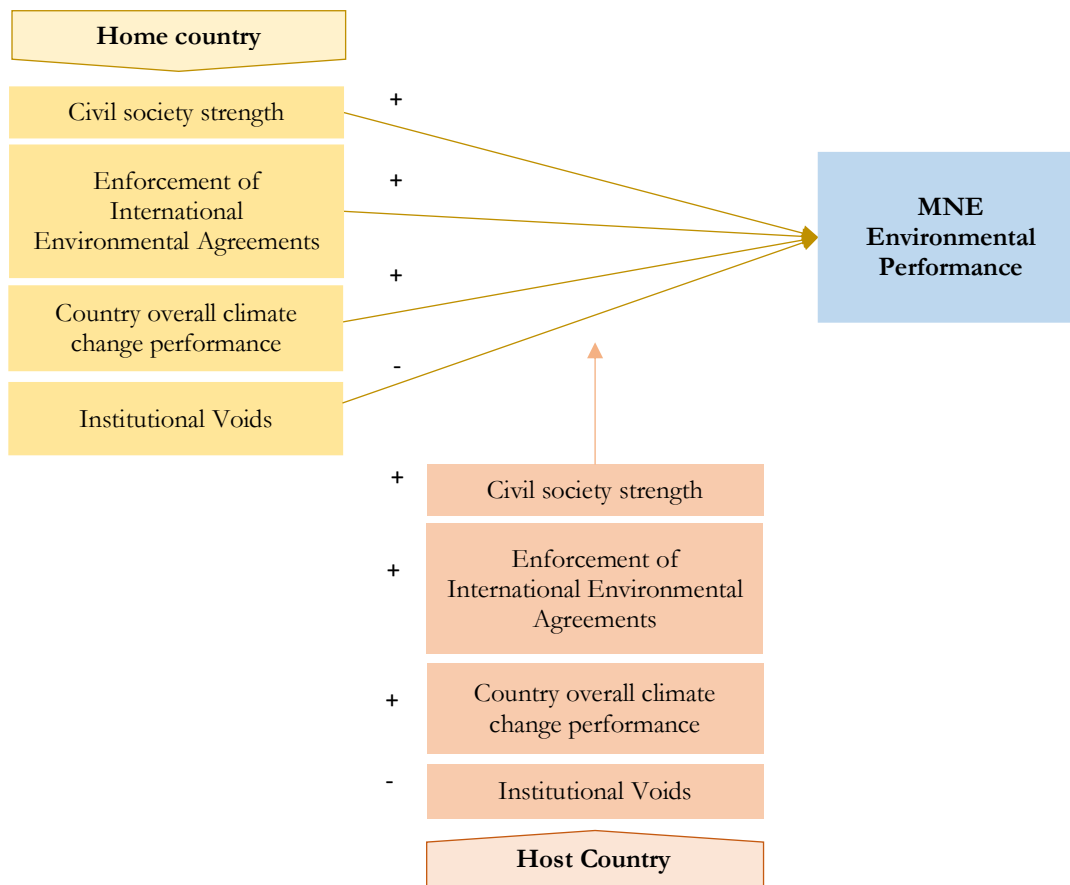
*Conceptual model for study III*

## Objective 2: To understand the way institutional components affect MNE's engagement in climate policies

### Sample, data, and methods

#### Data

We created our dataset from various sources, including CDP, UNEP, WGI of the World Bank, the IEA database of the University of Oregon, and the Germanwatch Institute. Table below describes the constructs that are used in the study and the sources of the data. This study is a

cross-sectional study and investigates the phenomenon of interest in 2019. There are a couple of reasons that we chose 2019. First, the beginning of this study was 2020; therefore, the design of the study was shaped based on the availability of data by that timeframe. Second, due to the COVID-19 pandemic, it was intentional to stick to data before March 2020, when the COVID-19 pandemic hit. As data suggests, COVID-19 disrupted value chains, and many factories had to shut down due to quarantines. We believe some environmental performance indicators between 2020 and 2021, such as GHG output, may show considerable anomalies and generate misleading data and bias. Table 14 provides a summary of constructs we use in this section.

*Table 14: Constructs, data sources, and level of analysis*

| Construct | Source of data | Level (MNE/Industry/Country) |
|---|---|---|
| Civil society strength | UNEP (List of accredited NGOs) | Country |
| Regulatory forces | IEA Database, Oregon University | Country |
| Country overall climate change performance | Germanwatch | Country |
| Institutional voids | WGI | Country |
| MNEs' engagement in climate governance | CDP | Corporate |
| Control Variable I: Industry | CDP | Industry |

## Sample

This study uses data from 2045 MNEs across 130 countries. Given the context of the study, which is environmental performance and policy engagement of MNEs, and the resource needed for data collection in that context, as well as the timeframe of the study, the number of samples (MNEs), and the number of countries is fairly above average sample size of studies published in top-tier management journals. For example, out of 47 relevant studies published in journals such as JIBS, JWB, and MIR, listed in Table 3 to Table 11 (also summarized in Appendix II), the

average sample size is 1022 MNEs. This average sample size is almost half of the sample we used in this study. Furthermore, out of 47 studies summarized in Appendix II, only four of those studies have samples larger than what we investigated in this study. Moreover, in terms of the number of countries being investigated, only two studies have a sample size greater than 130 (the sample size of this study in terms of number of countries).

Sampling process

This study uses climate change data from CDP. That said, the total population for our sample must be a subset of the CDP data. However, some of the CDP data might not be applicable to our study as they might not belong to MNEs, or the data may not be related to climate change. In this section, we provide you with further details on the way in which the sample for this thesis was shaped.

According to CDP, more than 8,400 companies disclosed their environmental data through CDP in 2019. This number represented a 20% increase from 2018 and a 50% increase since 2015. The total number of companies that could potentially participate in reporting to CDP is estimated to be over 7,000 corporations representing half of global market capitalization (CDP, 2019)[1]. That number of companies report their environmental sustainability performance to CDP in three groups (and not necessarily all of them): Climate change, Water, and Forests. The group that we are interested in is Climate Change where we can analyze data related to companies GHG emission performance.

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[1] Research - CDP

CDP request information on climate risks and low carbon opportunities from the world's largest companies on behalf of institutional investors with a combined US$136 trillion in assets and over US$6.4 trillion in procurement spend (CDP, 2023)[1].

According to CDP, companies are selected to report to CDP based on their activities and impacts across their value chain from climate change, water security, and deforestation. CDP uses a system called CDP-Activity Classification System (CDP-ACS) to categorize companies by the diverse activities that they derive revenue from.

If a company is not selected to report, it still participate in reporting voluntarily by creating an account on CDP's website and choosing the relevant questionnaires. As mentioned earlier, CDP currently offers three questionnaires: Climate Change, Water Security and Forests. Each of these is scored using different methodologies and includes general and sector-specific questions.

From the CDP data, our study has incorporated the entire MNEs reported to CDP in the study sample. The method by which we identified MNEs is relied on Question C0.3 of the CDP questionnaire in 2019[2]. This particular question asks companies about their activities outside of their home countries. In other words, they disclose whether they operate in countries or regions beside their home country. That said, it brings us to the study sample size, which is 2045 MNEs. The number of countries (including home and host) also were counted, which is 130 countries.

## Method

In this study, we use hierarchical binary logistic regression. Logistic regression is a statistical technique for modeling the relationship between a binary outcome variable (such as yes/no,

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[1] Climate change - CDP
[2] Climate Change - CDP

success/failure) and one or more explanatory variables (such as age, gender, and income) (Hilbe,

2009). It estimates the probability of the outcome variable being one (or yes/success/etc.) given

the values of the explanatory variables. It provides the odds ratio, which is the ratio of the odds

of the outcome being one in a group compared to another. In other words, binary logistic

regression deals with the outcome variable with only two possible values (0/1, alive/dead). It

uses a logistic function to model the probability of the outcome being one as a function of the

explanatory variables (Figure 17).
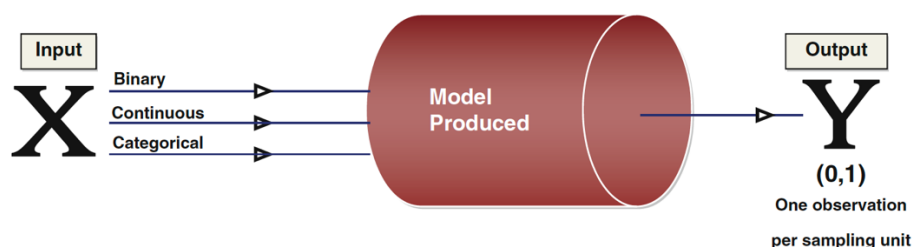


*Figure 17: Typical binary logistic model*

*(Source: Wilson, 2015)*

Logistic regression is a technique to assign objects, observations, cases, or individuals to exist

distinct classes, categories, or groups (Wilson, 2015). In terms of statistical function, the logistic

equation expresses the probability Y = 1 (success) as P. The probability that Y is 0 is 1 - P.

Logit(p) is the logit of the probability of success (Menard, 2014). $\beta_0$ is the intercept,

$\beta_1, \beta_2, \ldots, \beta_k$ are the coefficients of the predictor variables $x_1, x_2, \ldots, x_k$ (Equation 1).

$$\text{logit}(p) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$$

$$\ln\left(\frac{P}{1-P}\right) = \log_e\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$$

*Equation 1: Logistic regression*

The 'ln' symbol denotes the natural logarithm, while the equation $\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k$ represents the multiple regression formula. P is also derived from the regression equation. Therefore, if we possess the regression equation, it would be possible, in theory, to determine the anticipated probability of Y is equal to 1 for a specific X value. Exp is the exponent function, sometimes written as 'e'. Figure 18 provides a better depiction of the logistic regression and the way the logit function transforms the probability of observations (Equation 2).

$$p = \frac{\exp\left(\text{logit}(p)\right)}{1 + \exp\left(\text{logit}(p)\right)} = \frac{e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k}}{1 + e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k}}$$

*Equation 2: Probability of observations in logistic regression*
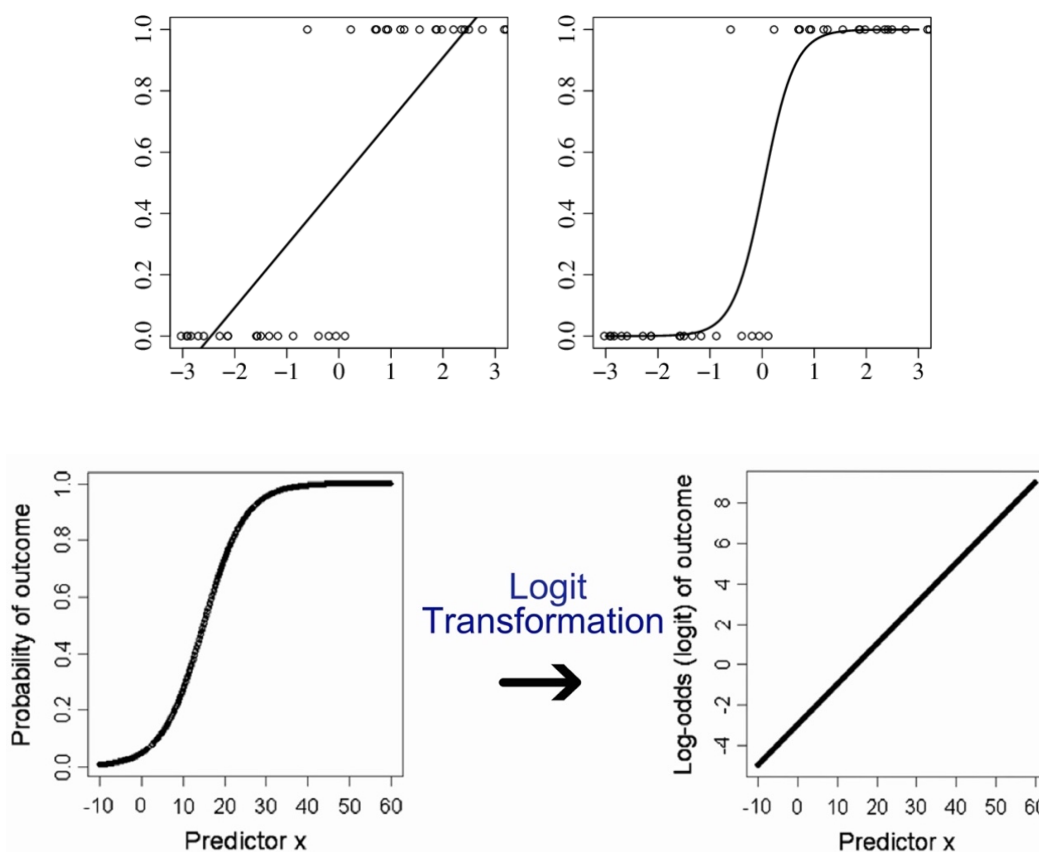


*Figure 18: Linear regression vs logistic regression*

The coefficient in logistic regression is the parameter $\beta_i$ that measures the effect of a predictor variable $x_i$ on the logit of the probability of success logit(p) (Allison, 1999). The coefficient is interpreted as the change in the logit of the probability of success when the predictor variable increases by one unit, holding other variables constant:

$$\beta_i = \frac{\partial \text{logit}(p)}{\partial x_i}$$

*Equation 3: Logistic regression coefficient*

In other words, $\beta_i$ is equal to the partial derivative of the logit of the probability of success logit(p) with respect to the predictor variable $x_i$ (Equation 3). The partial derivative indicates how much the logit of the probability of success changes when the predictor variable changes by a small amount, holding other variables constant.

The coefficient can also be converted to an odds ratio by taking the exponential function, which can be interpreted as the multiplicative change in the odds of success when the predictor variable increases by one unit, holding other variables constant:

$$\text{OR}_i = \frac{\text{odds}(p \mid x_i + 1)}{\text{odds}(p \mid x_i)} = \exp(\beta_i)$$

*Equation 4: Logistic regression odds ratio*

Where $\text{OR}_i$ is the odds ratio for the predictor variable $x_i$, $\text{odds}(p \mid x_i + 1)$ is the odds of success when $x_i$ increases by one unit, $\text{odds}(p \mid x_i)$ is the odds of success when $x_i$ does not change (Equation 4).

As well, the odds of success is denoted as odd(P), where p is the probability of success, logit(p)

is the logit of the probability of success, as shown in Equation 5:

$$\text{odds}(p) = \frac{p}{1-p} = \exp\left(\text{logit}(p)\right)$$

*Equation 5: Odds ratio from the logit function*

The odds ratio is obtained by raising the exponent constant ($\sim 2.72$) to the power of $\beta_i$. For

instance, if the regression slope is 0.5, the odds ratio is about 1.65. This implies that the

probability that Y is 1 is 65% higher if the value of $x_i$ is increased by one unit. In other words,

the odds ratio is the estimated increase in the probability of success when the value of the

explanatory variable changes by one unit.

When there is more than one explanatory variable in the model, then the interpretation of $\beta_i's$ is

similar as in the case of a single explanatory variable case. The odds ratio is $\exp(\beta_i)$ associated

with the explanatory variable $x_i$ keeping other explanatory variables constant. This is similar to

the interpretation of $\beta_i$ in multiple linear regression models.

In summary, the generic logistic regression function for Objective II of this study is provided in

the equation below.

$$\ln(Odds\ of\ policy\ engagaement) = ln\left(\frac{P}{1-P}\right)$$
$$= \beta_0 + \beta_1(\text{Regulative forces}) + \beta_2(\text{Normative forces}) + \beta_3(\text{Mimetic forces})$$
$$+ \beta_4(\text{Institutional voids})$$

*Equation 6: Generic logistic regression model of this study*
*(Objective II)*

## Goodness of fit tests and comparison tests

To assess the fit of a logistic regression model in our study, we utilize two main types of tests: goodness of fit tests and model comparison tests. These tests measure how well the logistic regression model fits the data and whether it can be improved by adding or removing predictor variables. These tests are based on different aspects of the logistic regression model, such as the observed and expected frequencies of the outcome variable, the likelihood of the data given the model parameters, and the comparison of nested models.

### Pearson's chi-square test for goodness of fit

The goodness of fit test measures how well the logistic regression model fits the data as a whole. These tests evaluate whether the observed frequencies of the outcome variable are close to the expected frequencies under the logistic regression model or, equivalently, whether the model predicts the outcome variable accurately. In this thesis, we utilize Pearson's goodness of fit test, which compares the observed and expected frequencies of the outcome variable under the logistic regression model.

Pearson's goodness of fit test is based on Pearson's chi-square statistic, which measures how much the observed frequencies deviate from the expected frequencies. Pearson's chi-square statistic is calculated as follows:

$$X^2 = \sum_{j=1}^{k} \frac{(O_j - E_j)^2}{E_j}$$

*Equation 7: Pearson's Chi-square statistic*

Where $X^2$ is Pearson's chi-square statistic, and k is the number of categories of the outcome variable, $O_j$ is the observed frequency of category j, and $E_j$ is the expected frequency of category j under the logistic regression model (Equation 7).

The expected frequency $E_j$ can be obtained by multiplying the total number of observations n by the predicted probability $\hat{p}_j$ of category j under the logistic regression model. The predicted probability $\hat{p}_j$ can be calculated by using the logistic function:

$$\hat{p}_j = \frac{\exp(\hat{\beta}_0 + \hat{\beta}_1 x_{1j} + \cdots + \hat{\beta}_k x_{kj})}{1 + \exp(\hat{\beta}_0 + \hat{\beta}_1 x_{1j} + \cdots + \hat{\beta}_k x_{kj})}$$

*Equation 8: Predicted probability function in logistic regression*

Where $\hat{\beta}_0, \hat{\beta}_1, \cdots, \hat{\beta}_k$ are the estimated coefficients of the logistic regression model, and $x_{1j}, x_{2j}, \cdots, x_{kj}$ are the values of the predictor variables for category j (Equation 8).

Pearson's chi-square statistic follows a chi-square distribution with degrees of freedom equal to k−p−1, where p is the number of parameters in the logistic regression model. The p-value of the test is obtained by comparing the test statistic to the chi-square distribution. If the p-value is less than 0.05, the observed frequencies are significantly different from the expected frequencies, and the model does not fit the data well. If the p-value is large (greater than 0.05), the observed frequencies are not significantly different from the expected frequencies, and the model fits the data well.

Based on underlying assumptions for this test, it is an accurate tool for our study because (I) it meets the assumption that the outcome variable should have binomial distribution, as the response variable of our study satisfies that assumption, (II) we use a large set of data (big sample) which is required for chi-square distribution.

## Log-likelihood function

The log-likelihood function measures how well the model fits the data. The higher the log-likelihood, the better the fit. The log-likelihood function can be used to test the significance of individual parameters using Wald tests or score tests, which are based on the first or second derivatives of the log-likelihood function at the estimated parameters. The log-likelihood function is calculated as follows:

$$\ell(\hat{\beta}) = \sum_{i=1}^{n} [y_i \log(\hat{p}_i) + (1 - y_i)\log(1 - \hat{p}_i)]$$

*Equation 9: Log-likelihood function for goodness-of-fit*

Where $\ell(\hat{\beta})$ is the log-likelihood function, $\hat{\beta}$ is the vector of estimated coefficients, n is the number of observations, $y_i$ is the observed outcome for observation i, and $\hat{p}_i$ is the predicted probability of success for observation i under the logistic regression model. The predicted probability $\hat{p}_i$ is provided in Equation 9. In other words, the Wald test is a test that evaluates whether an individual parameter is significantly different from zero or, equivalently, whether an individual predictor variable has a significant effect on the outcome variable. The Wald test statistic is calculated as follows:

$$W = \frac{\hat{\beta}_j}{\text{SE}(\hat{\beta}_j)}$$

*Equation 10: Wald test statistic*

Where W is the Wald test statistic, $\hat{\beta}_j$ is the estimated coefficient of the predictor variable $x_j$ ,and

$SE(\hat{\beta}_j)$ is the standard error of $\hat{\beta}_j$ (Equation 10).

The Wald test statistic follows a standard normal distribution under the null hypothesis that $\hat{\beta}_j$=0.

The p-value of the test is obtained by comparing the test statistic to the standard normal

distribution. If the p-value is less than 0.05, it means that $\hat{\beta}_j$ is significantly different from zero

and that predictor variable $x_j$ has a significant effect on the outcome variable. If the p-value is

greater than 0.05, it means that $x_j$ is not significantly different from zero and that predictor

variable $x_j$ does not have a significant effect on the outcome variable.

### Likelihood ratio test

Another test that we use is the likelihood ratio, which is a test that compares two nested models:

a full model that includes all the predictor variables and a reduced model that excludes some of

the predictor variables. The test evaluates whether the reduced model is significantly worse than

the full model or whether the excluded predictor variables improve the model's fit significantly.

The likelihood ratio test statistic is calculated as follows:

$$LR = -2\log \frac{L(\theta_0)}{L(\theta)}$$

*Equation 11: Likelihood ratio test based on hypotheses*

Where $L(\theta_0)$ is the likelihood of the data under the null hypothesis and $L(\theta)$ is the likelihood of

the data under the alternative hypothesis (Equation 11). $\theta_0$ and $\theta$ are the vectors of parameters

under the null and alternative hypotheses, respectively. The likelihood ratio test statistic follows

a chi-square distribution with degrees of freedom equal to the difference between the number of

parameters in the full and reduced models. The p-value of the test is obtained by comparing the test statistic to the chi-square distribution. If the p-value is less than 0.05, the reduced model is significantly worse than the full model, and the excluded predictor variables significantly improve the model's fit. If the p-value is greater than 0.05, the reduced model is not significantly worse than the full model, and the excluded predictor variables do not significantly improve the model's fit.

### Summary (why we use binary logistic regression?)

We used hierarchical binary logistic regression in our study due to some reasons. First, the dependent variable in our study is a binary variable. This is critical in guiding us toward binary logistic regression. The advantage of binary logistic regression is that independent variables can be a mix of continuous and nominal variables. The logistic regression also provides interpretable results, with coefficients representing the log-odds of the outcome and odds ratios indicating the impact of each predictor. Furthermore, in logistic regression, there are methods that we can assess model goodness of fit and accuracy using various diagnostic measures. Detailed description on each feature is provided in the respective sections.

## Independent variables

### Civil society strength and number of environmental NGOs per capita

We use the number of environmental non-governmental organizations (NGOs) per capita to assess civil society's strength. This indicator is calculated by dividing the number of

environmental NGOs by the population of a given nation. That is an indicator used by several

prior studies. Binder and Neumayer (2005) showed that the number of environmental non-

governmental organizations per capita had a statistically significant effect on air quality for 35

countries from 1977 to 1988. Some studies used a similar measurement, the number of

environmental NGOs per million people. Damert et al. (2020) used the ratio of numbers of

NGOs to million inhabitants. As well, Jira and Toffel (2013) applied a similar indicator. Yildirim

et al. (2021) and (Choi, 2022) also used the number of NGOs per population in their studies.

Considering the theoretical and empirical literature, along with the number of NGOs, their

resources may play a critical role in their impact on corporations (Clarke & MacDonald, 2019).

Nonetheless, data about NGOs' resources, particularly in the international context with various

countries, seems to be not publicly available (from the best of our knowledge). Therefore, we

had to concentrate on the number of environmental NGOs per capita, particularly those NGOs

that (I) met the criteria defined by the United Nations Environment Programme (UNEP) and

consequently accredited, (II) are environmental NGOs.

Note that in our study we do not claim that we are measuring normative forces. What we

measure is a component of normative forces. For example, number of accredited NGOs by

UNEP, advocating for environmental sustainability. The latter is an indicator in our study, and

the former is the theoretical foundations supporting the indicator. As mentioned earlier, the

indicator itself have applied in the prior studies.

Our study identified the number of environmental NGOs from the UNEP Accredited NGOs.

UNEP is an agency of the United Nations. Its mission is to provide leadership and encourage

partnerships in caring for the environment by inspiring, informing, and enabling nations and

peoples to improve their quality of life without compromising that of future generations. UNEP

works with governments, civil society organizations, businesses, and other stakeholders to promote sustainable development and protect the environment. Its focus areas include climate change, biodiversity, sustainable consumption and production, and ecosystem management. Regarding accredited NGOs by UNEP, NGOs must successfully meet the requirements of the accreditation process. Some of these requirements include NGOs need to be registered with their government for at least two years. They have to have a major focus on the environment. Finally, such NGOs need to have environmental activities nationally and internationally.

Data for the population was also sourced from the World Bank Data portal. The World Bank is an international institution that provides financial services to governments of developing countries for economic development. Moreover, the World Bank provides government data and policy advice on various subjects, including poverty, population, health, gender, among others.


## Regulatory environment and number of IEAs entered into force

Prior studies have applied various indicators to measure the regulatory environment. Many are listed in the summary tables in chapter two, the literature review. Some notable studies include Chithambo et al. (2020); Kawai et al. (2018); Maas et al. (2018); Eiadat et al. (2008); and Marshall et al. (2010). However, our findings suggest that applying international environmental agreements (IEAs) as a proxy for measuring the regulatory environment in a given country is lacking (not sufficiently studied). This may be very important as those international environmental agreements that are enforced into effect might have critical implications for multinational enterprises. Any evidence suggesting the impact or lack thereof 'enforced' international environmental agreements could have significant policy implications, as well. To

the best of our knowledge, the existing literature lacks such insights from the perspective of whether IEAs have impacted environmental-policy engagement and environmental performance of multinational enterprises. Nonetheless, the concept of international environmental agreements per se has been applied as an indicator in various studies in other contexts (i.e., not in the context of our study). Therefore, our study has novelty on that front, as it provides further insights on the role of enforced IEAs on MNE's environmental performance.

Mitchell (2003, p432) defines an international environmental agreement as "an intergovernmental document intended as legally binding with a primary stated purpose of preventing or managing human impacts on natural resources." Prior studies suggest that IEAs can effectively induce environmental and regulatory changes, even if enforcement mechanisms are not robust (Ringquist & Kostadinova, 2005). As well, Andonova et al. (2017) used international environmental agreements (IEAs) ratified by a country as a broader measure of environmental policy (data from Mitchell 2002–2013). Besedes and Wang (2015) used IEAs data to study the relationship between international environmental agreements and trade.

There are three generic groups of IEAs: Signed, Ratified, and entered into force (Corten & Klein, 2011). Once the agreement has been negotiated, countries may choose to sign it, indicating their intention to be bound by its provisions. Signing an agreement is not legally binding, but it is a necessary first step toward ratification. The next stage is ratification.

Ratification is the formal process by which a country confirms its acceptance of the agreement and agrees to be legally bound by its provisions. Ratification typically involves domestic legal procedures, such as approval by the national legislature or executive and the deposit of an instrument of ratification with the depositary of the agreement.

Finally, IEAs enter into force. Once the required number of countries have ratified the agreement, it enters into force, meaning that it becomes legally binding on the parties. From that point on, the parties are required to comply with the agreement's provisions and may be subject to enforcement mechanisms, such as dispute resolution procedures or sanctions (Corten & Klein, 2011). Our study is focused on the number of IEAs that have entered into force. We utilize a well-established and popular database, IEADP[1],  for the number of IEAs entered into force.

The International Environmental Agreements (IEA) Database Project is an online resource that provides information on environmental treaties and other international agreements related to the environment. The University of Oregon hosts the project and is supported by the UNEP and the International Union for Conservation of Nature (IUCN). The database includes information on over 900 agreements. The agreements cover a wide range of environmental issues, such as climate change, biodiversity, marine pollution, and hazardous waste.

The IEA Database Project provides information on each agreement, including the full text of the agreement, the parties involved, the status of ratification, the dates of entry into force, and any amendments or protocols associated with the agreement. The database also includes information on compliance and enforcement mechanisms, as well as links to relevant resources and publications.

## Mimetic isomorphism and CCPI

The climate change performance index (CCPI) is a tool developed by Climate Action Network Europe[2] and Germanwatch[3] to promote transparency and track each country's collective efforts in

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[1] International Environmental Agreement Database Project: https://iea.uoregon.edu
[2] https://climatenetwork.org
[3] https://www.germanwatch.org/en

combatting climate change. Its objective is to enable the comparison of countries' efforts and progress in mitigating climate change, using standardized criteria to assess and rank the climate performances of 59 countries and the European Union, which collectively contribute to over 90% of the world's greenhouse gas emissions (Burck et al., 2022). In other words, the CCPI enables a comparison of climate protection performance and progress made by each country.

The CCPI has four components: GHG Emissions, Renewable Energy, Energy Use, and Climate Policy. These components enable the index to provide a comprehensive and balanced evaluation of the countries assessed. Around 80% of the assessment is based on quantitative data from internationally recognized institutions such as the International Energy Agency (IEA), PRIMAP[1], the Food and Agriculture Organization (FAO), and national greenhouse gas inventories submitted to the UNFCCC[2] (Burck et al., 2022).

As described by Germanwatch, CCPI aims to reflect the collective performance of a nation in climate change performance. This notion (CCPI as a reflection of a collective pursuit of a nation) also has been discussed in prior studies (Baidya & Mukherjee, 2023; Posocco & McNeill, 2023). CCPI is used in our study as a proxy of mimetic forces in a given country, reflecting the degree to which the climate change action has been progressing as a collective pursuit at a nation level. Many studies have applied CCPI in the environmental sustainability realm. Huang et al. (2022) used CCPI as the proxy for national environmental performance. This means the higher the position of a country in CCPI, the better has been the collective efforts of that country in combatting climate change. Applying the institutional theory perspective, Datt et al. (2018) used CCPI in their study on firms' carbon reduction initiatives. Along with the studies mentioned

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[1] Potsdam Realtime Integrated Model for probabilistic Assessment of emissions Paths (PRIMAP)
[2] The United Nations Framework Convention on Climate Change (UNFCCC)

earlier, Azzarita (2021), Nathwani et al. (2021), Posocco and McNeill (2023), and Puertas and Marti (2021) utilized CCPI in their studies on environmental sustainability.

## Institutional Voids

To measure institutional voids, our study follows some seminal studies in the international business research. The data has been provided by Worldwide Governance Indicators (WGI)[1] of the World Bank. The WGI is a comprehensive set of indices developed by the World Bank to assess the quality of governance and institutions in countries worldwide. It is designed to measure various dimensions of institutional quality and provides valuable insights into the effectiveness of governance structures, policies, and practices.

The WGI consists of six distinct indices, each representing a specific aspect of governance:

(a) Voice and Accountability: This index measures the extent to which citizens are able to participate in the political process, exercise their rights, and hold the government accountable. It reflects the presence of democratic institutions, freedom of expression, and civil liberties.

(b) Political Stability and Absence of Violence: This metric examines the likelihood of political instability, violence, and terrorism within a country. It considers factors such as political conflicts, civil unrest, and the presence of armed groups.

(c) Government Effectiveness: Government effectiveness evaluates the quality of public services, bureaucracy, and the capacity of the government to implement policies effectively. It focuses on the efficiency of public administration, delivery of services, and the level of corruption within the government.

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[1] http://info.worldbank.org/governance/wgi/

(d) Regulatory Quality: This metric measures the effectiveness and transparency of regulations, including the ease of doing business, the efficiency of regulatory processes, and the level of regulatory burden on businesses.

(e) Rule of Law: This index assesses the extent to which the laws are upheld, enforced, and applied fairly and impartially. It encompasses factors such as judicial independence, property rights protection, and the absence of corruption in the legal system.

(f) Absence of Corruption: This index focuses specifically on the prevalence of corruption within the public sector. It evaluates the misuse of public resources, bribery, embezzlement, and other forms of corrupt practices.

The World Bank constructs these indices by aggregating data from various sources, including surveys of citizens, firm respondents, experts, and data collected by different organizations (Marano et al., 2017; Tashman et al., 2019). The process involves analyzing hundreds of individual variables and integrating them into a comprehensive assessment of governance quality.

Our study employs Principal Components Analysis (PCA) to measure institutional voids to extract the first principal component of the six WGI measures (Marano et al., 2017; Tashman et al., 2019). The PCA approach addresses the high correlation between the six dimensions of institutional quality (Globerman & Shapiro, 2003). By doing that, we obtain a single index representing each country's overall level of institutional quality.

To capture the presence of institutional voids rather than the quality of institutions, then we reverse-coded the measure. In this context, higher index values indicate more pervasive institutional voids or poorer institutional quality (Marano et al., 2017; Tashman et al., 2019). The methodology used in this study aligns with previous research in the field, which has been

adopted to assess institutional quality (Marano et al., 2017; Michael Geringer et al., 1989; Tallman & Li, 1996; Tashman et al., 2019). Details of the CPA analysis are provided in Appendix I.

### Dependent variable

In our second objective and respective study, we use the Carbon Disclosure Project (CDP) questionnaire to measure policy engagement. CDP is a non-profit organization that collects and disseminates data and information about corporate environmental strategies and their performance. Founded in 2000, CDP has provided companies a platform to disclose their greenhouse gas emissions and climate change strategies to investors and other stakeholders. The CDP sends annual questionnaires to companies requesting information on their greenhouse gas emissions, climate change risks and opportunities, and other environmental practices. The responses are then analyzed, and the results, as well as raw data, are made publicly available through the CDP's website and reports. CDP's data enhances corporate transparency and accountability so that it can be used by investors, governments, and other stakeholders to assess and compare the environmental performance of companies across different sectors and regions. Data provided by CDP has been extensively used in academic studies, as some of them will be described shortly.[1]

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[1] Similar to other questionnaires, CDP data is a self-report. Nonetheless, there is a verification system involved in some respects. For example, in the US, companies must report their environmental performance based on the environmental standards to EPA (US Environmental Protection Agency). It is publicly available data. There are some mechanisms involved that make it really difficult for companies to report incorrect data for environmental performance, as they could get caught lying, and then there would be significant penalties involved.

For our study (this section), we used question number 12.3 of "public policy engagement" in the CDP questionnaire addressing whether a firm is engaged in activities that could directly or indirectly influence public policy on climate-related issues.

According to the CDP questionnaire, firms can be engaged through (I) Direct engagement with policymakers, (II) No direct engagement, including indirect engagement with policymakers, such as membership in trade associations and funding research organizations, and no engagement. Below is the respective question on the CDP survey.

| External engagement activities could directly or indirectly influence policy, law, or regulation that may impact the climate. |
| --- |
| Direct engagement:<br>☐ We engage directly with policymakers<br><br>No direct engagement:<br>☐ Our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate<br>☐ We fund organizations or individuals whose activities could influence policy, law, or regulation that may impact the climate<br>☐ We have assessed our activities, and none could either directly or indirectly influence policy, law, or regulation that may impact the climate |

We define a binary variable from the question above to shape our dependent variable so that the variable will take one if a firm has direct policy engagement, and zero, otherwise.

As mentioned earlier in this section, several academic studies have used CDP data. In the context of the area of interest to our study, public policy engagement (question 12.3 of the CDP questionnaire), Tang and Luo (2014) used public policy engagement question on the CDP questionnaire to study the importance of engagement with stakeholders and public policy development in promoting carbon mitigation and effective carbon management system. They utilized data from the CDP to conduct empirical evidence of the relationship between public

policy engagement and companies' carbon mitigation efforts. They defined 'PolicyEngage' as a proxy variable that equals one if a firm engages with public policy development and 0 if not. Another study that used a similar measurement is the research study by Dhanda et al. (2022). They used data from the CDP to investigate the institutional and stakeholder effects on carbon mitigation strategies. The study used questions inquiring whether firms have been engaged in activities that could influence public policy on climate change through direct engagement with policymakers, trade associations, research organizations, or any other entities.

Table 15 profiles the constructs used for the study associated with the Objective II.

*Table 15: Thesis variable profiles*

| Construct | Indicator | Scale (type of data) | Source of data | Level (MNE/Country/etc) |
|---|---|---|---|---|
| Civil society strength | Number of environmental NGOs per capita | Continuous | UNEP (List of accredited NGOs) | Country |
| Regulatory forces | Number of International Environmental Agreements (IEA), Entry into Forces | Continuous | IEA Database, Oregon University | Country |
| Country overall climate change performance | Climate Change Performance Index (CCPI) | Continuous | Germanwatch | Country |
| Institutional voids | Used CPA (see Appendix I) | Continuous | WGI | Country |
| MNE Environmental Performance | MNE Environmental Performance Improvement | Binary | CDP | Corporate |
| MNEs' engagement in climate governance | MNEs' engagement in climate governance | Binary | CDP | Corporate |
| Control Variable I | Industry | Nominal | CDP | Industry |
| Control Variable II | Fossil Fuel Subsidies per GDP | Continuous | World Bank | Country |

## Control Variables

Our study is neither an experimental nor a quasi-experimental study, in which we did not have to manipulate any independent variables to assess potential changes on dependent variables. Among three generic types of scientific studies, experimental, quasi-experimental, and non-experimental, experiments require the highest level of internal validity and the usage of control variables (Shadish et al., 2002).

In experimental studies, control variables are held constant or measured throughout the study for both control and experimental groups, while an independent variable varies between control and experimental groups. A control group doesn't undergo the experimental treatment of interest, and its outcomes are compared with those of the experimental group. Control variables help to create replicable, verifiable data from direct experimentation by setting hard limits. They also help to avoid research bias and increase the generalizability of the findings (Shadish et al., 2002).

Internal validity is not a significant concern when it comes to non-experimental studies and exploratory research (Campbell & Stanley, 2015). This is particularly important when we deal with data at the macro-economy level, where it is almost impossible to manipulate variables such as GDP per capita, or institutional forces.

Internal validity is of importance typically for causal and explanatory studies, whereby researchers need to assess the validity of inferences about causal relations between independent and dependent variables (Shadish et al., 2002). In other words, internal validity is sought to examine the validity of causality between variables while being manipulated through experimental or quasi-experimental instruments.

Nonetheless, in our study we tried to increase internal validity by borrowing theoretical foundations and creating various models from different independent variables to assess their differences. For Objective II, we use industry type to assess whether the type of industry is an antecedent to MNE's policy engagement. For Objective III (next section), we incorporate two control variables. In the final chapter, we also describe the limitations related to the usage of control variables in our study.

### Model diagnostics and assumption check

We examine some key assumptions that need to be met for valid modeling of logistic regression.

I.  The response variable is binary.

Logistic regression assumes that the response variable only takes on two possible outcomes (Tansey et al., 1996). This is important because the logistic regression model is designed to predict the probability of a binary outcome. This assumption is met.

II.  The observations are independent.

Logistic regression assumes that the observations in the dataset are independent of each other (are randomly sampled) (Archer & Lemeshow, 2006). This means that the observations should not come from repeated measurements of the same individual or be related to each other in any way. In other words, samples are randomly distributed. This is important because if the observations are not independent, it can lead to biased estimates and incorrect conclusions (Ballinger, 2004). Our dataset easily meets this assumption, as we compiled various data from different sources. Moreover, as our study is cross-sectional, the design and data collection

process does not introduce any dependencies among the observations. For CDP data, each

participant (company) only completes the CDP questionnaire once, and other participants do not

influence their responses. Therefore, our study meets this assumption, as well.

III.  There is no multicollinearity among explanatory variables.

Logistic regression assumes that there is no severe multicollinearity among the explanatory

variables. Multicollinearity occurs when two or more explanatory variables are highly correlated,

so they do not provide unique or independent information in the regression model (Midi et al.,

2010). If the degree of correlation is high enough between variables, it can cause problems when

fitting and interpreting the model. One of the common ways to detect multicollinearity is by

using correlation analysis. To assess multicollinearity between variables using correlation

analysis, we used SPSS to see the pairwise correlations between all the independent variables in

the model. To determine any multicollinearity among the independent variables, we used a

general rule of thumb (suggested by the literature review) that correlation coefficients greater

than 0.8 or 0.9 indicate high multicollinearity (Senaviratna & A. Cooray, 2019). Finally, for our

model, we did not find any multicollinearity among variables.

IV.  There are no extreme outliers.

Logistic regression assumes no extreme outliers or influential observations in the dataset. This is

important because extreme outliers or influential observations can greatly impact the estimates of

the model parameters and lead to biased estimates and incorrect conclusions (Belsley, Kuh, &

Welsch, 2005). We utilized Cook's distance for each observation. Cook's distance is a measure

of the influence of an observation on the estimates of the model parameters, with larger values

indicating greater influence. Using SPSS, we extracted Cook's distance values for each observation. While there is no hard-and-fast rule for determining what constitutes an extreme outlier or influential observation, as a general rule of thumb suggested by the literature review, observations with Cook's distance exceeding the cut-off value of 4/n are considered influential outliers (Belsley, Kuh, & Welsch, 2005; Van der Meer et al., 2010). The letter 'n' refers to the number of groups in the grouping factor under evaluation. We identified one outlier and removed it from the model.

V. Large sample size.

Logistic regression usually requires a large sample size to perform well. This is important because if the sample size is too small, it can lead to unstable estimates and incorrect conclusions.[1] Our model also meets this assumption, as our sample size is 2045 (described in previous sections).

## Descriptive statistics

The dependent variable, which measures whether MNEs have had public policy engagement, is a binary variable, in which 1 indicates the engagement and 0 otherwise. A logistic regression

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[1] In binary logistic regression, some scholars use the number of events per variable (EPV) as a typical rule of thumb for determining the minimum sample size required for logistic regression. This rule states that researchers need to have at least 10 events (in other words cases with the outcome of interest) per independent variable in the model. For example, if there are five independent variables in the model, one should have at least 50 events in the dataset. As an example, if you have 3 independent variables in your model, you should have at least 30 events in your dataset. This means that if you have a binary outcome with a 50/50 split between the two categories, you will need a minimum sample size of 60 (30 events and 30 non-events). If the outcome is rare and occurs in only 10% of the population, you would need a minimum sample size of 300 (30 events and 270 non-events). The EPV rule is used to ensure that there are enough events in the dataset to reliably estimate the coefficients of the independent variables in the logistic regression model (de Jong et al., 2019; Harrell et al., 1996).

model estimates the factors that influence MNE policy engagement. Number of samples included

in the analysis is 977. Table 16 provides descriptive statistics related to objective II of this study.

*Table 16: Descriptive statistics (associated with Objective II)*

| Descriptive Statistics | | | | |
|---|---|---|---|---|
| | Mean | Std. Deviation | Minimum | Maximum |
| MNE Policy Engagement | .6410 | .47986 | .00 | 1.00 |
| Home Country IEA_EIF[1] | 181.50 | 62.597 | 7 | 327 |
| Home Country Environmental NGOs Per Capita | .15837 | .222475 | .004 | 1.282 |
| Home Country CCPI | 44.19 | 17.538 | 9 | 76 |
| Home Country Institutional Void | 1.138984 | .6931660 | -.7942 | 1.9571 |
| Host Countries IEA_EIF | 175.05977 | 36.508329 | 67.000 | 288.333 |
| Host Countries Environmental NGOs Per Capita | .15643 | .100290 | .004 | 1.282 |
| Host Countries CCPI | 46.85063 | 9.651901 | 18.820 | 76.280 |
| Host Countries Institutional Voids | .95527 | .438599 | -.621 | 1.956 |
| N (listwise) = 977 | | | | |

As well, the graphs provided in Appendix III show various information about the sample. Figure

19 includes MNEs by industry sector. It shows that electrical and electronic equipment

companies contribute to 11.93% of the study sample. The financial services and chemicals

industries, with 11.05% and 6.06%, respectively, are the following main contributors to the

sample.

In terms of the home-based of MNEs in our sample, 22.40% of MNEs are based in the USA,

11.59% in Japan, 9.14% in the UK, 6.45% in China, and 4.11% in France. The rest may be found

in Figure 20 (see Appendix III).

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[1] IEA_EIF: International Environmental Agreements _ Entered Into Force

Regarding the geographical regions, where the home countries of MNEs are located, 37.41% of

MNEs are from Europe, 28.31% from Asia and the Pacific, 26.31% from North America, 3.62%

from South America and the Caribbean, and 2.59% from Africa (Figure 21, Appendix III).

The sample of this study includes host countries of MNEs. The average number of host countries

for MNEs contributed to our sample is 10.02. In other words, the average number of host

countries per MNE is 10.02 countries. Figure 22 (Appendix III) shows the regions in which host

countries are located. As seen in the figure, the majority of host countries are located in Europe,

Asia and the Pacific, and North America.

## Results and Discussion II

Logistic regression is used in analyzing the study associated with Objective II. The logistic

regression method is particularly appropriate for predicting states of binary response variables

while permitting a mix of continuous and categorical predictor variables. We estimate the

influence of each variable on the odds of MNE's policy engagement status. As described earlier,

odds is the probability of MNE's engagement divided by the likelihood of not engaging in policy

making. As mentioned in the prior section, the dependent variable in objective II is whether or

not MNE has been involved in policymaking for environmental sustainability. Number 1 denotes

engagement, and 0 indicates otherwise.

Home-country institutional variables (including regulative forces, normative forces, mimetic

forces, and institutional voids) are entered in the first model (Model 1). Then we entered host-

country institutional factors individually into the regression equation to examine each variable's

incremental contribution separately (Models 2 to 5), followed by the interaction effect between

each variable and its associated variable in the home country. For example, if Model 1 is only home-country institutional factors impacting MNE's policy engagement, then we create Model 2 by entering the variable host-country regulative forces, paired with the interaction effect between regulative forces of home and host countries. This pattern continues in Model 3 for normative forces, Model 4 for mimetic forces, and Model 5 for institutional voids. We perform a separate logistic regression analysis to examine these variables' impact on the odds of MNE policy engagement.

The significance of each variable in the equation is evaluated by examining the improvement chi-square after the variable is initially entered into the regression equation. The logistic regression coefficients (betas) indicate the direction and magnitude of each variable's influence on the odds of MNE engagement in policymaking. If the beta for a variable is significant and greater than zero, an increase of one unit in the variable increases the odds of MNEs engaging in policymaking. If the beta for a variable is significant and less than zero, then the odds of MNE's engagement in policymaking decrease for each one-unit increase in the variable.  Model 6 includes one control variable, which is the type of industry.  This variable encompasses a variety of industries in which MNEs operate. We are interested in understanding of if policy engagement is an industry-dependent phenomenon so that some industries may be more willing to impact public policies for environmental sustainability.

We utilize the chi-square test for model evaluation and model improvement comparison (denoted by Step/Block Significance in Table 17). Moreover, we use Hosmer and Lemeshow test to assess the model goodness of fit. Non-significant result for Hosmer and Lemeshow test indicates a better model in terms of goodness-of-fit.

Once comparing two nested models[1] using the likelihood ratio test, the model with the higher

chi-square number is better (Chen et al., 2020; Lewis et al., 2011; van der Hoeven, 2005). This is

because the chi-square number is the difference between the log-likelihoods of the two models.

Therefore, the higher the log-likelihood, the better the fit. However, if you compare two non-

nested models using the chi-square statistic, the model with the lower chi-square number is

better. This is because the model chi-square statistic is the difference between the log-likelihood

of the model and the log-likelihood of a null model with no predictors, and the lower the chi-

square number, the smaller the difference.

Table 17 shows a summary of all the nested models. There are three chi-square tests conducted

in the analysis and summarized in the table:

The first is the chi-square in the Model Summary section, representing the likelihood ratio chi-

square statistic. This statistic tests the null hypothesis that all of the regression coefficients in the

model are equal to zero. The associated degrees of freedom (df) and p-value (Sig) are also

reported. A significant p-value indicates that at least one of the predictors is significantly related

to the outcome variable.

The second one is chi-square for Step/Block Significance, which represents the change in -2 Log

likelihood between the current and previous model. This statistic tests whether adding a new

block of predictors improves the model fit. The associated degrees of freedom (df) and p-value

(Sig) are also reported. A significant p-value indicates that adding the new block of predictors

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[1] Nested models are models that have a subset relationship, meaning that one model contains all the predictor variables of another model plus some additional predictor variables (Lewis et al., 2011). For example, if model A has two predictor variables, X and Y, and model B has three predictor variables, X, Y, and Z, then model B is nested within model A, because model B contains all the predictor variables of model A plus Z. Nested models can be compared using the likelihood ratio test, which evaluates whether adding the additional predictor variables improves the fit of the model significantly.

significantly improves the model fit. In contrast, a non-significant p-value suggests that adding the new block of predictors does not significantly improve the model fit.

The third one is the chi-square for Hosmer and Lemeshow test, which represents the Hosmer-Lemeshow goodness-of-fit test statistic, which tests how well the model fits the data. A non-significant p-value indicates that the model fits the data well.

As depicted in Table 17, the addition of predictors in Model 2 (host-country regulative forces and the respective interaction effect) significantly improved Model 1 (p = .027), and the addition of predictors in Model 3 (host-country normative forces and the respective interaction effect) significantly improved Model 2 (p = .005). However, adding predictors in Model 4, Model 5, and Model 6 did not significantly improve their previous models (p = .417, p = .425, and p = .572, respectively). In other words, adding host-country mimetic forces, institutional voids, and their respective interaction effects has not improved the model fit. This means that Model 3 is the best-fitting model among the six models because it significantly improved over its previous model (Model 2), but adding more predictors in Models 4, 5, and 6 did not significantly improve model fit.

Furthermore, Model 3 meets the Hosmer and Lemeshow goodness of fit test requirement. The chi-square for that is 10.012, insignificant at a p-value of 0.264.

In summary, according to the logistic regression analysis results (Table 17), Model 3 provided the best fit to the data among the six nested models. The likelihood ratio chi-square test for Model 3 was significant, $\chi^2$ (8) = 41.890, p < .001, indicating that at least one of the predictors in the model was significantly related to the outcome variable. Furthermore, adding predictors in Model 3 resulted in a significant improvement in model fit compared to Model 2, as indicated by a significant change in -2 Log-likelihood, $\Delta\chi^2$ (2) = 10.798, p = .005. However, the addition of

predictors in Models 4, 5, and 6 did not result in a significant improvement in model fit

compared to their respective previous models, $\Delta\chi^2$ (2) = 1.748, p = .417; $\Delta\chi^2$ (2) = 1.710, p = .425; and $\Delta\chi^2$ (1) = .319, p = .572, respectively.

*Table 17: Model summary and test results (Objective II)*

| | Model Summary | | | | | | Step/Block Significance | | | Hosmer and Lemeshow Test* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | df | Sig. | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square | Chi-square | df | Sig. | Chi-square | df | Sig. |
| Model 1 | 23.876 | 4 | .000 | 1273.450 | .024 | .033 | 23.876 | 4 | .000 | 29.611 | 7 | .000 |
| Model 2 | 31.092 | 6 | .000 | 1266.234 | .031 | .043 | 7.216 | 2 | .027 | 8.401 | 8 | .395 |
| Model 3 | 41.890 | 8 | .000 | 1255.436 | .042 | .057 | 10.798 | 2 | .005 | 10.012 | 8 | .264 |
| Model 4 | 43.638 | 10 | .000 | 1253.688 | .044 | .059 | 1.748 | 2 | .417 | 14.306 | 8 | .074 |
| Model 5 | 45.348 | 12 | .000 | 1251.979 | .045 | .062 | 1.710 | 2 | .425 | 9.290 | 8 | .318 |
| Model 6 | 45.667 | 13 | .000 | 1251.660 | .046 | .062 | .319 | 1 | .572 | 11.217 | 8 | .190 |

Dependent Variable: Policy Engagement

- Variable(s) entered on model 1:  Home Country Environmental NGOs Per Capita, Home Country CCPI, Home Country IEA_EIF, Home Country Institutional Voids
- Variable(s) entered on model 2:  Host Countries IEA_EIF, Home_x_Host_IEA_EIF
- Variable(s) entered on model 3:  Host Countries Environmental NGOs Per Capita, Home_x_Host Environmental NGOs Per Capita
- Variable(s) entered on model 4:  Host Countries CCPI, Home_x_Host_CCPI
- Variable(s) entered on model 5:  Host Countries Institutional Voids, Home_x_Host Institutional Voids
- Variable(s) entered on model 6:  Control variable: Industry

*A non-significant Hosmer and Lemeshow test indicates a better model fit.

*Table 18: Variables in the equation (Objective II)*

| # | Variables | B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I. for Exp(B) Lower | Upper |
|---|-----------|---|------|------|-----|------|--------|-------|-------|
| 1 | Home Country Environmental NGOs Per Capita | 2.746 | .839 | 10.718 | 1 | .001* | 15.585 | 3.011 | 80.678 |
| 2 | Home Country CCPI Score | .006 | .005 | 1.654 | 1 | .198 | 1.006 | .997 | 1.016 |
| 3 | Home Country IEA_EIF | -.012 | .008 | 1.968 | 1 | .161 | .988 | .972 | 1.005 |
| 4 | Home Country Institutional Void | -.646 | .198 | 10.694 | 1 | .001* | .524 | .356 | .772 |
| 5 | Host Countries IEA_EIF | -.010 | .010 | .945 | 1 | .331 | .990 | .970 | 1.010 |
| 6 | Home_x_Host_IEA_EIF | .000 | .000 | 2.565 | 1 | .109 | 1.000 | 1.000 | 1.000 |
| 7 | Host Countries Environmental NGOs Per Capita | 2.786 | 1.556 | 3.206 | 1 | .073 | 16.219 | .768 | 342.477 |
| 8 | Home_x_Host_EnvNGOPerCap | -12.226 | 3.874 | 9.958 | 1 | .002* | .000 | .000 | .010 |
| 9 | Constant | 1.968 | 1.731 | 1.293 | 1 | .255 | 7.157 | | |
| | Control Variables | | | | | | | | |
| 10 | Primary Industry | .012 | .021 | .319 | 1 | .572 | 1.012 | .971 | 1.055 |

Dependent Variable: Policy Engagement
Significant Variables: <0.05 denoted by *.

As described earlier, Model 3 has been selected as the best model in terms of goodness of fit and the degree to which that can predict the dependent variable.

The first variable in the equation (see Table 18) is the number of home-country environmental NGOs per capita (divided by population), which represents normative forces in the home country. This variable's coefficient (B) is 2.746, with a standard error (S.E.) of 0.839. The Wald statistic 10.718 indicates that this variable is statistically significant at $p < .001$ (Hypothesis 3). The odds ratio (Exp(B)) is 15.585, suggesting that for each unit increase in the number of home-country environmental NGOs per capita, the odds of MNE policy engagement increase by 15.585. The 95% confidence interval for the odds ratio ranges from 3.011 to 80.678.

The second variable, the home-country climate change performance index, represents mimetic forces and has a coefficient of 0.006 with a standard error of 0.005. The Wald statistic of 1.654 shows that this variable is not statistically significant at the conventional $p < .05$ level ($p = .198$). Therefore Hypothesis 5 failed to be accepted (Table 18).

The third variable (Hypothesis 1), home-country international environmental agreements (entered into force), represents regulatory forces and has a coefficient of -0.012 with a standard error of 0.008. The Wald statistic of 1.968 indicates that this variable is not statistically significant ($p = .161$).

The fourth variable (Hypothesis 7), home-country institutional voids, has a coefficient of -0.646 with a standard error of 0.198. The Wald statistic of 10.694 suggests that this variable is statistically significant at $p < .001$. The odds ratio of 0.524 indicates that each unit increase in home-country institutional voids is associated with a decrease in the odds of MNE policy

engagement by a factor of 0.524. The 95% confidence interval for the odds ratio ranges from 0.356 to 0.772.

The fifth variable, host-country international environmental agreements (entered into force), has a coefficient of -0.010 with a standard error of 0.010. The Wald statistic of 0.945 shows this variable is not statistically significant (p = .331).

The sixth variable is the interaction effect between the home and host countries' international environmental agreements (entered into force). The coefficient for this interaction effect is 0.000 with a standard error of 0.000. The Wald statistic 2.565 indicates that this interaction effect is not statistically significant at p = .109 (Hypothesis 1-a).

The seventh variable, the host-country number of environmental NGOs per capita, has a coefficient of 2.786 with a standard error of 1.556. The Wald statistic 3.206 suggests that the variable approaches statistical significance (if alpha = 10%) p = .073. However, the wide 95% confidence interval for the odds ratio (0.768 to 342.477) reflects the uncertainty in this estimate.

The eighth variable is the interaction effect between the number of home and host country environmental NGOs per capita (Hypothesis 3-a). The coefficient for this interaction effect is -12.226, with a standard error of 3.874. The Wald statistic 9.958 indicates that this interaction effect is statistically significant at p = .002. The odds ratio of 0.000 ($e^{-12.226}$) implies that the interaction effect is near zero and has a negligible impact on the odds of MNE policy engagement. The 95% confidence interval for the odds ratio ranges from 0.000 to 0.010.

Moreover, from the previous section (model selection), Hypothesis 5-a and 7-a failed to be accepted.

Lastly, the constant term in the equation has a coefficient of 1.968 with a standard error of 1.731. The Wald statistic of 1.293 shows that the constant term is not statistically significant (p = .255).

Additionally, there is a control variable Primary Industry in the analysis. It has a coefficient of

0.012 with a standard error of 0.021. The Wald statistic 0.319 indicates this control variable is

not statistically significant (p = .572).

Please note that the summary tables provide variables that are significant or approaching

significant. For interaction effect, if the respective independent variables are not significant, they

are not in the summary table.

In summary, the analysis indicates that the number of home-country environmental NGOs per

capita and home-country institutional voids are significant predictors of MNE policy

engagement. The home country's climate change performance, international environmental

agreements, and interaction effects do not have significant effects. The number of home-country

environmental NGOs per capita in the host country and its interaction with the interaction effect

between home and host countries' international environmental agreements show some potential

but need further investigation due to wide confidence intervals. The control variable, primary

industry, does not significantly predict MNE policy engagement. In other words, the logit

function for Objective II would be:


$$\text{Logit(P)} = 2.746(\text{Number of Home-Country Environmental NGOs Per}$$

$$\text{Capita}) - 0.646(\text{Home-Country Institutional Voids})$$

*Equation 12: Logistic regression equation of the study associated with Objective II*


Where P in Equation 12 is the probability of MNE policy engagement. This formula incorporates

the coefficients obtained from the logistic regression analysis, indicating the magnitude and

direction of the relationship between these variables and the likelihood of MNE policy engagement.

In terms of relative comparison between variables, normative forces represented by the number of home-country environmental NGOs per capita (per country population) appears to be the most important factor. With an odds ratio of 15.585 and a statistically significant p-value of .001, an increase in the number of environmental NGOs per capita is associated with a substantial increase in the odds of MNE's policy engagement. This suggests that MNEs located in countries with a higher density of environmental NGOs are more likely to engage in policies related to environmental sustainability.

Another significant variable is home-country institutional voids, with an odds ratio of 0.524 and a significant p-value of .001. A higher level of institutional voids in the home country is associated with decreased odds of MNE's policy engagement. This indicates that MNEs in countries with weaker institutional frameworks may be less likely to engage in policies related to environmental sustainability.

The remaining variables, including home-country climate change performance index (mimetic forces), home-country international environmental agreements (regulative forces), host-country international environmental agreements, and the interaction effects, do not show statistically significant relationships with MNE policy engagement based on their p-values and confidence intervals. These variables do not provide strong evidence for their importance in predicting MNE policy engagement.

Moreover, when comparing the variables, the odds ratio of the number of home-country environmental NGOs per capita (15.585) is notably higher than the odds ratio for home-country institutional voids (0.524). This suggests that the greater number of environmental NGOs in the

population unit has a much stronger positive impact on MNE policy engagement than the negative impact of institutional voids in the home country. Another important finding is that MNE policy engagement is driven more by home-country factors than the host country. Furthermore, the lack of significance for mimetic and regulative forces suggests that MNEs are neither driven by their peers nor by regulations to be engaged in policymaking. The key drivers are (1) greater normative forces and (2) a lack of institutional voids.

## Objective 3: To understand how institutional components impact MNE's environmental performance

### Sample, data, methods, and independent variables

We use the same sample, data, and method used in the study associated with Objective II (the previous section) to pursue the third objective. The independent variables are also identical to those applied in Objective II. Nonetheless, the dependent variable is focused on MNE's environmental performance improvement. Table 19 summarizes the variables we used in the model of this study. We also apply two control variables in this study, which will be discussed in the following sections.

*Table 19: Constructs, sources of data, and level of analysis (Objective III)*

| Construct | Source of data | Level (MNE/Industry/Country) |
|---|---|---|
| Civil society strength | UNEP (List of accredited NGOs) | Country |
| Regulatory forces | IEA Database, Oregon University | Country |
| Country overall climate change performance | Germanwatch | Country |
| Institutional voids | WGI | Country |
| MNE Environmental Performance | CDP | Corporate |
| Control Variable I: Industry | CDP | Industry |
| Control Variable II: Fossil Fuel Subsidies per GDP | World Bank | Country |

## Dependent variable

In our third objective, we strive to understand the impact of institutional forces on MNE environmental performance improvement. For the dependent variable, we utilize CDP dataset for 2019. Earlier in the previous section, we described why we chose 2019 as a cross-sectional basis for our study. We used question C6.10 in the CDP questionnaire, in which companies report the change of their greenhouse gas (GHG) emission intensity level (from Scope 1 and Scope 2) year over year (YoY) basis. We use the term "improvement" in our dependent variable as we are interested in the change in GHG emission level from 2018 to 2019.

To define GHG emissions intensity in scopes 1 and 2, we need to describe scopes 1 and 2 emissions. Scope 1 and Scope 2 are the terminologies for two categories of greenhouse gas (GHG) emissions commonly used by organizations to measure their carbon footprint (Depoers et al., 2016). Scope 1 emissions are direct GHG emissions from sources owned or controlled by the organization. These emissions include combustion in owned or controlled boilers, furnaces, vehicles, and other equipment. Scope 2 emissions are indirect GHG emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the organization (Depoers et al., 2016; L. Wang et al., 2014).

GHG emissions intensity measures the amount of GHG emissions per unit of economic activity (Eskander & Fankhauser, 2020). At a macro level, it can be used to examine the relationship between economic growth and GHG emissions (Eskander & Fankhauser, 2020). At the corporate level, GHG emissions intensity is typically calculated by dividing the total GHG emissions by the revenue generated by the company throughout the same time (Sullivan, 2009). One of the most important advantages of GHG emissions intensity is that it can be used to compare the environmental performance of different companies or sectors. It can also be used to track

changes in environmental performance over time. The revenue as a denominator of the emission intensity metric would remedy transactional changes such as mergers and acquisitions, and divestments. GHG emissions intensity is used in studying several industries (Carlson et al., 2017; Gerber et al., 2011).

One important caveat about using the YoY emission intensity comparison is the various inflation rates (changes in CPI[1]) between countries. To mitigate that, we have modified the emissions intensity of the companies based on the relevant CPI index.

We created a binary variable for all the YoY environmental performance of MNEs. Environmental performance improvement (i.e., change in GHG emissions intensity) is 1 if the improvement in environmental performance is greater than 7.46% and zero otherwise. The number 7.46% is the average environmental performance change YoY of 2045 MNEs divided by the respective inflation rate in 2019. This approach was used in prior studies, as well. For example, a similar approach was applied by Marquis & Toffel (2012).

As mentioned earlier, we used question C6.10 in the CDP questionnaire (2019, p 79) to build the dependent variable measure:

> *"(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2 per unit currency total revenue and provide any additional intensity metrics appropriate to your business operations."*

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[1] Consumer Price Index

## Control variables

Along with the industry type that we discussed in the prior section and is used as a control variable in Objective III, we also use another control variable for Objective III. Based on data available on the International Monetary Fund (IMF)[1], we control the countries' fossil fuel subsidies per GDP. Fossil fuel subsidies are any government actions that lower the cost of fossil fuel energy production, raise the price received by energy producers, or lower the price paid by energy consumers.

Rentschler and Bazilian (2017) define fossil fuel subsidies as any government action that lowers the cost to consumers or producers of fossil-fuel-based energy below what it would otherwise be in an undistorted market. They argue that subsidy reform can help reduce greenhouse gas emissions, improve fiscal balance, enhance energy security, and promote social welfare. However, they also acknowledge the political economy barriers to reform, such as vested interests, public opposition, and institutional constraints. Coady et al. (2017) find that the global value of fossil fuel subsidies varies widely depending on the method and data used, ranging from $333 billion to $5.3 trillion in 2015.

The relationship between fossil fuel subsidies and corporate environmental performance is discussed in prior studies. Bridle and Kitson (2014) examined the way in which fossil fuel subsidies affect the competitiveness of renewable electricity sources, such as wind and solar. They found that removing fossil fuel subsidies would increase the share of renewables in electricity generation, lowering GHG emissions.

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[1] Government Policy Indicators | Climate Change Indicators Dashboard (imf.org)

Jewell et al. (2018) also assessed the impact of removing fossil fuel subsidies on GHG emissions and energy system transition using a synthesis of five integrated assessment models. The study considered consumer and producer subsidies in various countries and regions, covering coal, oil, gas, and electricity. The study found that removing fossil fuel subsidies would reduce global GHG emissions by 0.5 to 2 gigatons of carbon dioxide equivalent (Gt CO2) per year by 2030, equivalent to 1-4% of the emissions reductions needed to limit global warming to 2°C. That said, we believe fossil fuel subsidies per GDP could be a relevant control variable for our study. Our analysis uses total fossil fuel subsidies by country in 2019 as control variables. As mentioned earlier, data comes from IMF.

## Model diagnostics and assumption check

To address Objective II and Objective III, both studies use logistic regression with similar data structure for independent and dependent variables. Therefore, the assumptions discussed in the previous section also apply to this study.

We checked five assumptions for the logistic model used in this study: binary outcomes for the response variable, no multicollinearity between independent variables, independent observations, no influential outliers, and a large sample size. The study associated with the third objective meets all the assumptions (descriptive results of the assumption check was provided in the previous section, the study associated with Objective II).

## Descriptive statistics

Descriptive data related to the study associated with Objective III can be found in Table 20.

As shown in the table, approximately 56.6% of MNEs did not demonstrate any improvement in their environmental performance throughout our study, while about 43.4% showed improvement. The tables also depict variables involved in the analysis, their average score, and their range.

*Table 20: Descriptive statistics (Objective III)*

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | N | Mean | Std. Deviation | Minimum | Maximum |
| Environmental Performance Improvement | 1935 | .4341 | .49577 | .00 | 1.00 |
| Home Country IEA_EIF[1] | 2016 | 181.50 | 62.597 | 7 | 327 |
| Home Country Environmental NGOs Per Capita | 1877 | .15837 | .222475 | .004 | 1.282 |
| Home Country CCPI | 1937 | 44.19 | 17.538 | 9 | 76 |
| Home Country Institutional Void | 2039 | 1.138984 | .6931660 | -.7942 | 1.9571 |
| Host Countries IEA_EIF | 1316 | 175.05977 | 36.508329 | 67.000 | 288.333 |
| Host Countries Environmental NGOs Per Capita | 1315 | .15643 | .100290 | .004 | 1.282 |
| Host Countries CCPI | 1296 | 46.85063 | 9.651901 | 18.820 | 76.280 |
| Host Countries Institutional Voids | 1320 | .95527 | .438599 | -.621 | 1.956 |
| Valid N (listwise) | 1132 | | | | |

## Results and Discussion III

To address Objective III of this study, six nested logistic regression models were created by adding variables to the initial Model 1. The chi-square statistics were used to evaluate the model fit and significance of the added variables. We used logistic regression, as the dependent variable of our study is a binary variable, where 1 represents the improvement of environmental performance and 0 otherwise. We estimate the influence of each variable on the odds of MNE environmental performance improvement. Odds is the probability of MNE environmental performance improvement divided by the likelihood of lack thereof.

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[1] IEA_EIF: International Environmental Agreements _ Entered Into Force

Similar to objective II (previous section), home-country institutional variables are initially entered in the first model (Model 1). Then host-country institutional factors are entered individually into the regression equation to examine each variable's incremental contribution separately (Models 2 to 5), followed by the interaction effect between each variable and its associated variable in the home country. Model 6 includes two control variables: the primary industry of MNEs and the total amount of fossil fuel subsidy per GDP.  The control variables are described in the respective sections.

The chi-square test is conducted to select the best model for the objective III. As shown in Table 21, there are three columns related to chi-square.

Chi-square in the Model Summary section: This value represents the overall goodness-of-fit test for the logistic regression model. It assesses how well the model fits the data compared to an intercept-only (null) model. It evaluates whether the predictors in the model contribute significantly to explaining the variation in the outcome variable. A smaller chi-square value (in the model summary) indicates a better fit.

Chi-square of Step/Block Significance: This chi-square value assesses the significance of adding a set of variables (a block) to the model. It tests whether the inclusion of the variables in each model significantly improves the fit compared to the previous model. A significant chi-square value suggests that the added variables contribute significantly to the model.

Chi-square of Hosmer and Lemeshow Test: This chi-square value is used to assess the model's goodness of fit. It compares the observed and expected frequencies of the outcome variable across different groups or categories. A non-significant chi-square value indicates that the observed and expected frequencies do not significantly differ, suggesting a good fit for the model.

As depicted in Table 21, adding predictors in Model 2 (host-country regulative forces and the respective interaction effect) significantly improved Model 1 (p = .001). However, adding predictors in Models 3, 4, 5, and 6 did not significantly improve their previous models (p=0.094, p = .941, p = .131, and p = .520, respectively). In other words, adding host-country normative forces, mimetic forces, institutional voids, and their respective interaction effects have not improved the model fit. Furthermore, Model 2 meets the Hosmer and Lemeshow goodness of fit test requirement. The chi-square for that is 4.260, which is not significant at a p-value of 0.833. In summary, according to the logistic regression analysis results (Table 21), Model 2 provided the best fit to the data among the six nested models. The likelihood ratio chi-square test for Model 2 was significant, $\chi^2$ (6) = 25.347, p < .001, indicating that at least one of the predictors in the model was significantly related to the outcome variable. Furthermore, adding predictors in Model 2 resulted in a significant improvement in model fit compared to Model 1, as indicated by a significant change in -2 Log-likelihood, $\Delta\chi^2$ (2) = 13.156, p = .001. However, the addition of predictors in Models 3, 4, 5, and 6 did not result in a significant improvement in model fit compared to their respective previous models, $\Delta\chi^2$ (2) = 4.735, p= .094; $\Delta\chi^2$ (2) = .121, p = .941; $\Delta\chi^2$ (2) = 4.064, p = .131; and $\Delta\chi^2$ (2) = 1.308, p = .520, respectively.

*Table 21: Model summary and test results (Study associated with Objective III)*

| | Model Summary | | | | | | Step/Block Significance | | | Hosmer and Lemeshow Test* | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | df | Sig. | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square | Chi-square | df | Sig. | Chi-square | df | Sig. |
| Model 1 | 12.191 | 4 | .016 | 1551.715 | .011 | .014 | 12.191 | 4 | .016 | 8.711 | 5 | .121 |
| Model 2 | 25.347 | 6 | .000 | 1538.559 | .022 | .030 | 13.156 | 2 | .001 | 4.260 | 8 | .833 |
| Model 3 | 30.083 | 8 | .000 | 1533.824 | .026 | .035 | 4.735 | 2 | .094 | 9.786 | 8 | .280 |
| Model 4 | 30.203 | 10 | .001 | 1533.703 | .026 | .035 | .121 | 2 | .941 | 12.447 | 8 | .132 |
| Model 5 | 34.268 | 12 | .001 | 1529.639 | .030 | .040 | 4.064 | 2 | .131 | 11.701 | 8 | .165 |
| Model 6 | 35.576 | 14 | .001 | 1528.331a | .031 | .041 | 1.308 | 2 | .520 | 9.360 | 8 | .313 |

Dependent Variable: MNE environmental performance

- Variable(s) entered on model 1: Home Country Environmental NGOs Per Capita, Home Country CCPI, Home Country IEA_EIF, Home Country Institutional Voids
- Variable(s) entered on model 2: Host Countries IEA_EIF, Home_x_Host_IEA_EIF
- Variable(s) entered on model 3: Host Countries Environmental NGOs Per Capita, Home_x_Host Environmental NGOs Per Capita
- Variable(s) entered on model 4: Host Countries CCPI, Home_x_Host_CCPI
- Variable(s) entered on model 5: Host Countries Institutional Voids, Home_x_Host Institutional Voids
- Variable(s) entered on model 6: Control variable: Industry and Fossil Fuel Subsidies per GDP

*A non-significant Hosmer and Lemeshow test indicates a better model fit.

*Table 22: Variables in the equation (Study associated with Objective III)*

| # | Variables | B | S.E. | Wald | df | Sig. | Exp(B) | 95% C.I. for Exp(B) Lower | Upper |
|---|-----------|---|------|------|----|----|--------|-------|-------|
| 1 | Home Country Environmental NGOs Per Capita | .732 | .350 | 4.369 | 1 | .037* | 2.080 | 1.047 | 4.132 |
| 2 | Home Country CCPI | .001 | .004 | .061 | 1 | .806 | 1.001 | .993 | 1.010 |
| 3 | Home Country IEA_EIF | .015 | .007 | 4.707 | 1 | .030* | 1.015 | 1.001 | 1.028 |
| 4 | Home Country Institutional Voids | -.385 | .173 | 4.960 | 1 | .026* | .681 | .485 | .955 |
| 5 | Host Countries IEA_EIF | .024 | .008 | 7.989 | 1 | .005* | 1.024 | 1.007 | 1.041 |
| 6 | Home_x_Host_IEA_EIF | .000 | .000 | 4.945 | 1 | .026* | 1.000 | 1.000 | 1.000 |
| 7 | Constant | -3.869 | 1.439 | 7.231 | 1 | .007* | .021 | | |
| | Control Variables | | | | | | | | |
| 8 | Primary Industry | -.017 | .019 | .782 | 1 | .377 | .983 | .947 | 1.021 |
| 9 | Fossil Fuel Subsidies Per GDP | -.022 | .031 | .476 | 1 | .490 | .979 | .921 | 1.040 |

Dependent Variable: MNE environmental performance
Significant Variables: <0.05 denoted by *.

Table 22 provides the results of the statistical analysis for Model 2. Following is a summary of the analysis for each variable.

1. Number of home-country environmental NGOs per capita: This variable's coefficient (B) is 0.732, indicating a positive relationship with the dependent variable. The standard error (S.E.) of the coefficient is 0.350. The Wald statistic tests the null hypothesis that the coefficient is zero, and the resulting value of 4.369 is statistically significant at the $p <$ .05 level. This means that number of home-country environmental NGOs per capita (i.e., per population) has a significant positive effect on the odds of MNE environmental performance (Hypothesis 4). The odds ratio (Exp(B)) is 2.080, suggesting that for each unit increase in the number of NGOs per capita, the odds of higher MNE environmental performance increase by a factor of 2.080.

2. Home-country climate change performance index: This variable's coefficient (B) is 0.001, indicating a minimal positive relationship with the dependent variable. The standard error (S.E.) of the coefficient is 0.004. The Wald statistic tests the null hypothesis that the coefficient is zero, and the resulting value of 0.061 is not statistically significant ($p =$ .806). This suggests that the home-country climate change performance index does not significantly influence the odds of MNE environmental performance (Hypothesis 6).

3. Home-country international environmental agreements: This variable's coefficient (B) is 0.015, indicating a positive relationship with the dependent variable. The standard error (S.E.) of the coefficient is 0.007. The Wald statistic tests the null hypothesis that the coefficient is zero, and the resulting value of 4.707 is statistically significant at the $p <$ .05 level. This indicates that home-country international environmental agreements have

a significant positive effect on the odds of MNE environmental performance (Hypothesis 2). The odds ratio (Exp(B)) is 1.015, suggesting that the odds of higher MNE environmental performance increase by 1.015 for each unit increase in the number of international environmental agreements.

4. Home-country institutional voids: This variable's coefficient (B) is -0.385, indicating a negative relationship with the dependent variable. The standard error (S.E.) of the coefficient is 0.173. The Wald statistic tests the null hypothesis that the coefficient is zero, and the resulting value of 4.960 is statistically significant at the $p < .05$ level. This means that home-country institutional voids have a significant negative effect on the odds of MNE environmental performance (Hypothesis 8). The odds ratio (Exp(B)) is 0.681, indicating that for each unit increase in institutional voids, the odds of higher MNE environmental performance decrease by a factor of 0.681.

5. Host-country international environmental agreements: This variable's coefficient (B) is 0.024, indicating a positive relationship with the dependent variable. The standard error (S.E.) of the coefficient is 0.008. The Wald statistic tests the null hypothesis that the coefficient is zero, and the resulting value of 7.989 is statistically significant at the $p < .05$ level. This suggests that host-country international environmental agreements have a significant positive effect on the odds of MNE environmental performance. The odds ratio (Exp(B)) is 1.024, implying that the odds of higher MNE environmental performance increase by 1.024 for each unit increase in the number of international environmental agreements in the host country.

6. The interaction effect between home and host country international environmental agreements: This variable represents the interaction effect between the number of

international environmental agreements in the MNE's home country and the host country.

This variable's coefficient (B) is 0.000, indicating a negligible effect. The standard error

(S.E.) of the coefficient is 0.000. The Wald statistic tests the null hypothesis that the

coefficient is zero, and the resulting 4.945 is statistically significant at the $p < .05$ level.

This means that the interaction effect between home and host country international

environmental agreements has a significant positive impact on MNE environmental

performance (Hypothesis 2-a). The odds ratio (Exp(B)) is 1.000, indicating that the

interaction does not substantially impact the odds of higher MNE environmental

performance.

7.  Constant: This term represents the intercept or baseline value of the dependent variable

    when all other independent variables are zero. The coefficient (B) for this variable is -

    3.869, and the standard error (S.E.) of the coefficient is 1.439. The Wald statistic tests the

    null hypothesis that the coefficient is zero, and the resulting value of 7.231 is statistically

    significant at the $p < .05$ level. This constant term suggests that other factors are not

    accounted for in the model that influences MNE environmental performance.

Furthermore, Table 22 includes two control variables:

8.  Control Variable 1 - Primary industry: This variable represents whether the MNE

    operates in a primary industry sector. This variable's coefficient (B) is -0.017, indicating

    a negative relationship with the dependent variable. However, the coefficient's standard

    error (S.E.) is 0.019, and the resulting Wald statistic value of 0.782 is not statistically

    significant ($p = .377$). This suggests that MNEs in primary industry sectors do not

    significantly affect MNE environmental performance.

9. Control Variable 2 - Total fossil fuel subsidies per GDP: This variable represents the total amount of fossil fuel subsidies relative to the MNE's home country's gross domestic product (GDP). This variable's coefficient (B) is -0.022, indicating a negative relationship with the dependent variable. However, the coefficient's standard error (S.E.) is 0.031, and the resulting Wald statistic value of 0.476 is not statistically significant (p = .490). This suggests that fossil fuel subsidies relative to GDP do not significantly affect MNE environmental performance.

Please note that the summary tables provide variables that are significant or approaching significant. For interaction effect, if the respective independent variables are not significant, they are not in the summary table.

As Model 2 is selected, Hypothesis 4-a, Hypothesis 6-a, and Hypothesis 8-a are not accepted. The analysis indicates that the number of home-country environmental NGOs per capita, the number of home-country international environmental agreements, and the number of host-country international environmental agreements have significant positive effects on the odds of MNE environmental performance. Conversely, home-country institutional voids have a significant negative effect. However, the interaction effect of the number of international environmental agreements in the home and host countries does not have a substantial impact on MNE environmental performance. Other interaction effects also do not have a statistically significant impact on the odds of MNE environmental performance. The control variables, primary industry and total fossil fuel subsidies per GDP, do not significantly influence MNE environmental performance.

Therefore, the logistic regression formula is as follows:

Logit(P) = -3.869 + 0.732 * (Number of home-country environmental

NGOs per capita) + 0.015 * (Home-country international environmental

agreements) - 0.385 * (Home-country institutional voids) + 0.024 * (Host-

country international environmental agreements)

*Equation 13: Logistic regression function for the study associated with Objective III*

In Equation 13, logit(P) represents the logarithm of the odds of success (MNE environmental

performance demonstrates improvement) divided by the odds of failure. The intercept (-3.869)

represents the baseline level of the dependent variable when all the independent variables are

zero. The coefficients represent the estimated effects of the respective variables on the log odds

of success.

To calculate the predicted probability (P) of MNE environmental performance, the logistic

regression equation can be transformed using the logistic function:

$$P = 1 / (1 + \exp(-\text{logit}(P)))$$

By substituting the values of the significant independent variables into the logistic regression

formula and applying the logistic function, we can estimate the probability of MNE

environmental performance.

## Discussion from the perspective of the relative importance of predictors:

In terms of the relative importance of different variables in influencing MNE environmental

performance, some variables seem to have a greater impact as their odds ratio or Exp (B) varies.

The variable "number of home-country environmental NGOs per capita" has the highest odds ratio (Exp(B)=2.080) among the significant variables, suggesting that it is the most influential factor. For each unit increase in the number of NGOs per capita, the odds of higher MNE environmental performance increase by 2.080. This implies that a greater presence of environmental NGOs in the MNE's home country positively impacts their environmental performance.

The number of international environmental agreements in the MNE's home country also has a significant positive effect on the odds of the MNE's environmental performance. However, the magnitude of the effect is smaller compared to the number of home-country environmental NGOs (Exp(B) = 1.015). For each unit increase in the presence of such agreements, the odds of higher MNE environmental performance increase by a factor of 1.015. This suggests that countries participating in more international environmental agreements can contribute to better environmental performance by MNEs operating within their jurisdiction.

Similar to the home-country international environmental agreements, the number of these agreements in the host country has a significant positive effect on MNE environmental performance. The odds of higher MNE environmental performance increase by a factor of 1.024 for each unit increase in the presence of international environmental agreements in the host country. This implies that the host country's regulatory framework and environmental commitments can influence MNEs' environmental performance.

The variable home-country institutional voids have a significant negative effect on MNE environmental performance and Exp(B) = 0.681. For each unit increase in institutional voids, the odds of higher MNE environmental performance decrease by 0.681. Institutional voids refer to the absence or inadequacy of supportive regulatory and governance structures. This suggests that

MNEs operating in countries with weaker institutional frameworks may face challenges in implementing robust environmental practices.

Comparing the significant variables, we observe that the number of home-country environmental NGOs per capita positively influences MNE environmental performance, followed by international environmental agreements in both the home and host countries.

## Discussion from the home-host country perspective

The analysis of the logistic regression results provides insights into the differential effects of variables related to the home and host countries on MNE environmental performance.

Home-country variables:

The number of home-country environmental NGOs per capita and home-country international environmental agreements have significantly positive effects on MNE environmental performance. These findings suggest that a strong presence of environmental NGOs in the MNE's home country, as well as the existence of more international environmental agreements in that country, contribute to better environmental performance by MNEs. These factors may indicate a favorable regulatory environment, awareness, and support for environmental issues in the home country.

Host-country variables:

Similar to the home-country variables, the presence of international environmental agreements in the host country has a significant positive effect on MNE environmental performance. This indicates that the host country's environmental regulations and commitment to international

agreements positively influence MNEs operating within its jurisdiction. The host country's

regulatory framework and environmental standards can incentivize MNEs to adopt

environmentally friendly practices.


Interaction effects:

The only significant effect was the interaction between home and host country international

environmental agreements: The interaction effect was statistically significant. However, the

effect is relatively small (Exp(B) = 1.000), suggesting that this interaction does not substantially

influence MNE environmental performance beyond the individual effects of the home and host-

country agreements.


## Discussion from the institutional theory perspective

As results indicate, institutional forces play a critical role in MNE environmental performance.

Nonetheless, the direction and strength of the impact varies depending on the types of

institutional forces.

Based on Exp (B) and the significance of the relationships, our study suggests that the most

important institutional force in driving MNE environmental performance is home-country

normative forces (Exp(B) = 2.080). However, the results do not provide sufficient evidence of

the role of host-country normative forces. The interaction effect also does not provide sufficient

support in impacting MNE environmental performance.

The next (and the second most) important driver is home-country institutional voids, which have

a negative effect on MNE environmental performance (B = -.385). Exp(B) for home-country

institutional voids is 0.681, indicating that the higher institutional voids in the home country

would associate with the lower overall environmental performance of MNEs. That highlights the integral role of supporting institutions in home countries in supporting the environmental sustainability of MNEs. Host-country institutional voids and the respective interaction effect do not provide sufficient evidence to support the overall environmental performance of MNEs. Followed by home-country normative forces and institutional voids, the results for regulative forces in home and host countries suggest a significant contribution to MNEs' environmental performance. This shows that the regulatory environment, no matter where impacts MNE's environmental performance. The interaction effect between home and host country regulatory forces also is statistically significant, but the strength of it is very low and negligible. Finally, the results do not support the role of mimetic forces. That indicates that while MNEs' environmental performance is driven by normative and regulative forces, emulating the peer companies and trying to do what peer MNEs initiated actually do not predict their environmental performance.

# Chapter 5

# Conclusion, Implications, and Future Research

## Chapter 5: Conclusion, Implications, and Future Research

This thesis consisted of three studies addressing three main objectives: **Objective I:** To conduct a thorough literature review on utilizing institutional theory in MNE environmental-sustainability research and try to identify research gaps and/or find inconsistencies in the results of prior studies. The goal was to identify key research gaps that need to be addressed. **Objective II:** To empirically examine the relationship between institutional pressures and MNE's climate policy engagement. The goal was to better understand how the institutional environment in the home and host countries impact the way in which MNEs impact policymaking for environmental sustainability. **Objective III:** To empirically investigate institutional pressures' role on MNEs' GHG reduction performance. The goal was to understand the association between institutional forces in MNEs' home and host country and changes in MNE environmental performance.

Back to Objective I, the study was begun with two key questions: (1) What contradictions or inconsistencies exist in the literature? (2) What questions or issues have been left unanswered or overlooked? We found that while the majority of findings in the literature review are consistent, a few important inconsistencies in the literature are worth addressing. One inconsistency pertains to the impact of environmental regulations on the adoption of environmental practices. Some scholars argue that environmental regulation and stakeholder pressures influence the adoption of such practices.[1] However, studies by Marshall et al. (2010) and Kawai et al. (2018) suggest that external pressures from regulators are not associated with adopting certain environmental projects. This discrepancy may be attributed to variations in regulatory quality, as highlighted by

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[1] Please see chapter 2 for further details

Dau et al. (2021), who discuss the positive impact of regulatory quality on adopting corporate social responsibility (CSR) standards.

Another inconsistency relates to the impact of government environmental regulation on corporate environmental innovation strategy. Eiadat et al. (2008) found no support for the influence of government environmental regulation on environmental innovation strategy in the chemical industry, contradicting Porter and van der Linde's hypothesis on the flexibility of regulations to support innovation and competitiveness. Furthermore, there is a discrepancy regarding the spillover effects of home-country regulations on host-country subsidiaries. While several studies suggest a positive spillover effect of home-country environmental regulations on MNE environmental performance in host countries[1], a study by Park and Cave (2018) did not find support for the role of government regulations on corporate social responsibility (CSR) pursued by international joint ventures in foreign markets.

Additionally, a study by Bansal (2005) examining firms in the Canadian forestry, mining, and oil and gas sectors found no significant relationship between environmental fines and penalties and firm sustainable development. However, the author attributes this lack of significance to the recent enforcement of sustainable development regulations in Canada during the study.

Based on these inconsistencies, we concluded that further research may be needed to better understand the relationship between institutional pressures and MNE environmental performance. Therefore, we decided to pursue our next objective. Among some discrepancies, we chose to study the relationship between institutional forces (including regulative pressures) on MNE environmental performance. This has shaped our Objective III.

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[1] Please see further details in chapter 2

Moving on to gaps from areas that have been underdeveloped, the literature review concluded that there is a lack of attention given to environmental governance in the context of MNE environmental sustainability. Although some studies were conducted outside of MNEs' context, the topic remains relatively unexplored in the MNEs' realm. From the literature review, we concluded that there is a gap in the literature in terms of the way in which normative, regulative, and mimetic isomorphisms, and institutional voids affect MNEs' engagement in environmental policymaking. Our findings from the literature review emphasize that the relationship between societies and MNEs is not a unidirectional effect. Institutions are dynamic entities, and MNEs' engagement in environmental governance can be a response to institutional pressures. However, few studies examined this important phenomenon. Borrowed from Giddens' structuration theory, which explains the interaction between actors and societal structures, our second objective was forged to try to understand the role of institutional forces on MNEs' engagement in climate policies. In other words, Objective II was to empirically examine the relationship between institutional forces and MNEs' engagement in policymaking for environmental sustainability.

In terms of the importance of the research (both Objective II and III), we believe that addressing these research gaps is crucial for a better understanding of the relationship between institutional pressures and MNEs' environmental sustainability. MNEs operate in complex environments shaped by institutional forces, which influence their strategic decision-making processes. Understanding how institutional forces affect MNEs' decisions to adopt sustainable practices can help MNEs navigate toward greater environmental performance and ensure their alignment with societal expectations and regulatory requirements.

Furthermore, addressing the identified research gaps can benefit MNEs, policymakers, and society. The insights gained from such studies can guide MNEs in improving environmental

performance and inform policymakers to create impactful environmental policies. Society will be the ultimate beneficiary of greater environmental sustainability performance.

The theoretical rationale behind this thesis is mainly based on two theories: institutional logic and the notion of Giddens's structuration theory. Both theories helped us understand how organizations conform to and are influenced by rules, norms, and structures in their environment. The implication of Giddens's structuration theory for MNEs is that MNEs as agencies are constrained by "rules and resources, or sets of transformation relations, organized as properties of social systems" (Giddens, 1984, p25). In other words, macro-level changes in societal transitions toward sustainability could prompt corporate-level strategic decision-making or agentic roles. Structuration theory emphasizes the influence of structure and agency equally in the sense that we cannot understand one without the other. While MNEs are impacted by a transformational change toward sustainability; they also contribute to such transitions by influencing policymaking processes in environmental governance.

The following sections are a breakdown of the rest of the conclusion in two categories: What we have found in terms of institutional forces in home and host countries and MNEs' policy engagement, and then what institutional forces impact MNEs' environmental performance. Finally, we close the conclusion section with three more discussions: research contribution to academia and industry, the limitations of our study, and finally, suggestions for future research.

## What institutional forces in home and host countries drive MNEs' engagement in environmental governance?

Our study in pursuing Objective II examined the relationship between institutional forces and MNEs' engagement in policymaking for environmental sustainability. The results reveal interesting insights into the factors influencing MNEs' involvement in environmental policy. Normative forces, represented by the number of home-country environmental NGOs per capita, significantly predicted MNE policy engagement. This finding aligns with existing research highlighting the influence of social norms and pressure from civil society organizations on corporate behavior (Bansal & Roth, 2000; Delmas & Burbano, 2011). When MNEs operate in countries with a higher density of environmental NGOs, they are more likely to face pressures to align their practices with environmental sustainability goals. These NGOs may advocate for stricter environmental regulations or publicize MNEs' environmental performance, creating an environment that encourages MNEs to engage in policymaking for sustainability.

In contrast, the study did not find a significant relationship between the home-country's climate change performance and MNE policy engagement. This suggests that MNEs may be driven by factors other than mimetic forces related to their home country's climate change actions or performance. Similarly, international environmental agreements in the home country did not show a significant relationship with MNE policy engagement. This finding is consistent with studies highlighting the limited effectiveness of international agreements in driving corporate environmental behavior (Kolk, 2010). MNEs operate in a global context and may be influenced by a range of factors beyond international agreements. For example, the effectiveness of such agreements depends on factors like enforcement mechanisms, the comprehensiveness of regulations, and the involvement of relevant stakeholders (Potoski & Prakash, 2005).

Another finding is that home-country institutional voids had a negative impact on MNE policy engagement. This is supported by previous literature on the overall role of institutional quality and governance in shaping corporate behavior in the environmental sustainability (Cuervo-Cazurra & Genc, 2008). Weak institutional frameworks, characterized by corruption, inadequate legal systems, or limited regulatory enforcement, create challenges for MNEs in implementing and complying with environmental regulations. In such contexts, MNEs may be less motivated to engage in policymaking for environmental sustainability. Governments and policymakers need to prioritize strengthening institutional frameworks to provide a conducive environment for MNEs to engage in sustainability efforts (Kolk & Van Tulder, 2005).

Regarding the host country variables, the lack of a significant relationship between the presence of international environmental agreements in the host country and MNE policy engagement aligns with studies that question the direct impact of host-country regulations on MNE behavior (Kolk & Van Tulder, 2005). MNEs operate across borders and often face a range of regulatory environments. Therefore, while host-country regulations are important, other factors, such as home-country norms and institutional voids, may strongly influence MNEs' decision-making regarding policy engagement.

Number of environmental NGOs per capita in host countries approached statistical significance but did not reach a conclusive finding. This finding suggests the potential influence of host-country environmental NGOs on MNE policy engagement, but further investigation is needed. Research on the role of civil society organizations in shaping corporate behavior has highlighted their potential as stakeholders who can push for stricter environmental regulations and promote sustainability practices (Parker et al., 2009; Sharma & Henriques, 2005). Exploring the dynamics

between MNEs and host-country environmental NGOs would provide valuable insights into how these stakeholders influence MNEs' engagement in policymaking processes.

To conclude, the study's findings highlight the importance of normative forces and the detrimental impact of institutional voids in the home country on MNE policy engagement. Environmental NGOs and strong institutional frameworks are critical in shaping MNE behavior in environmental policymaking. However, the limited influence of mimetic forces and international environmental agreements (entered into force) alone suggest that MNEs are influenced by various factors beyond peer pressures (mimetic pressures) or regulatory compliance. By understanding these dynamics, policymakers can work towards creating an enabling environment for MNEs to engage in environmental policymaking. Strengthening institutional frameworks, combating corruption, and promoting civil society participation are crucial steps in encouraging MNEs to embrace sustainability objectives and actively contribute to environmental policy development and implementation.

## Institutional forces in home and host countries and MNEs' environmental performance

The results of our last study in addressing Objective III provide some insights into the relationship between institutional forces and MNE environmental performance. The analysis reveals that several variables significantly affect MNE environmental performance, while others do not.

Among the significant variables, the number of home-country environmental NGOs per capita stands out as the most influential factor. The presence of a greater number of environmental NGOs in the MNE's home country positively affects their environmental performance. This

finding is supported by previous research highlighting civil society organizations' role in promoting environmental sustainability (e.g., Potoski and Prakash, 2009). Environmental NGOs can pressure MNEs to adopt environmentally responsible practices and contribute to a supportive regulatory environment.

Similarly, the number of international environmental agreements in both the home and host countries positively impacts MNE environmental performance. These agreements signify a commitment to environmental protection and provide a regulatory framework encouraging MNEs to adopt sustainable practices.

On the other hand, home-country institutional voids have a significant negative effect on MNE environmental performance. As described in previous sections, institutional voids refer to the absence or inadequacy of supportive regulatory and governance structures. MNEs operating in countries with weaker institutional frameworks may face challenges in implementing robust environmental practices. This finding aligns with research highlighting the importance of strong institutional environments in facilitating environmental performance (e.g., Kolk, 2015).

The analysis also includes control variables, namely primary industry and total fossil fuel subsidies per GDP, which do not significantly influence MNE environmental performance. These findings suggest that operating in a primary industry sector or the level of fossil fuel subsidies relative to GDP does not substantially impact MNEs' environmental performance. In other words, other factors not accounted for in the model may significantly influence MNE environmental performance.

From the perspective of relative importance, the number of home-country environmental NGOs per capita emerges as the most influential variable, followed by the presence of international environmental agreements in both the home and host countries. Home-country institutional voids

have a significant impact but in the opposite direction, indicating their hindering effect on MNE environmental performance. These findings highlight the critical role of civil society organizations, regulatory frameworks, and supportive institutional environments in driving MNEs' environmental performance.

The analysis also considers the differential effects of variables related to the home and host countries. It reveals that the presence of international environmental agreements in both the home and host countries positively influences MNE environmental performance. This implies that the home and host countries' regulatory frameworks and environmental commitments are important factors in shaping MNEs' environmental behavior. The interaction effect between home and host country international environmental agreements, although statistically significant, does not substantially impact MNE environmental performance beyond the individual effects of these agreements.

From the institutional theory perspective, the results support the role of normative and regulative forces in driving MNE environmental performance. Home-country environmental NGOs and international environmental agreements represent normative and regulative forces, respectively, and both have positive effects. On the other hand, institutional voids in the home country represent an absence of supportive institutional structures, and they negatively impact MNE environmental performance. The results do not support the role of mimetic forces, indicating that emulating peer companies does not predict MNEs' environmental performance.

In summary, the findings suggest that MNEs' environmental performance is influenced by a combination of institutional forces, including the presence of environmental NGOs, international environmental agreements, and the quality of institutional environments. These results have important implications for policymakers, MNEs, and civil society organizations aiming to

improve environmental sustainability in multinational business operations, which will be discussed in the next section.

## Research implications

### Policymakers

Policymakers need to be aware of the influence of normative forces, such as the presence of environmental NGOs, in driving MNEs' engagement in environmental policymaking. They should encourage the formation and active participation of environmental NGOs to create an environment that fosters sustainability practices and stricter environmental regulations.

The limited influence of mimetic forces and international environmental agreements alone suggests that policymakers should not rely only on regulatory compliance and the industry's peer pressure to push MNEs' environmental improvement forward. Instead, they should focus on creating comprehensive and effective regulatory frameworks, ensuring enforcement mechanisms, and involving relevant stakeholders in policymaking.

Furthermore, policymakers should prioritize strengthening institutional frameworks, combating corruption, and improving regulatory enforcement to create a conducive environment for MNEs to engage in sustainability efforts. This can include measures such as promoting transparency, providing incentives for sustainable practices, and fostering collaboration between MNEs and civil society organizations.

### Industry leaders

Industry leaders should recognize the influence of normative forces and the importance of engaging with environmental NGOs. The presence of a greater number of environmental NGOs

in the MNE's home country positively affects their environmental performance. Therefore, industry leaders should actively collaborate with environmental NGOs, seek their guidance, and align their practices with environmental sustainability goals advocated by these organizations. The findings also suggest that industry leaders should not solely rely on mimetic forces or peer companies' actions to improve environmental performance. Instead, they should focus on building unique strategies and initiatives based on normative and regulative forces, such as engaging with environmental NGOs and complying with international environmental agreements.

Finally, industry leaders operating in countries with weaker institutional frameworks should be aware of the challenges they may face in implementing robust environmental practices. They should actively work towards strengthening institutional environments by collaborating with policymakers, advocating for regulatory improvements, and promoting corporate social responsibility.

### Civil society organizations and environmental activists

Civil society organizations and environmental activists should continue their advocacy and engagement efforts to push the sustainability agenda forward with the industry to adopt sustainability best practices and policymakers for stricter environmental regulations. The study highlights the significant influence of normative forces on MNE policy engagement and environmental performance, represented by the number of environmental NGOs.

Environmental NGOs should leverage their role as influential stakeholders and work towards building partnerships with MNEs and policymakers. Collaboration can help drive positive

change by influencing MNEs' strategic decision-making and encouraging policymakers to design effective environmental policies.

The study emphasizes the importance of civil society organizations in shaping corporate behavior and promoting sustainability practices. Environmental activists should continue to raise awareness, conduct research, and mobilize public support to hold MNEs and policymakers accountable for their environmental performance and policy actions.

## Contribution to the academic literature

This study has strived to fill some research gaps in the literature. During the literature review stage, we identified gaps in understanding the influence of institutional forces on various aspects of MNE's environmental sustainability. While some studies have investigated the relationship between institutional forces and some elements of MNE performance, such as adopting environmental best practices, environmental innovation, and the spillover effects of regulations, other areas remained underdeveloped. Notably, the role of institutional forces in MNE policy engagement appeared underdeveloped. The literature analysis (chapter 2) suggests that while the importance of normative, regulative, and mimetic isomorphisms in shaping environmental sustainability has been recognized, few studies have explored their influence on MNE policy engagement. Understanding the dynamics of environmental governance and the role of institutional pressures in MNEs' engagement in policymaking processes represents an essential research gap that our study sought to address. Investigating the relationship between institutional forces and MNE policy engagement contributes to a more holistic understanding of environmental governance in the context of MNEs. This research gap created a compelling rationale for pursuing Objective II.

In addition to research gaps, we also uncovered inconsistencies in the findings of previous studies. These inconsistencies were observed regarding the impact of environmental regulations and stakeholder pressures on MNEs' environmental performance. Some studies suggested a positive relationship, while others found no significant associations. These inconsistencies called for further investigation to understand the underlying factors and contextual variations of institutional forces influencing MNE environmental performance. That has led us to our third study (Objective III). By addressing these inconsistencies, our research is intended to help provide further clarity and contribute a more coherent understanding of the relationship between institutional forces and MNE environmental performance.

Applying Giddens' structuration theory provided a theoretical foundation for our research. Structuration theory emphasizes the reciprocal relationship between actors and societal structures, highlighting the importance of understanding how institutional forces influence and are influenced by MNEs. By investigating the relationship between institutional forces and MNE policy engagement, our study aligns with the theoretical framework of structuration theory. It contributes to applying this theory in the field of MNE environmental sustainability.

## Research limitations

While our research has provided valuable insights into the role of institutional forces on MNEs' environmental sustainability performance, it is not without limitations. The study examines 2045 MNEs across 130 home and host countries, which we believe can be considered a relatively unique study in international business [in terms of the number of host countries involved]. Nonetheless, one potential limitation could be related to our sample, which might not fully capture the diversity of MNEs and their environmental performance across different regions and

sectors. While we use a large sample size, the dominance of US MNEs may limit the findings' generalizability to other countries and industries. US MNEs account for 31% of our sample size. Another limitation lies in the methodological approach. While the research adopts a deductive empirical quantitative approach, secondary data may present certain constraints. Despite the great benefits of secondary data, in terms of considerable sample size with a vast amount of data and the viability of doing such a study in a short time window and budget (which could have been very unlikely to be collected by primary data collection), secondary data still might lack some specific variables or measurements that could have been obtained through primary data. However, due to the features of our independent variables, which are high-level macro variables such as regulatory pressure of a country or institutional voids, that could have been very unlikely to find measures by which we could measure those constructs using primary data.

The reliance on Institutional Theory and Giddens's Structuration Theory as the primary theoretical frameworks may also be considered a limitation. While these frameworks are valuable in understanding institutional influences on MNEs' behavior, they might not fully encompass all the complex factors affecting MNEs' engagement in environmental governance. Alternative theoretical perspectives or frameworks could have provided additional insights into our study.

Moreover, the research focuses on normative, regulative, and mimetic pressures as the main antecedents of MNEs' environmental policy engagement and performance. While these factors are important and backed with robust theoretical foundations, other potential influences, such as technological advancements, financial incentives, or supply chain complexities, are not explored. Expanding the scope of variables could have provided a more comprehensive understanding of the drivers of MNEs' environmental sustainability performance.

In addition, our study to great extent has employed the macro-level variables such as normative forces and regulative forces. These variables inherently are not manipulative so that we could not conduct experimental or quasi experimental studies to better examine the role of control variables. Therefore, future studies could be designed in a way that might be able to enhance internal validity of the findings by more control variables.

## Future research

This section proposes venues for research in two areas: MNE policy engagement and climate-change governance and future research related to MNE environmental performance.

On the policy engagement side (related to Objective II), future research can focus on several areas to enhance our understanding of MNEs' policy engagement and climate-change governance. Firstly, exploring the influence of contextual factors, such as different countries' cultural, political, and economic characteristics, can provide valuable insights into how institutional forces shape MNEs' responses to environmental pressures. Cross-national comparisons can also help identify country-specific factors influencing MNEs' engagement in climate-change governance.

Comparative analysis of environmental governance systems across countries is another important research direction. This analysis can shed light on the effectiveness of regulatory frameworks, enforcement mechanisms, stakeholder involvement, and industry-specific regulations. By identifying best practices and policy recommendations, researchers can contribute to improving environmental governance in multinational business operations.

The role of multi-stakeholder collaborations in driving environmental sustainability is another area for future research. Investigating the dynamics, challenges, and outcomes of partnerships

between MNEs, civil society organizations, governments, and local communities can provide insights into effective mechanisms for promoting sustainable practices and achieving environmental goals.

A comparative analysis of international environmental agreements and their impact on MNEs' engagement in climate-change governance is crucial. Understanding the effectiveness of different agreements, their enforcement mechanisms, and their influence on MNE performance across countries and industries can inform policymakers and stakeholders in designing more impactful climate policies.

As well, future research may try to collect primary data using a larger sample size. Also, the new study can ensure that a considerable portion of data does not belong to a few countries.

Finally, future research can delve into the interplay between normative and regulative forces in shaping MNEs' policy engagement. Examining how societal norms, stakeholder pressures, and regulatory frameworks influence MNEs' decisions to participate in policymaking can provide a comprehensive understanding of the drivers behind MNEs' engagement in climate-change governance.

Future research can explore some areas on the environmental performance side (related to Objective III). Longitudinal studies can provide insights into the dynamic relationship between institutional forces and MNEs' environmental performance. By examining changes over time, researchers can uncover mechanisms, temporal dynamics, and long-term effects of institutional pressures on MNEs' environmental performance.

Understanding the mediating and moderating factors that could influence the relationship between institutional forces and MNEs' environmental performance is also important. Factors

such as organizational characteristics, industry-specific dynamics, and stakeholder interactions can shape MNEs' responses to institutional pressures.

While we utilized changes in GHG emissions as an indicator for MNE environmental performance, comparative analysis of environmental performance metrics across industries and countries is valuable. This analysis can identify the effectiveness of different performance indicators, sector-specific challenges, and opportunities and inform the development of robust metrics. By considering sector-specific contexts, researchers can gain industry-specific insights and contribute to enhancing environmental performance within specific sectors.

The impact of emerging environmental issues on MNEs' environmental performance should also be explored. Investigating how institutional forces shape MNEs' responses to challenges like climate change adaptation, circular economy, and sustainable supply chain management provides insights into the evolution of environmental governance and MNE sustainability strategies.

Sector-specific studies can provide valuable insights into the relationship between institutional forces and MNE environmental performance. Examining industry variations in institutional pressures, stakeholder dynamics, and technological advancements informs industry-specific strategies and initiatives to enhance environmental performance.

By addressing these research directions, scholars can contribute to a better understanding of MNEs' policy engagement and environmental performance. These insights will inform policymakers, industry leaders, and civil society organizations in developing effective strategies and policies to promote environmental sustainability.

## Closing thoughts

In closing, this thesis has brought forth a better understanding of the relationship between institutional forces and MNEs in pursuing environmental sustainability. Significant insights have emerged by exploring MNE policy engagement and environmental performance.

By embracing the influence of normative forces, such as the presence of environmental non-governmental organizations (NGOs), MNEs can take proactive steps towards environmental stewardship, setting a powerful example for industries worldwide.

Moreover, our findings indicate the importance of robust institutional frameworks and governance systems in which MNEs and governments could work together to create an enabling environment for greater environmental performance. This collaborative approach and stringent regulations [and effective enforcement mechanisms] could empower MNEs to unleash their full potential in driving positive environmental change.

Looking ahead, our collective aspiration lies in pioneering research endeavors that deepen our understanding of the dynamic interplay between institutional forces and MNE sustainability performance. Through longitudinal studies, mediating and moderating factor analyses, and sector-specific investigations, international business and sustainability community scholars can further equip policymakers, industry leaders, and civil society organizations with the knowledge and tools necessary to shape a more sustainable future.

With passion as our guiding force, we envision a harmonious coexistence between MNEs and the environment, where innovation, responsible practices, and stakeholder collaboration become the cornerstones of environmental sustainability.

Together, we can realize our shared vision of a thriving planet, where MNEs, NGOs, policymakers, and other key stakeholders could lead the way in embracing a sustainable future,

safeguarding natural resources, and leaving a lasting legacy of environmental stewardship for

generations to come.

'It is better to know some of the questions than to think you know all of the answers.'

James Thurber, 1894-1961, Humorist.

## References

Abbott, K. W., Genschel, P., Snidal, D., & Zangl, B. (2021). Orchestration: Global governance through intermediaries. *The Spectrum of International Institutions: An Interdisciplinary Collaboration on Global Governance*, 140–170.

Abbott, K. W., & Snidal, D. (2009). Strengthening international regulation through Transnational New Governance: Overcoming the orchestration deficit. In *The Spectrum of International Institutions: An Interdisciplinary Collaboration on Global Governance* (Vol. 42, pp. 95–139). https://heinonline.org/HOL/Page?handle=hein.journals/vantl42&id=505&div=&collection=

Abbott, K. W., & Snidal, D. (2010). International regulation without international government: Improving IO performance through orchestration. *Review of International Organizations*, *5*(3), 315–344. https://doi.org/10.1007/s11558-010-9092-3

Abbott, K. W., & Snidal, D. (2013). Taking responsive regulation transnational: Strategies for international organizations. *Regulation and Governance*, *7*(1), 95–113. https://doi.org/10.1111/j.1748-5991.2012.01167.x

Abbott, K. W., & Snidal, D. (2021). The governance triangle: Regulatory standards institutions and the shadow of the state. In *The Spectrum of International Institutions: An Interdisciplinary Collaboration on Global Governance* (pp. 52–91). Princeton University Press. https://doi.org/10.1515/9781400830732.44

Acquah, I. S. K., Essel, D., Baah, C., Agyabeng-Mensah, Y., & Afum, E. (2021). Investigating the efficacy of isomorphic pressures on the adoption of green manufacturing practices and its influence on organizational legitimacy and financial performance. *Journal of Manufacturing Technology Management*, *32*(7), 1399–1420. https://doi.org/10.1108/JMTM-10-2020-0404

Adomako, S., Amankwah-Amoah, J., Debrah, Y. A., Khan, Z., Chu, I., & Robinson, C. (2021). Institutional Voids, Economic Adversity and Inter-firm Cooperation in an Emerging Market: The Mediating Role of Government R&D Support. *British Journal of Management*, *32*(1), 40–58. https://doi.org/10.1111/1467-8551.12443

Aghion, P., Dechezleprêtre, A., Hémous, D., Martin, R., & van Reenen, J. (2016). Carbon taxes, path dependency, and directed technical change: Evidence from the auto industry. *Journal of Political Economy*, *124*(1), 1–51. https://doi.org/10.1086/684581

Aguinis, H., & Glavas, A. (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. *Journal of Management*, *38*(4), 932–968. https://doi.org/10.1177/0149206311436079

Aguinis, H., Ramani, R. S., & Alabduljader, N. (2018). What you see is what you get? Enhancing methodological transparency in management research. *Academy of Management Annals*, *12*(1), 83–110. https://doi.org/10.5465/annals.2016.0011

Allison, P. (1999). Logistic regression using the SAS system: theory and application. 1999. In *SAS Institute Inc., Cary, NC*. SAS institute. http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Logistic+regression+using+the+sas+system+theory+and+application#0

Amacher, G. S., Koskela, E., & Ollikainen, M. (2004). Environmental quality competition and

eco-labeling. *Journal of Environmental Economics and Management*, *47*(2), 284–306. https://doi.org/10.1016/S0095-0696(03)00078-0

Amaeshi, K., Adegbite, E., & Rajwani, T. (2016). Corporate Social Responsibility in Challenging and Non-enabling Institutional Contexts: Do Institutional Voids matter? *Journal of Business Ethics*, *134*(1), 135–153. https://doi.org/10.1007/s10551-014-2420-4

Andersen, S. O., & Sarma, K. M. (2012). Protecting the Ozone Layer: The United Nations History. In *Protecting the Ozone Layer: The United Nations History*. Routledge. https://doi.org/10.4324/9781849772266

Andersson, K. P., & Ostrom, E. (2008). Analyzing decentralized resource regimes from a polycentric perspective. *Policy Sciences*, *41*(1), 71–93. https://doi.org/10.1007/s11077-007-9055-6

Andonova, L. B., Betsill, M. M., & Bulkeley, H. (2009). Transnational climate governance. *Global Environmental Politics*, *9*(2), 52–73. https://doi.org/10.1162/glep.2009.9.2.52

Andonova, L. B., Hale, T. N., & Roger, C. B. (2017). National policy and transnational governance of climate change: Substitutes or complements? *International Studies Quarterly*, *61*(2), 253–268. https://doi.org/10.1093/isq/sqx014

Aragón-Correa, J. A., Marcus, A. A., & Vogel, D. (2020). The effects of mandatory and voluntary regulatory pressures on firms' environmental strategies: A review and recommendations for future research. *Academy of Management Annals*, *14*(1), 339–365. https://doi.org/10.5465/annals.2018.0014

Archer, K. J., & Lemeshow, S. (2006). Goodness-of-fit test for a logistic regression model fitted using survey sample data. *Stata Journal*, *6*(1), 97–105. https://doi.org/10.1177/1536867x0600600106

Aronovitch, H. (2012). Interpreting Weber's Ideal-Types. *Philosophy of the Social Sciences*, *42*(3), 356–369. https://doi.org/10.1177/0048393111408779

Arora, N. K., Fatima, T., Mishra, I., Verma, M., Mishra, J., & Mishra, V. (2018). Environmental sustainability: challenges and viable solutions. *Environmental Sustainability 2018 1:4*, *1*(4), 309–340. https://doi.org/10.1007/S42398-018-00038-W

Arora, P., & De, P. (2020). Environmental sustainability practices and exports: The interplay of strategy and institutions in Latin America. *Journal of World Business*, *55*(4). https://doi.org/10.1016/j.jwb.2020.101094

Asfaw, T. S., Botes, V., & Mengesha, L. G. (2017). The role of NGOs in corporate environmental responsibility practice: evidence from Ethiopia. *International Journal of Corporate Social Responsibility*, *2*(1). https://doi.org/10.1186/s40991-017-0013-0

Asuncion, A. (2021). *Building Agency in a Landscape of Extraction: The Global Politics of Canadian Transnational Mining, Corporate Social Responsibility, and Local Communities in the ...* [University of Guelph]. https://atrium.lib.uoguelph.ca/xmlui/handle/10214/26609%0Ahttps://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/26609/Asuncion_Angela_202112_MSc.pdf?sequence=1&isAllowed=n

Audi, R. (2010). Epistemology: A contemporary introduction to the theory of knowledge. In *Epistemology: A Contemporary Introduction to the Theory of Knowledge*. Routledge. https://doi.org/10.4324/9780203846469

Austin, L., Gaither, B., & Gaither, T. K. (2019). Corporate Social Advocacy as Public Interest Communications: Exploring Perceptions of Corporate Involvement in Controversial Social-

Political Issues. *The Journal of Public Interest Communications*, *3*(2), 3. https://doi.org/10.32473/jpic.v3.i2.p3

Avolio, B. J., Yammarino, F. J., & Bass, B. M. (1991). Identifying Common Methods Variance With Data Collected From A Single Source: An Unresolved Sticky Issue. *Journal of Management*, *17*(3), 571–587. https://doi.org/10.1177/014920639101700303

Azzarita, O. C. (2021). *Putting the" Crisis" in" Climate Crisis": The Impact of Securitization on Climate Change Policy*.

Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: Motives and pressures to adopt green management practices. *Corporate Social Responsibility and Environmental Management*, *18*(1), 11–24. https://doi.org/10.1002/csr.229

Baidya, D., & Mukherjee, S. (2023). Climate Change and its Importance for Assessment of Environmental Sustainability. In *Emerging Technology and Management Trends in Environment and Sustainability*. Taylor & Francis. https://doi.org/10.4324/9781003356233-1

Ballinger, G. A. (2004). Using Generalized Estimating Equations for Longitudinal Data Analysis. *Organizational Research Methods*, *7*(2), 127–150. https://doi.org/10.1177/1094428104263672

Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, *26*(3), 197–218. https://doi.org/10.1002/smj.441

Bansal, P., & Roth, K. (2000). Why Companies Go Green: A Model of Ecological Responsiveness. *Academy of Management Journal*, *43*(4), 717–736. https://doi.org/10.5465/1556363

Barrie, J., Zawdie, G., & João, E. (2017). Leveraging triple helix and system intermediaries to enhance effectiveness of protected spaces and strategic niche management for transitioning to circular economy. *International Journal of Technology Management and Sustainable Development*, *16*(1), 25–47. https://doi.org/10.1386/TMSD.16.1.25_1

Beddewela, E., & Fairbrass, J. (2016). Seeking Legitimacy Through CSR: Institutional Pressures and Corporate Responses of Multinationals in Sri Lanka. *Journal of Business Ethics*, *136*(3), 503–522. https://doi.org/10.1007/s10551-014-2478-z

Behfar, K., & Okhuysen, G. A. (2018). Discovery within validation logic: Deliberately surfacing, complementing, and substituting abductive reasoning in hypothetico-deductive inquiry. *Organization Science*, *29*(2), 323–340. https://doi.org/10.1287/orsc.2017.1193

Belsley, D. A., Kuh, E., & Welsch, R. E. (2005). *Regression diagnostics: Identifying influential data and sources of collinearity*. John Wiley & Sons, Ltd.

Bendell, J., & Kearins, K. (2005). The political bottom line: The emerging dimension to corporate responsibility for sustainable development. *Business Strategy and the Environment*, *14*(6), 372–383. https://doi.org/10.1002/bse.439

Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge. Anchor*.

Bernstein, S. (2021). The assigning and erosion of responsibility for the global environment. In *The Routledge Handbook on Responsibility in International Relations* (pp. 139–152). Routledge. https://doi.org/10.4324/9780429266317-10

Berrier-Lucas, C., & Rambaud, A. (2013). Ontological approach of corporate sustainability: Proposal for a shift. *European Group for Organizational Studies (EGOS) Conference*, 1–16.

Berrone, P., Fosfuri, A., Gelabert, L., & Gomez-Mejia, L. R. (2013). Necessity as the mother of "green" inventions: Institutional pressures and environmental innovations. *Strategic Management Journal*, *34*(8), 891–909. https://doi.org/10.1002/smj.2041

Besedes, T., & Wang, J. (2015). *The Role of International Environmental Agreements on the Extensive and Intensive Margins of International Trade*.

Biggart, N., review, R. D.-A. of management, & 2004, undefined. (2004). Systems of exchange. *Journals.Aom.Org*, *29*(1), 28–49. https://doi.org/10.5465/AMR.2004.11851707

Binder, S., & Neumayer, E. (2005). Environmental pressure group strength and air pollution: An empirical analysis. *Ecological Economics*, *55*(4), 527–538. https://doi.org/10.1016/j.ecolecon.2004.12.009

Bingham, T. (2011). *The rule of law*. Penguin UK.

Bleda, M., & Valente, M. (2009). Graded eco-labels: A demand-oriented approach to reduce pollution. *Technological Forecasting and Social Change*, *76*(4), 512–524. https://doi.org/10.1016/j.techfore.2008.05.003

Boddewyn, J., & Doh, J. (2011). Global strategy and the collaboration of MNEs, NGOs, and governments for the provisioning of collective goods in emerging markets. *Global Strategy Journal*, *1*(3–4), 345–361. https://doi.org/10.1002/gsj.26

Bonardi, J. P., & Keim, G. D. (2005). Corporate political strategies for widely salient issues. *Academy of Management Review*, *30*(3), 555–576. https://doi.org/10.5465/AMR.2005.17293705

Borda, O. F. (2001). Participatory (Action) Research in Social Theory: Origins and Challenges. *Handbook of Action Research: Participative Inquiry and Practice*, *Handbook o*, 27–37.

Borrás, S., change, C. E.-T. forecasting and social, & 2013, undefined. (2013). The choice of innovation policy instruments. *Elsevier*, *80*, 1513–1522. https://doi.org/10.1016/j.techfore.2013.03.002

Boslaugh, S. (2009). An Introduction to Secondary Data Analysis. *Secondary Data Sources for Public Health*, 1–11. https://doi.org/10.1017/cbo9780511618802.002

Brammer, S., Jackson, G., & Matten, D. (2012). Corporate social responsibility and institutional theory: New perspectives on private governance. *Socio-Economic Review*, *10*(1), 3–28. https://doi.org/10.1093/ser/mwr030

Brander, J., Cui, V., Studies, I. V.-J. of I. B., & 2017, undefined. (2017). China and intellectual property rights: A challenge to the rule of law. *Springer*, *48*(7), 908–921. https://doi.org/10.1057/s41267-017-0087-7

Bridle, R., & Kitson, L. (2014). *The Impact of Fossil-Fuel Subsidies on Renewable Electricity Generation GSI REPORT iisd.org/gsi GSI REPORT DECEMBER 2014 The Impact of Fossil-Fuel Subsidies on Renewable Electricity Generation ii ii About IISD and GSI*. www.iisd.org

Brown, R. H. (1978). Bureaucracy as Praxis: Toward a Political Phenomenology of Formal Organizations. *Administrative Science Quarterly*, *23*(3), 365. https://doi.org/10.2307/2392415

Bryman, A. (2016). *Social research methods*. Oxford University Press.

Bui, B., Houqe, M. N., & Zaman, M. (2021). Climate change mitigation: Carbon assurance and reporting integrity. *Business Strategy and the Environment*, *30*(8), 3839–3853. https://doi.org/10.1002/bse.2843

Burck, J., Hagen, U., Bals, C., Höhne, N., Nascimento, L., & ... (2022). Informing the process of

raising climate ambition. In *Greenpeace.Ch*. https://www.greenpeace.ch/static/planet4-switzerland-stateless/2021/11/80335ddb-ccpi-2022-results.pdf

Burns, R., & Burns, R. P. (2008). Business Research Methods and Statistics Using SPSS: What, Why and How? *Business Research Methods and Statistics Using SPSS*, 1–560.

Burrell, G., & Morgan, G. (2019). Sociological Paradigms and Organisational Analysis. *Sociological Paradigms and Organisational Analysis*. https://doi.org/10.4324/9781315609751

Buysse, K., & Verbeke, A. (2003). Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal*, *24*(5), 453–470. https://doi.org/10.1002/smj.299

Cadestin, C., De Backer, K., Desnoyers-James, I., Miroudot, S., Rigo, D., & Ye, M. (2018). OECD Science, Technology and Industry Working Papers: Multinational enterprises and global value chains: the OECD analytical AMNE database. *OECD Trade Policy Papers*, *211*, 28.

Carberry, E. J., Bharati, P., Levy, D. L., & Chaudhury, A. (2019). Social Movements as Catalysts for Corporate Social Innovation: Environmental Activism and the Adoption of Green Information Systems. *Business and Society*, *58*(5), 1083–1127. https://doi.org/10.1177/0007650317701674

Carlson, K. M., Gerber, J. S., Mueller, N. D., Herrero, M., MacDonald, G. K., Brauman, K. A., Havlik, P., O'Connell, C. S., Johnson, J. A., Saatchi, S., & West, P. C. (2017). Greenhouse gas emissions intensity of global croplands. *Nature Climate Change*, *7*(1), 63–68. https://doi.org/10.1038/nclimate3158

Ceesay, L. B. (2020). Exploring the Influence of NGOs in Corporate Sustainability Adoption: Institutional-Legitimacy Perspective. *Jindal Journal of Business Research*, *9*(2), 135–147. https://doi.org/10.1177/2278682120968969

Chan, R. Y. K. (2010). Corporate environmentalism pursuit by foreign firms competing in China. *Journal of World Business*, *45*(1), 80–92. https://doi.org/10.1016/j.jwb.2009.04.010

Chan, R. Y. K., & Ma, K. H. Y. (2016). Environmental Orientation of Exporting SMEs from an Emerging Economy: Its Antecedents and Consequences. *Management International Review*, *56*(5), 597–632. https://doi.org/10.1007/s11575-016-0280-0

Chang, K. H., & Gotcher, D. F. (2020). How and when does co-production facilitate eco-innovation in international buyer-supplier relationships? The role of environmental innovation ambidexterity and institutional pressures. *International Business Review*, *29*(5). https://doi.org/10.1016/j.ibusrev.2020.101731

Chang, S.-J., van Witteloostuijn, A., & Eden, L. (2020). *Common Method Variance in International Business Research*. 385–398. https://doi.org/10.1007/978-3-030-22113-3_20

Charmaz, K. (2017). The Power of Constructivist Grounded Theory for Critical Inquiry. *Qualitative Inquiry*, *23*(1), 34–45. https://doi.org/10.1177/1077800416657105

Chen, Y., Moustaki, I., & Zhang, H. (2020). A Note on Likelihood Ratio Tests for Models with Latent Variables. *Psychometrika*, *85*(4), 996–1012. https://doi.org/10.1007/s11336-020-09735-0

Child, J., & Tsai, T. (2005). *The Dynamic Between Firms' Environmental Strategies and Institutional Constraints in Emerging Economies: Evidence from China and Taiwan*.

Chithambo, L., Tingbani, I., Agyapong, G. A., Gyapong, E., & Damoah, I. S. (2020). Corporate voluntary greenhouse gas reporting: Stakeholder pressure and the mediating role of the

chief executive officer. *Business Strategy and the Environment*, *29*(4), 1666–1683. https://doi.org/10.1002/bse.2460

Cho, C. H., Patten, D. M., & Roberts, R. W. (2006). Corporate political strategy: An examination of the relation between political expenditures, environmental performance, and environmental disclosure. *Journal of Business Ethics*, *67*(2), 139–154. https://doi.org/10.1007/s10551-006-9019-3

Choi, G. (2022). Determinants of target location selection for acquirers in the manufacturing sector: Pollution intensity, policy enforcement, and civic environmentalism. *Journal of Business Research*, *146*, 308–324. https://doi.org/10.1016/j.jbusres.2022.03.074

Christmann, P. (2004). Multinational Companies and the Natural Environment: Determinants of Global Environmental Policy. *Https://Doi.Org/10.5465/20159616*, *47*(5), 747–760. https://doi.org/10.5465/20159616

Christmann, P., & Taylor, G. (2002). Globalization and the environment: Strategies for international voluntary environmental initiatives. *Academy of Management Executive*, *16*(3), 121–135. https://doi.org/10.5465/AME.2002.8540373

Christmann, P., & Taylor, G. (2006). Firm self-regulation through international certifiable standards: Determinants of symbolic versus substantive implementation. *Journal of International Business Studies*, *37*(6), 863–878. https://doi.org/10.1057/palgrave.jibs.8400231

Clarke, A., & MacDonald, A. (2019). Outcomes to Partners in Multi-Stakeholder Cross-Sector Partnerships: A Resource-Based View. *Business and Society*, *58*(2), 298–332. https://doi.org/10.1177/0007650316660534

Clarkson, P. M., Overell, M. B., & Chapple, L. (2011). Environmental Reporting and its Relation to Corporate Environmental Performance. *Abacus*, *47*(1), 27–60. https://doi.org/10.1111/j.1467-6281.2011.00330.x

Coady, D., Parry, I., Sears, L., & Shang, B. (2017). How Large Are Global Fossil Fuel Subsidies? *World Development*, *91*, 11–27. https://doi.org/10.1016/j.worlddev.2016.10.004

Cohen, M. A. (2000). Empirical Research on the Deterrent Effect of Environmental Monitoring and Enforcement. *Environmental Law Reporter News & Analysis*, *30*. https://heinonline.org/HOL/Page?handle=hein.journals/elrna30&id=253&div=&collection=

Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, *25*(3), 325–334. https://doi.org/10.1007/s10869-010-9181-6

Cook, T. D., Campbell, D. T., & Shadish, W. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (Vol. 1195). Boston, MA: Houghton Mifflin.

Cordeiro, J. J., Zhu, Q., & Sarkis, J. (2009). International and domestic pressures and Chinese organizational responses to greening. *Academy of Management 2009 Annual Meeting: Green Management Matters, AOM 2009*. https://doi.org/10.5465/ambpp.2009.44251848

Corten, O., & Klein, P. (Eds. ). (2011). *The Vienna Conventions on the Law of Treaties: a commentary (Vol. 1)*. Oxford Commentaries on Interna.

Costantini, V., Crespi, F., & Palma, A. (2017). Characterizing the policy mix and its impact on eco-innovation: A patent analysis of energy-efficient technologies. *Research Policy*, *46*(4), 799–819. https://doi.org/10.1016/j.respol.2017.02.004

Couture, T. D., Cory, K., & Williams, E. (2010). A Policymaker ' s Guide to Feed-in Tariff Policy Design. In *Office* (Issue July). https://www.osti.gov/biblio/984987

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches.* SAGE Publications.

Cua, A. S., & Hartmann, R. (1968). The Structure of Value: Foundations of Scientific Axiology. In *Philosophy and Phenomenological Research* (Vol. 28, Issue 3). Wipf and Stock Publishers. https://doi.org/10.2307/2106021

Cuervo-Cazurra, A., & Genc, M. (2008). Transforming disadvantages into advantages: Developing-country MNEs in the least developed countries. *Journal of International Business Studies*, *39*(6), 957–979. https://doi.org/10.1057/palgrave.jibs.8400390

Daddi, T., Testa, F., Frey, M., & Iraldo, F. (2016). Exploring the link between institutional pressures and environmental management systems effectiveness: An empirical study. *Journal of Environmental Management*, *183*, 647–656. https://doi.org/10.1016/j.jenvman.2016.09.025

Daddi, T., Todaro, N. M., Iraldo, F., & Frey, M. (2021). Institutional pressures on the adoption of environmental practices: a focus on European professional football. *Journal of Environmental Planning and Management*. https://doi.org/10.1080/09640568.2021.1927679

Dalhammar, C. (2016). Industry attitudes towards ecodesign standards for improved resource efficiency. *Journal of Cleaner Production*, *123*, 155–166. https://doi.org/10.1016/j.jclepro.2015.12.035

Damert, M., Koep, L., Guenther, E., & Morris, J. (2020). Stakeholders and socially responsible supply chain management: the moderating role of internationalization. *Sustainability Accounting, Management and Policy Journal*, *12*(4), 667–694. https://doi.org/10.1108/SAMPJ-03-2019-0092

Darnall, N., Henriques, I., & Sadorsky, P. (2008). Do environmental management systems improve business performance in an international setting? *Journal of International Management*, *14*(4), 364–376. https://doi.org/10.1016/j.intman.2007.09.006

Datt, R., Luo, L., Tang, Q., & Mallik, G. (2018). An international study of determinants of voluntary carbon assurance. *Journal of International Accounting Research*, *17*(3), 1–20. https://doi.org/10.2308/jiar-52221

Dau, L. A., Moore, E. M., Doh, J. P., & Soto, M. A. (2021). Does global integration stimulate corporate citizenship? The effect of international trade agreements and regulatory quality on state and private firm adoption of CSR standards. *Journal of International Business Policy*. https://doi.org/10.1057/s42214-021-00104-x

David, P., Bloom, M., & Hillman, A. J. (2007). Investor activism, managerial responsiveness, and corporate social performance. *Strategic Management Journal*, *28*(1), 91–100. https://doi.org/10.1002/smj.571

de Jong, V. M. T., Eijkemans, M. J. C., van Calster, B., Timmerman, D., Moons, K. G. M., Steyerberg, E. W., & van Smeden, M. (2019). Sample size considerations and predictive performance of multinomial logistic prediction models. *Statistics in Medicine*, *38*(9), 1601–1619. https://doi.org/10.1002/sim.8063

De Villa, M. A., Rajwani, T., Lawton, T. C., & Mellahi, K. (2019). To engage or not to engage with host governments: Corporate political activity and host country political risk. *Global Strategy Journal*, *9*(2), 208–242. https://doi.org/10.1002/gsj.1205

Dechezleprêtre, A., Neumayer, E., & Perkins, R. (2015). Environmental regulation and the cross-border diffusion of new technology: Evidence from automobile patents. *Research Policy*,

*44*(1), 244–257. https://doi.org/10.1016/j.respol.2014.07.017

Dechezleprêtre, A., Perkins, R., & Neumayer, E. (2012). Regulatory Distance and the Transfer of New Environmentally Sound Technologies: Evidence from the Automobile Sector. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2087439

Del Río, P., Peñasco, C., & Romero-Jordán, D. (2016). What drives eco-innovators? A critical review of the empirical literature based on econometric methods. *Journal of Cleaner Production*, *112*, 2158–2170. https://doi.org/10.1016/j.jclepro.2015.09.009

Delalieux, G., Kourula, A., & Pezet, E. (2023). Civil Society Roles in CSR Legislation. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-023-05413-0

Delgado-Márquez, B. L., & Pedauga, L. E. (2017). Environmental Behavior and MNEs: A Strategy Pulled by Stakeholder Engagement. *Business Strategy and the Environment*, *26*(7), 927–939. https://doi.org/10.1002/bse.1955

Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review*, *54*(1), 64–87. https://doi.org/10.1525/cmr.2011.54.1.64

Delmas, M. A., Lyon, T. P., & Maxwell, J. W. (2019). Understanding the Role of the Corporation in Sustainability Transitions. *Organization and Environment*, *32*(2), 87–97. https://doi.org/10.1177/1086026619848255

Delmas, M., Lim, J., & Nairn-Birch, N. (2016). Corporate Environmental Performance and Lobbying. *Academy of Management Discoveries*, *2*(2), 175–197. https://doi.org/10.5465/amd.2014.0065

den Hond, F., de Bakker, F. G. A., & Doh, J. (2015). What Prompts Companies to Collaboration With NGOs? Recent Evidence From the Netherlands. *Business and Society*, *54*(2), 187–228. https://doi.org/10.1177/0007650312439549

Depoers, F., Jeanjean, T., & Jérôme, T. (2016). Voluntary Disclosure of Greenhouse Gas Emissions: Contrasting the Carbon Disclosure Project and Corporate Reports. *Journal of Business Ethics*, *134*(3), 445–461. https://doi.org/10.1007/s10551-014-2432-0

Dey, I. (1993). *Qualitative Data Analysis: A User- Friendly Guide for Social Scientists (note taking to finish*. Routledge. http://books.google.com/books?id=bttwENORfhgC&pgis=1%5Cnhttp://books.google.co.uk/books?id=uOw6PQAACAAJ&dq=Educational+Psychology:+Cognition+and+Learning,+Individual+Differences+and+Motivation&hl=en&ei=bbZlTKeCCMKSjAem2Y3pCw&sa=X&oi=book_result&ct=result&

Dhanda, K. K., Sarkis, J., & Dhavale, D. G. (2022). Institutional and stakeholder effects on carbon mitigation strategies. *Business Strategy and the Environment*, *31*(3), 782–795. https://doi.org/10.1002/bse.2917

Dieleman, M., Markus, S., Rajwani, T., & White, G. O. (2022). Revisiting Institutional Voids: Advancing the International Business Literature by Leveraging Social Sciences. *Journal of International Management*, *28*(3). https://doi.org/10.1016/j.intman.2022.100935

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48*(2), 147. https://doi.org/10.2307/2095101

Dobbin, F. (2009). How Durkheim's Theory of Meaning-making Influenced Organizational Sociology. In *The Oxford Handbook of Sociology and Organization Studies: Classical Foundations*. https://doi.org/10.1093/oxfordhb/9780199535231.003.0009

Doh, J. P., & Guay, T. R. (2004). Globalization and Corporate Social Responsibility: How Non-

Governmental Organizations Influence Labor and Environmental Codes of Conduct. *Management and International Review*, 7–29. https://doi.org/10.1007/978-3-322-90997-8_2

Doh, J. P., & Guay, T. R. (2006). *Corporate Social Responsibility, Public Policy, and NGO Activism in Europe and the United States: An Institutional-Stakeholder Perspective*.

Doh, J. P., Howton, S. D., Howton, S. W., & Siegel, D. S. (2010). Does the market respond to an endorsement of social responsibility? The role of institutions, information, and legitimacy. *Journal of Management*, *36*(6), 1461–1485. https://doi.org/10.1177/0149206309337896

Doh, J., Rodrigues, S., Saka-Helmhout, A., & Makhija, M. (2017). International business responses to institutional voids. *Journal of International Business Studies*, *48*(3), 293–307. https://doi.org/10.1057/S41267-017-0074-Z

Dong, C. G. (2012). Feed-in tariff vs. renewable portfolio standard: An empirical test of their relative effectiveness in promoting wind capacity development. *Energy Policy*, *42*, 476–485. https://doi.org/10.1016/j.enpol.2011.12.014

Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. *Sociological Perspectives*, *18*(1), 122–136. https://doi.org/10.2307/1388226

Driessen, P. P. J., Dieperink, C., Laerhoven, F. van, Runhaar, H. A. C., & Vermeulen, W. J. V. (2012). Towards a Conceptual Framework for The Study of Shifts in Modes of Environmental Governance – Experiences From The Netherlands. *Environmental Policy and Governance*, *22*(3), 143–160. https://doi.org/10.1002/EET.1580

Durand, R., Hawn, O., & Ioannou, I. (2019). Willing and able: A general model of organizational responses to normative pressures. *Academy of Management Review*, *44*(2), 299–320. https://doi.org/10.5465/amr.2016.0107

Durant-Law, G. (2005). Soft systems methodology and grounded theory combined – a knowledge management research approach? *ActKM Online Journal of Knowledge Management*, *2*(1), 13–23.

Dwyer, R. J. (2005). Formal organizations in contemporary society: The relevance of historical perspectives. *Management Decision*, *43*(9), 1232–1248. https://doi.org/10.1108/00251740510626290

Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2012). *Management research*. SAGE Publications.

Eden, D. (2017). Field Experiments in Organizations. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*, 91–122. https://doi.org/10.1146/annurev-orgpsych-041015-062400

Edman, J. (2016). Reconciling the advantages and liabilities of foreignness: Towards an identity-based framework. *Journal of International Business Studies*, *47*(6), 674–694. https://doi.org/10.1057/jibs.2016.29

Edmondson, A. C., & Mcmanus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review*, *32*(4), 1155–1179. https://doi.org/10.5465/AMR.2007.26586086

Ehrnström-Fuentes, M., & Böhm, S. (2023). The Political Ontology of Corporate Social Responsibility: Obscuring the Pluriverse in Place. *Journal of Business Ethics*, *185*(2), 245–261. https://doi.org/10.1007/s10551-022-05175-1

Eiadat, Y., Kelly, A., Roche, F., & Eyadat, H. (2008). Green and competitive? An empirical test of the mediating role of environmental innovation strategy. *Journal of World Business*, *43*(2), 131–145. https://doi.org/10.1016/j.jwb.2007.11.012

El Ghoul, S., Guedhami, O., & Kim, Y. (2017). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies*, *48*(3), 360–385. https://doi.org/10.1057/jibs.2016.4

El Ghoul, S., Guedhami, O., Wang, H., & Kwok, C. C. Y. (2016). Family control and corporate social responsibility. *Journal of Banking and Finance*, *73*, 131–146. https://doi.org/10.1016/j.jbankfin.2016.08.008

Eskander, S. M. S. U., & Fankhauser, S. (2020). Reduction in greenhouse gas emissions from national climate legislation. *Nature Climate Change*, *10*(8), 750–756. https://doi.org/10.1038/s41558-020-0831-z

Famiyeh, S., Opoku, R. A., Kwarteng, A., & Asante-Darko, D. (2021). Driving forces of sustainability in the mining industry: Evidence from a developing country. *Resources Policy*, *70*. https://doi.org/10.1016/j.resourpol.2020.101910

Ferrón Vilchez, V., Darnall, N., & Aragón Correa, J. A. (2017). Stakeholder influences on the design of firms' environmental practices. *Journal of Cleaner Production*, *142*, 3370–3381. https://doi.org/10.1016/j.jclepro.2016.10.129

Fortanier, F., Kolk, A., & Pinkse, J. (2011). Harmonization in CSR Reporting: MNEs and Global CSR Standards. *Management International Review*, *51*(5), 665–696. https://doi.org/10.1007/s11575-011-0089-9

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder theory: The state of the art*.

Fremeth, A. R., & Shaver, J. M. (2014). Strategic rationale for responding to extra-jurisdictional regulation: Evidence from firm adoption of renewable power in the US. *Strategic Management Journal*, *35*(5), 629–651. https://doi.org/10.1002/smj.2118

Gainet, C. (2011). Exploring the Impact of Legal Systems and Financial Structure on Corporate Responsibility. *Journal of Business Ethics 2011 95:2*, *95*(2), 195–222. https://doi.org/10.1007/S10551-011-0854-5

Gao, L., & Yang, F. (2022). Do resource slack and green organizational climate moderate the relationships between institutional pressures and corporate environmental responsibility practices of SMEs in China? *Environment, Development and Sustainability*. https://doi.org/10.1007/s10668-022-02628-5

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy*, *31*(8–9), 1257–1274. https://doi.org/10.1016/S0048-7333(02)00062-8

Geels, F. W. (2004). From sectoral systems of innovation to socio-technical systems: Insights about dynamics and change from sociology and institutional theory. *Research Policy*, *33*(6–7), 897–920. https://doi.org/10.1016/j.respol.2004.01.015

Geels, F. W. (2006). Multi-Level Perspective on System Innovation: Relevance for Industrial Transformation. *Understanding Industrial Transformation*, 163–186. https://doi.org/10.1007/1-4020-4418-6_9

Geels, F. W., & Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*, *36*(3), 399–417. https://doi.org/10.1016/j.respol.2007.01.003

Georgallis, P., Albino-Pimentel, J., & Kondratenko, N. (2021). Jurisdiction shopping and foreign location choice: The role of market and nonmarket experience in the European solar energy industry. *Journal of International Business Studies*, *52*(5), 853–877. https://doi.org/10.1057/s41267-020-00358-2

Gerber, P., Vellinga, T., Opio, C., & Steinfeld, H. (2011). Productivity gains and greenhouse gas emissions intensity in dairy systems. *Livestock Science*, *139*(1–2), 100–108. https://doi.org/10.1016/j.livsci.2011.03.012

Giddens, A. (1979). Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis. *Philosophy and Phenomenological Research*, *41*(1/2), 246. https://doi.org/10.2307/2107414

Giddens, A. (1984). *The constitution of society. Berkeley*. CA: University of California Press.

Globerman, S., & Shapiro, D. (2003). Governance infrastructure and US foreign direct investment. *Journal of International Business Studies*, *34*(1), 19–39. https://doi.org/10.1057/palgrave.jibs.8400001

Goldberg, M. H., Marlon, J. R., Wang, X., van der Linden, S., & Leiserowitz, A. (2020). Oil and gas companies invest in legislators that vote against the environment. *Proceedings of the National Academy of Sciences of the United States of America*, *117*(10), 5111–5112. https://doi.org/10.1073/pnas.1922175117

Goldstein, A., Turner, W. R., Gladstone, J., & Hole, D. G. (2019). The private sector's climate change risk and adaptation blind spots. *Nature Climate Change*, *9*(1), 18–25. https://doi.org/10.1038/s41558-018-0340-5

Greenspan, I., Cohen-Blankshtain, G., & Geva, Y. (2022). NGO Roles and Anticipated Outcomes in Environmental Participatory Processes: A Typology. *Nonprofit and Voluntary Sector Quarterly*, *51*(3), 633–657. https://doi.org/10.1177/08997640211008989

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In *Handbook of qualitative research* (Vol. 2, Issue 6). http://create.alt.ed.nyu.edu/courses/3311/reading/10-guba_lincoln_94.pdf

Guenther, E., Guenther, T., Schiemann, F., & Weber, G. (2016). Stakeholder Relevance for Reporting: Explanatory Factors of Carbon Disclosure. *Business and Society*, *55*(3), 361–397. https://doi.org/10.1177/0007650315575119

Gullberg, A. T. (2008). Lobbying friends and foes in climate policy: The case of business and environmental interest groups in the European Union. *Energy Policy*, *36*(8), 2964–2972. https://doi.org/10.1016/j.enpol.2008.04.016

Hadani, M., Bonardi, J. P., & Dahan, N. M. (2017). Corporate political activity, public policy uncertainty, and firm outcomes: A meta-analysis. *Strategic Organization*, *15*(3), 338–366. https://doi.org/10.1177/1476127016651001

Hahn, R., Reimsbach, D., & Schiemann, F. (2015). Organizations, Climate Change, and Transparency: Reviewing the Literature on Carbon Disclosure. *Organization and Environment*, *28*(1), 80–102. https://doi.org/10.1177/1086026615575542

Halme, M., Rintamäki, J., Knudsen, J. S., Lankoski, L., & Kuisma, M. (2020). When Is There a Sustainability Case for CSR? Pathways to Environmental and Social Performance Improvements. *Business and Society*, *59*(6), 1181–1227. https://doi.org/10.1177/0007650318755648

Haque, F., & Ntim, C. G. (2018). Environmental Policy, Sustainable Development, Governance Mechanisms and Environmental Performance. *Business Strategy and the Environment*, *27*(3), 415–435. https://doi.org/10.1002/bse.2007

Hardy, C., & Maguire, S. (2008). *Institutional entrepreneurship*. The Sage handbook of organizational institutionalism.

Harrell, F. E., Lee, K. L., & Mark, D. B. (1996). Multivariable prognostic models: Issues in

developing models, evaluating assumptions and adequacy, and measuring and reducing errors. *Statistics in Medicine*, *15*(4), 361–387. https://doi.org/10.1002/(SICI)1097-0258(19960229)15:4<361::AID-SIM168>3.0.CO;2-4

Hartman, R. S. (2011). *The structure of value: Foundations of scientific axiology*. Wipf and Stock Publishers.

Hartmann, J., Inkpen, A. C., & Ramaswamy, K. (2021). Different shades of green: Global oil and gas companies and renewable energy. *Journal of International Business Studies*, *52*(5), 879–903. https://doi.org/10.1057/s41267-020-00326-w

Hascic, I., de Vries, F. P., Johnstone, N., & Medhi, N. (2008). Effects of Environmental Policy on the Type of Innovation: The Case of Automotive Emissions Control Technologies. *OECD Journal: Economic Studies*, 49–66. https://doi.org/10.2139/SSRN.1523781

Healey, M. J., & Rawlinson, M. B. (1993). Interviewing business owners and managers: a review of methods and techniques. *Geoforum*, *24*(3), 339–355. https://doi.org/10.1016/0016-7185(93)90026-E

Heron, J., & Reason, P. (1997). A participatory inquiry paradigm. *Qualitative Inquiry*, *3*(3), 274–294. https://doi.org/10.1177/107780049700300302

Hilbe, J. M. (2009). *Logistic regression models*. CRC press.

Hillman, A. J., & Hitt, M. A. (1999). Corporate political strategy formulation: A model of approach, participation, and strategy decisions. *Academy of Management Review*, *24*(4), 825–842. https://doi.org/10.5465/AMR.1999.2553256

Hillman, A. J., Keim, G. D., & Schuler, D. (2004). Corporate political activity: A review and research agenda. *Journal of Management*, *30*(6), 837–857. https://doi.org/10.1016/j.jm.2004.06.003

Hillman, A. J., & Wan, W. P. (2005). The determinants of MNE subsidiaries' political strategies: Evidence of institutional duality. *Journal of International Business Studies*, *36*(3), 322–340. https://doi.org/10.1057/palgrave.jibs.8400137

Hojnik, J., & Ruzzier, M. (2016). The driving forces of process eco-innovation and its impact on performance: Insights from Slovenia. *Journal of Cleaner Production*, *133*, 812–825. https://doi.org/10.1016/j.jclepro.2016.06.002

Holburn, G. L. F., & Vanden Bergh, R. G. (2008). Making friends in hostile environments: Political strategy in regulated industries. *Academy of Management Review*, *33*(2), 521–540. https://doi.org/10.5465/AMR.2008.31193554

Holden, M. T., & Lynch, P. (2006). Choosing the Appropriate Methodology: Understanding Research Philosophy. *The Marketing Review*, *4*(4), 397–409. https://doi.org/10.1362/1469347042772428

Hossan Chowdhury, M. M., & Quaddus, M. A. (2021). Supply chain sustainability practices and governance for mitigating sustainability risk and improving market performance: A dynamic capability perspective. *Journal of Cleaner Production*, *278*. https://doi.org/10.1016/j.jclepro.2020.123521

Huang, C. J., Liu, H. Y., Lin, T. L., & Lai, J. Y. (2022). Revisiting Hofstede's dimensions of national culture and environmental sustainability. *Energy and Environment*. https://doi.org/10.1177/0958305X221140579

Huang, L., Wang, C., Chin, T., Huang, J., & Cheng, X. (2022). Technological knowledge coupling and green innovation in manufacturing firms: Moderating roles of mimetic pressure and environmental identity. *International Journal of Production Economics*, *248*.

https://doi.org/10.1016/j.ijpe.2022.108482

Huang, X. X., Hu, Z. P., Liu, C. S., Yu, D. J., & Yu, L. F. (2016). The relationships between regulatory and customer pressure, green organizational responses, and green innovation performance. *Journal of Cleaner Production*, *112*, 3423–3433. https://doi.org/10.1016/j.jclepro.2015.10.106

Huber, J. (2008). Pioneer countries and the global diffusion of environmental innovations: Theses from the viewpoint of ecological modernisation theory. *Global Environmental Change*, *18*(3), 360–367. https://doi.org/10.1016/J.GLOENVCHA.2008.03.004

Hughes, J. A., & Sharrock, W. W. (2016). The philosophy of social research. In *The Philosophy of Social Research*. Routledge. https://doi.org/10.4324/9781315840710

Hyatt, D. G., & Berente, N. (2017). Substantive or Symbolic Environmental Strategies? Effects of External and Internal Normative Stakeholder Pressures. *Business Strategy and the Environment*, *26*(8), 1212–1234. https://doi.org/10.1002/bse.1979

Il Park, B., & Xiao, S. (Simon). (2021). Doing good by combating bad in the digital world: Institutional pressures, anti-corruption practices, and competitive implications of MNE foreign subsidiaries. *Journal of Business Research*, *137*, 194–205. https://doi.org/10.1016/j.jbusres.2021.08.014

Ingram, J. (2015). Framing niche-regime linkage as adaptation: An analysis of learning and innovation networks for sustainable agriculture across Europe. *Journal of Rural Studies*, *40*, 59–75. https://doi.org/10.1016/J.JRURSTUD.2015.06.003

Ioannou, I., & Serafeim, G. (2012). What drives corporate social performance? The role of nation-level institutions. *Journal of International Business Studies 2012 43:9*, *43*(9), 834–864. https://doi.org/10.1057/JIBS.2012.26

Ioulianou, S. P., Leiblein, M. J., & Trigeorgis, L. (2021). Multinationality, portfolio diversification, and asymmetric MNE performance: The moderating role of real options awareness. *Journal of International Business Studies*, *52*(3), 388–408. https://doi.org/10.1057/s41267-020-00357-3

Jewell, J., McCollum, D., Emmerling, J., Bertram, C., Gernaat, D. E. H. J., Krey, V., Paroussos, L., Berger, L., Fragkiadakis, K., Keppo, I., Saadi, N., Tavoni, M., Van Vuuren, D., Vinichenko, V., & Riahi, K. (2018). Limited emission reductions from fuel subsidy removal except in energy-exporting regions. *Nature*, *554*(7691), 229–233. https://doi.org/10.1038/nature25467

Jira, C., & Toffel, M. W. (2013). Engaging supply chains in climate change. *Manufacturing and Service Operations Management*, *15*(4), 559–577. https://doi.org/10.1287/msom.1120.0420

John Grin, Jan Rotmans, J. S. (2010). *Transitions to Sustainable Development: New Directions in the Study of Long ... -*. https://books.google.ca/books?hl=en&lr=&id=lvKMAgAAQBAJ&oi=fnd&pg=PP1&dq=Grin+et+al.,+(2010)++transitions++an++sustainable+society++radical+shifts++socio-technical+systems.&ots=YAIgmTOoa6&sig=aMayka3mCJZPnfSccvyfONn_nbM&redir_esc=y#v=onepage&q&f=false

Johnson, P., Brookes, M., Wood, G., & Brewster, C. (2017). Legal Origin and Social Solidarity: The Continued Relevance of Durkheim to Comparative Institutional Analysis. *Sociology*, *51*(3), 646–665. https://doi.org/10.1177/0038038515611049

Jolly, S., Spodniak, P., & Raven, R. P. J. M. (2016). Institutional entrepreneurship in transforming energy systems towards sustainability: Wind energy in Finland and India.

*Energy Research and Social Science*, *17*, 102–118.
https://doi.org/10.1016/j.erss.2016.04.002

Jordan, A. J., Huitema, D., Hildén, M., van Asselt, H., Rayner, T. J., Schoenefeld, J. J., Tosun, J., Forster, J., & Boasson, E. L. (2015). Emergence of polycentric climate governance and its future prospects. *Nature Climate Change 2015 5:11*, *5*(11), 977–982.
https://doi.org/10.1038/nclimate2725

Jordan, A., Wurzel, R. K. W., & Zito, A. R. (2013). Still the century of 'new' environmental policy instruments? Exploring patterns of innovation and continuity. *Https://Doi.Org/10.1080/09644016.2013.755839*, *22*(1), 155–173.
https://doi.org/10.1080/09644016.2013.755839

Kalash, I. (2021). The impact of environmental performance on capital structure and firm performance: the case of Turkey. *Society and Business Review*, *16*(2), 255–277.
https://doi.org/10.1108/SBR-11-2020-0138

Katic, I. V., & Hillman, A. (2023). Corporate Political Activity, Reimagined: Revisiting the Political Marketplace. *Journal of Management*, *49*(6), 1911–1938.
https://doi.org/10.1177/01492063221137069

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, *3*(2), 220–246.
https://doi.org/10.1017/S1876404511200046

Kawai, N., Strange, R., & Zucchella, A. (2018a). Stakeholder pressures, EMS implementation, and green innovation in MNC overseas subsidiaries. *International Business Review*, *27*(5), 933–946. https://doi.org/10.1016/j.ibusrev.2018.02.004

Kaya, I. (2016). The Mandatory Social and Environmental Reporting: Evidence from France. *Procedia - Social and Behavioral Sciences*, *229*, 206–213.
https://doi.org/10.1016/j.sbspro.2016.07.130

Keig, D. L., Brouthers, L. E., & Marshall, V. B. (2019). The impact of formal and informal institutional distances on MNE corporate social performance. *International Business Review*. https://doi.org/10.1016/j.ibusrev.2019.05.004

Kerlinger, Fred, N. (1972). The study and measurement of vlaues and attitudes. *American Education Research Association*.

Khan, Z., Lew, Y. K., & Akhtar, P. (2016). The influence of industrial policy and national systems of innovation on emerging economy suppliers' learning capability. *Industry and Innovation*, *23*(6), 512–530. https://doi.org/10.1080/13662716.2016.1189811

Khan, Z., Lew, Y. K., & Park, B. Il. (2015). Institutional legitimacy and norms-based CSR marketing practices: Insights from MNCs operating in a developing economy. *International Marketing Review*, *32*(5), 463–491. https://doi.org/10.1108/IMR-01-2014-0017

Khan, Z., Lew, Y. K., & Sinkovics, R. R. (2015). The mirage of upgrading local automotive parts suppliers through the creation of vertical linkages with MNEs in developing economies. *Critical Perspectives on International Business*, *11*(3–4), 301–318.
https://doi.org/10.1108/cpoib-12-2012-0064

Khanna, M., & Brouhle, K. (2009). The effectiveness of voluntary environmental initiatives. In *Governance for the Environment: New Perspectives* (pp. 144–182).
https://doi.org/10.1017/CBO9780511627170.008

Khanna, T., & Palepu, K. (1997). Why Focused Strategies. *Harvard Business Review*, *75*(4), 41–51. https://www.ln.edu.hk/mkt/staff/gcui/Focused Strategies.pdf

Khanna, T., & Palepu, K. G. (2010). Winning in Emerging Markets: A Road Map for Strategy and Execution. In *NHRD Network Journal* (Vol. 3, Issue 3). Harvard Business Press. https://doi.org/10.1177/0974173920100316

Khanna, T., Palepu, K. G., & Sinha, J. (2015). Strategies that fit emerging markets. *International Business Strategy: Theory and Practice*, *83*(6), 615–631. https://doi.org/10.2469/dig.v35.n4.1796

Kim, I. N. S., & Milner, H. V. (2021). Multinational Corporations and Their Influence through Lobbying on Foreign Policy. *Global Goliaths*, 497–536. http://www.jstor.org/stable/10.7864/j.ctv11hpt7b.15

Knight, G., Chidlow, A., & Minbaeva, D. (2022). Methodological fit for empirical research in international business: A contingency framework. *Journal of International Business Studies*, *53*(1), 39–52. https://doi.org/10.1057/s41267-021-00476-5

Köhler, J., Geels, F. W., Kern, F., Markard, J., Onsongo, E., Wieczorek, A., Alkemade, F., Avelino, F., Bergek, A., Boons, F., Fünfschilling, L., Hess, D., Holtz, G., Hyysalo, S., Jenkins, K., Kivimaa, P., Martiskainen, M., McMeekin, A., Mühlemeier, M. S., … Wells, P. (2019). An agenda for sustainability transitions research: State of the art and future directions. *Environmental Innovation and Societal Transitions*, *31*, 1–32. https://doi.org/10.1016/J.EIST.2019.01.004

Kölbel, J. F., & Busch, T. (2021). Signaling legitimacy across institutional contexts—The intermediary role of corporate social responsibility rating agencies. *Global Strategy Journal*, *11*(2), 304–328. https://doi.org/10.1002/gsj.1355

Kolcava, D., Rudolph, L., & Bernauer, T. (2021). Citizen preferences on private-public co-regulation in environmental governance: Evidence from Switzerland. *Global Environmental Change*, *68*. https://doi.org/10.1016/j.gloenvcha.2021.102226

Kolk, A. (2010). Multinationals and corporate social responsibility. *Politeia*, *26*(98), 138–152.

Kolk, Ans. (2015). The role of international business in clean technology transfer and development. *Climate Policy*, *15*(1), 170–176. https://doi.org/10.1080/14693062.2013.772357

Kolk, Ans, & Pinkse, J. (2007). Multinationals' political activities on climate change. *Business and Society*, *46*(2), 201–228. https://doi.org/10.1177/0007650307301383

Kolk, Ans, & Pinkse, J. (2008). A perspective on multinational enterprises and climate change: Learning from "an inconvenient truth"? *Journal of International Business Studies*, *39*(8), 1359–1378. https://doi.org/10.1057/jibs.2008.61

Kolk, Ans, & Pinkse, J. (2012). Multinational enterprises and climate change strategies. *Handbook of Research on International Strategic Management*, 472–485. https://doi.org/10.4337/9781781009147.00033

Kolk, Ans, & Van Tulder, R. (2005). Setting new global rules? TNCs and codes of conduct. *Transnational Corporations*, *14*(3), 1–27.

Konara, P., Lopez, C., & Shirodkar, V. (2021). Environmental innovation in foreign subsidiaries: The role of home-ecological institutions, subsidiary establishment mode and post-establishment experience. *Journal of World Business*, *56*(6). https://doi.org/10.1016/j.jwb.2021.101261

Konara, P., & Shirodkar, V. (2018). Regulatory Institutional Distance and MNCs' Subsidiary Performance: Climbing up Vs. Climbing Down the Institutional Ladder. *Journal of International Management*, *24*(4), 333–347. https://doi.org/10.1016/j.intman.2018.04.004

Kostova, T. (1999). Transnational transfer of strategic organizational practices: A contextual perspective. *Academy of Management Review*, *24*(2), 308–324. https://doi.org/10.5465/AMR.1999.1893938

Kostova, T., Nell, P. C., & Hoenen, A. K. (2018). Understanding Agency Problems in Headquarters-Subsidiary Relationships in Multinational Corporations: A Contextualized Model. *Journal of Management*, *44*(7), 2611–2637. https://doi.org/10.1177/0149206316648383

Kostova, T., & Zaheer, S. (1999). Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Review*, *24*(1), 64–81. https://doi.org/10.5465/AMR.1999.1580441

Kourula, A., & Laasonen, S. (2010). Nongovernmental organizations in business and society, management, and international business research: Review and implications from 1998 to 2007. *Business and Society*, *49*(1), 35–67. https://doi.org/10.1177/0007650309345282

Kraft, M. E., & Kamieniecki, S. (Eds. ). (2007). *Business and environmental policy: Corporate interests in the American political system.*

Lanjouw, J. O., & Mody, A. (1996). Innovation and the international diffusion of environmentally responsive technology. *Research Policy*, *25*(4), 549–571. https://doi.org/10.1016/0048-7333(95)00853-5

Lashitew, A. A. (2021). Corporate uptake of the Sustainable Development Goals: Mere greenwashing or an advent of institutional change? *Journal of International Business Policy*, *4*(1), 184–200. https://doi.org/10.1057/s42214-020-00092-4

Lau, H. C., Ramakrishna, S., Zhang, K., & Radhamani, A. V. (2021). The role of carbon capture and storage in the energy transition. *Energy and Fuels*, *35*(9), 7364–7386. https://doi.org/10.1021/acs.energyfuels.1c00032

Lawton, T., Mcguire, S., & Rajwani, T. (2013). Corporate Political Activity: A Literature Review and Research Agenda. *International Journal of Management Reviews*, *15*(1), 86–105. https://doi.org/10.1111/j.1468-2370.2012.00337.x

Lee, J. Y., Choi, J., Xiao, S., Lew, Y. K., & Park, B. Il. (2021). How do the institutions matter for MNE subsidiaries' CSR in host countries? Evidence from Chinese overseas subsidiaries. *BRQ Business Research Quarterly*. https://doi.org/10.1177/23409444211044732

Lemos, M. C., & Agrawal, A. (2006). Environmental governance. *Annual Review of Environment and Resources*, *31*(1), 297–325. https://doi.org/10.1146/annurev.energy.31.042605.135621

Lenway, S., Schuler, D., Marens, R., Werner, T., & Green, C. (2022). The Evolving Political Marketplace: Revisiting 60 Years of Theoretical Dominance Through a Review of Corporate Political Activity Scholarship in Business & Society and Major Management Journals. *Business and Society*, *61*(5), 1416–1470. https://doi.org/10.1177/00076503221084660

Levy, D. L., & Kolk, A. (2002). Strategic Responses to Global Climate Change: Conflicting Pressures on Multinationals in the Oil Industry. *Business and Politics*, *4*(3), 275–300. https://doi.org/10.2202/1469-3569.1042

Lewis, F., Butler, A., & Gilbert, L. (2011). A unified approach to model selection using the likelihood ratio test. *Methods in Ecology and Evolution*, *2*(2), 155–162. https://doi.org/10.1111/j.2041-210X.2010.00063.x

Lexchin, J. (2023). Complaints about Violations of Voluntary and Pharmaceutical Industry-Run

Medicine Promotion Codes in Canada. *International Journal of Social Determinants of Health and Health Services*, 275519382311651. https://doi.org/10.1177/27551938231165158

Li, R., & Ramanathan, R. (2018). Exploring the relationships between different types of environmental regulations and environmental performance: Evidence from China. *Journal of Cleaner Production*, *196*, 1329–1340. https://doi.org/10.1016/j.jclepro.2018.06.132

Li, X., & Zhou, Y. M. (2017). Offshoring Pollution while Offshoring Production? *Strategic Management Journal*, *38*(11), 2310–2329. https://doi.org/10.1002/SMJ.2656

Lieberman, M. B., & Montgomery, D. B. (1988). First-mover advantages. *Strategic Management Journal*, *9*(S1), 41–58. https://doi.org/10.1002/SMJ.4250090706

Liedong, T. A., Peprah, A. A., Amartey, A. O., & Rajwani, T. (2020). Institutional voids and firms' resource commitment in emerging markets: A review and future research agenda. *Journal of International Management*, *26*(3). https://doi.org/10.1016/j.intman.2020.100756

Lin, H. (2012). Cross-sector Alliances for Corporate Social Responsibility Partner Heterogeneity Moderates Environmental Strategy Outcomes. *Journal of Business Ethics*, *110*(2), 219–229. https://doi.org/10.1007/s10551-012-1423-2

Lin, H., & Darnall, N. (2010). Strategic alliances for environmental protection. In *Facilitating Sustainable Innovation through Collaboration: A Multi-Stakeholder Perspective*. https://doi.org/10.1007/978-90-481-3159-4_13

Liou, R.-S., & Rao-Nicholson, R. (2021). Multinational enterprises and Sustainable Development Goals: A foreign subsidiary perspective on tackling wicked problems. *Journal of International Business Policy*, *4*(1), 136–151. https://doi.org/10.1057/s42214-020-00080-8

Lister, J., Poulsen, R. T., & Ponte, S. (2015). Orchestrating transnational environmental governance in maritime shipping. *Global Environmental Change*, *34*, 185–195. https://doi.org/10.1016/j.gloenvcha.2015.06.011

Liu, S. Y. H., Napier, E., Runfola, A., & Cavusgil, S. T. (2020). MNE-NGO partnerships for sustainability and social responsibility in the global fast-fashion industry: A loose-coupling perspective. *International Business Review*, *29*(5). https://doi.org/10.1016/j.ibusrev.2020.101736

Loorbach, D., Frantzeskaki, N., & Avelino, F. (2017). Sustainability Transitions Research: Transforming Science and Practice for Societal Change. *Annual Review of Environment and Resources*, *42*, 599–626. https://doi.org/10.1146/annurev-environ-102014-021340

Lord, M. D. (1995). an Agency Theory Assessment of the Influence of Corporate Grassroots Political Activism. *Academy of Management Proceedings*, *1995*(1), 396–400. https://doi.org/10.5465/ambpp.1995.17536678

Luo, Y., & Tung, R. L. (2007). International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, *38*(4), 481–498. https://doi.org/10.1057/palgrave.jibs.8400275

Luo, Y., & Zhao, H. (2013). Doing Business in a Transitional Society: Economic Environment and Relational Political Strategy for Multinationals. *Business and Society*, *52*(3), 515–549. https://doi.org/10.1177/0007650309338365

Maas, S., Schuster, T., & Hartmann, E. (2018a). Stakeholder Pressures, Environmental Practice Adoption and Economic Performance in the German Third-party Logistics Industry—A Contingency Perspective. *Journal of Business Economics*, *88*(2), 167–201.

https://doi.org/10.1007/s11573-017-0872-6

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly: Management Information Systems*, *35*(2), 293–334. https://doi.org/10.2307/23044045

Majumdar, S. K., & Marcus, A. A. (2001). Rules Versus Discretion: The Productivity Consequences of Flexible Regulation. *Https://Doi.Org/10.5465/3069344*, *44*(1), 170–179. https://doi.org/10.5465/3069344

Mann, M. E., & Gleick, P. H. (2015). Climate change and California drought in the 21st century. *Proceedings of the National Academy of Sciences of the United States of America*, *112*(13), 3858–3859. https://doi.org/10.1073/pnas.1503667112

Marano, V., & Kostova, T. (2016). Unpacking the Institutional Complexity in Adoption of CSR Practices in Multinational Enterprises. *Journal of Management Studies*, *53*(1), 28–54. https://doi.org/10.1111/joms.12124

Marano, V., Tashman, P., & Kostova, T. (2017). Escaping the iron cage: Liabilities of origin and CSR reporting of emerging market multinational enterprises. *Journal of International Business Studies*, *48*(3), 386–408. https://doi.org/10.1057/jibs.2016.17

Markard, J., Raven, R., & Truffer, B. (2012). Sustainability transitions: An emerging field of research and its prospects. *Research Policy*, *41*(6), 955–967. https://doi.org/10.1016/j.respol.2012.02.013

Marshall, R. S., Akoorie, M. E. M., Hamann, R., & Sinha, P. (2010). Environmental practices in the wine industry: An empirical application of the theory of reasoned action and stakeholder theory in the United States and New Zealand. *Journal of World Business*, *45*(4), 405–414. https://doi.org/10.1016/j.jwb.2009.08.009

Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, *12*(1), 23–44. https://doi.org/10.1037/1082-989X.12.1.23

McDonnell, M. H., & King, B. (2013). Keeping up Appearances: Reputational Threat and Impression Management after Social Movement Boycotts. *Administrative Science Quarterly*, *58*(3), 387–419. https://doi.org/10.1177/0001839213500032

Menard, S. (2014). Logistic Regression: From Introductory to Advanced Concepts and Applications. In *Logistic Regression: From Introductory to Advanced Concepts and Applications*. Sage. https://doi.org/10.4135/9781483348964

Meyer, J. W., & Jepperson, R. L. (2000). The "actors" of modern society: The cultural construction of social agency. *Sociological Theory*, *18*(1), 100–120. https://doi.org/10.1111/0735-2751.00090

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, *83*(2), 340–363. https://doi.org/10.1086/226550

Michael Geringer, J., Beamish, P. W., & Dacosta, R. C. (1989). Diversification strategy and internationalization: Implications for mne performance. *Strategic Management Journal*, *10*(2), 109–119. https://doi.org/10.1002/smj.4250100202

Midi, H., Sarkar, S. K., & Rana, S. (2010). Collinearity diagnostics of binary logistic regression model. *Journal of Interdisciplinary Mathematics*, *13*(3), 253–267. https://doi.org/10.1080/09720502.2010.10700699

Miller, N., Pedersen, W. C., & Pollock, V. E. (2000). *Discriminative validity. Validity and social*

*experimentation: Donald Campbell's legacy*. 65–99.

Miller. (2008). *Environmental politics: Stakeholders, interests, and policymaking*. Routledge.

Mingers, J. (2003). A classification of the philosophical assumptions of management science methods. *Journal of the Operational Research Society*, *54*(6), 559–570. https://doi.org/10.1057/palgrave.jors.2601436

Mitchell, R. B. (2003). International environmental agreements: A survey of their features, formation, and effects. *Annual Review of Environment and Resources*, *28*, 429–461. https://doi.org/10.1146/annurev.energy.28.050302.105603

Mitchell, T. R., & James, L. R. (2001). Building better theory: Time and the specification of when things happen. *Academy of Management Review*, *26*(4), 530–547. https://doi.org/10.5465/AMR.2001.5393889

Mitnick, B. M., Windsor, D., & Wood, D. J. (2023). Moral CSR. *Business and Society*, *62*(1), 192–220. https://doi.org/10.1177/00076503221086881

Mombeuil, C., Diunugala, H. P., & Saint Fleur, W. (2023). Social movement activism, institutional pressures, corporate social responsibility, and corporate hypocrisy: Mapping the direct and indirect effects. *Journal of Marketing Communications*. https://doi.org/10.1080/13527266.2023.2166567

Morrison, T. H., Adger, W. N., Brown, K., Lemos, M. C., Huitema, D., Phelps, J., Evans, L., Cohen, P., Song, A. M., Turner, R., Quinn, T., & Hughes, T. P. (2019). The black box of power in polycentric environmental governance. In *Global Environmental Change* (Vol. 57). https://doi.org/10.1016/j.gloenvcha.2019.101934

Mouton, J., & Marais, H. C. (1990). Basic concepts in the methodology of the social sciences (Revised ed.). In *Pretoria, South Africa: Human Sciences Research Council*. Hsrc Press.

Nathwani, J., Lind, N., Renn, O., & Schellnhuber, H. J. (2021). Balancing health, economy and climate risk in a multi-crisis. *Energies*, *14*(14). https://doi.org/10.3390/en14144067

Nayyar, R., & Maity, R. (2021). Overcoming institutional voids in the home country for internationalization: an exploratory examination of institutional strategies of Indian MNEs. *Transnational Corporations*, *28*(3), 97–126. https://doi.org/10.18356/2076099x-28-3-4

Nelson, J. (2007). The Operation of Non- Governmental Organizations ( NGOs ) in a World of Corporate and Other Codes of Conduct. *Corporate Social Responsibility Initiative.*

Nieri, F., Rodriguez, P., & Ciravegna, L. (2023). Corporate misconduct in GVCs: challenges and potential avenues for MNEs. *Journal of Industrial and Business Economics*, *50*(1), 193–207. https://doi.org/10.1007/s40812-022-00235-z

Nippa, M., Patnaik, S., & Taussig, M. (2021). MNE responses to carbon pricing regulations: Theory and evidence. *Journal of International Business Studies*, *52*(5), 904–929. https://doi.org/10.1057/s41267-021-00403-8

Oliver, C. (1991). Strategic Responses To Institutional Processes. *Academy of Management Review*, *16*(1), 145–179. https://doi.org/10.5465/amr.1991.4279002

Ostrom, E. (2008). Developing a method for analyzing institutional change. In *Alternative Institutional Structures* (pp. 66–94). Routledge. https://doi.org/10.4324/9780203894439-8

Ostrom, E. (2010). Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change*, *20*(4), 550–557. https://doi.org/10.1016/j.gloenvcha.2010.07.004

Ostrom, E. (2012). Nested externalities and polycentric institutions: Must we wait for global solutions to climate change before taking actions at other scales? *Economic Theory*, *49*(2),

353–369. https://doi.org/10.1007/s00199-010-0558-6

Ovaere, L., Proost, S., & Rousseau, S. (2013). The choice of environmental regulatory enforcement by lobby groups. *Journal of Environmental Economics and Policy*, *2*(3), 328–347. https://doi.org/10.1080/21606544.2013.836136

Paavola, J. (2007). Institutions and environmental governance: A reconceptualization. *Ecological Economics*, *63*(1), 93–103. https://doi.org/10.1016/j.ecolecon.2006.09.026

Pan, W. F. (2023). Does a firm's lobbying activity respond to its peers' lobbying activity? *Public Choice*, *194*(3–4), 297–324. https://doi.org/10.1007/s11127-022-01033-w

Park, B. Il, & Cave, A. H. (2018). Corporate social responsibility in international joint ventures: Empirical examinations in South Korea. *International Business Review*, *27*(6), 1213–1228. https://doi.org/10.1016/j.ibusrev.2018.05.003

Parker, C. M., Redmond, J., & Simpson, M. (2009). A review of interventions to encourage SMEs to make environmental improvements. *Environment and Planning C: Government and Policy*, *27*(2), 279–301. https://doi.org/10.1068/c0859b

Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & de Colle, S. (2010). Stakeholder Theory: The State of the Art . *Academy of Management Annals*, *4*(1), 403–445. https://doi.org/10.5465/19416520.2010.495581

Patnaik, S. (2019). A cross-country study of collective political strategy: Greenhouse gas regulations in the European Union. *Journal of International Business Studies*, *50*(7), 1130–1155. https://doi.org/10.1057/s41267-019-00238-4

Peñasco, C., del Río, P., & Romero-Jordán, D. (2017). Analysing the Role of International Drivers for Eco-innovators. *Journal of International Management*, *23*(1), 56–71. https://doi.org/10.1016/j.intman.2016.09.001

Peng, C., & Jiang, H. (2021). The Influence of Host Country's Environmental Regulation on Enterprises' Risk Preference of Multinational Investment. *Frontiers in Environmental Science*, *9*. https://doi.org/10.3389/fenvs.2021.667633

Peters, M., Schneider, M., Griesshaber, T., & Hoffmann, V. H. (2012). The impact of technology-push and demand-pull policies on technical change – Does the locus of policies matter? *Research Policy*, *41*(8), 1296–1308. https://doi.org/10.1016/J.RESPOL.2012.02.004

Phan, T. N., & Baird, K. (2015). The comprehensiveness of environmental management systems: The influence of institutional pressures and the impact on environmental performance. *Journal of Environmental Management*, *160*, 45–56. https://doi.org/10.1016/j.jenvman.2015.06.006

Pinkse, J., & Kolk, A. (2012). Multinational enterprises and climate change: Exploring institutional failures and embeddedness. *Journal of International Business Studies*, *43*(3), 332–341. https://doi.org/10.1057/jibs.2011.56

Plambeck, E., Lee, H. L., & Yatsko, P. (2012). Improving environmental performance in your Chinese supply chain. *MIT Sloan Management Review*, *53*(2), 43–51.

Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, *36*(1), 94–120. https://doi.org/10.1177/0149206309352110

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Poisson-de Haro, S., & Bitektine, A. (2015). Global sustainability pressures and strategic choice: The role of firms' structures and non-market capabilities in selection and implementation of sustainability initiatives. *Journal of World Business*, *50*(2), 326–341. https://doi.org/10.1016/j.jwb.2014.10.009

Popp, D., Hafner, T., & Johnstone, N. (2011). Environmental policy vs. public pressure: Innovation and diffusion of alternative bleaching technologies in the pulp industry. *Research Policy*, *40*(9), 1253–1268. https://doi.org/10.1016/J.RESPOL.2011.05.018

Porter, M. E., & van der Linde, C. (1995). Toward a New Conception of the Environment-Competitiveness Relationship. *Journal of Economic Perspectives*, *9*(4), 97–118. https://doi.org/10.1257/JEP.9.4.97

Posocco, L., & McNeill, J. R. (2023). Climate change: Comparing "green" and "polluting" nation-states. *Frontiers in Sociology*, *8*. https://doi.org/10.3389/fsoc.2023.1133333

Potoski, Matthew; Prakash, A. (2009). Voluntary Programs. A Club Theory Perspective. In *Voluntary Programs*. MIT Press.

Potoski, M., & Prakash, A. (2005). Green clubs and voluntary governance: ISO 14001 and firms' regulatory compliance. *American Journal of Political Science*, *49*(2), 235–248. https://doi.org/10.1111/j.0092-5853.2005.00120.x

Prakash, A., & Potoski, M. (2007). Collective action through voluntary environmental programs: A club theory perspective. *Policy Studies Journal*, *35*(4), 773–792. https://doi.org/10.1111/j.1541-0072.2007.00247.x

Preuss, L., Vazquez-Brust, D., Yakovleva, N., Foroughi, H., & Mutti, D. (2022). When social movements close institutional voids: Triggers, processes, and consequences for multinational enterprises. *Journal of World Business*, *57*(1). https://doi.org/10.1016/j.jwb.2021.101283

Price, P. C., Jhangiani, R. S., & Chiang, I. C. A. (2015). Overview of nonexperimental research. *Research Methods in Psychology*.

Puertas, R., & Marti, L. (2021). International ranking of climate change action: An analysis using the indicators from the Climate Change Performance Index. *Renewable and Sustainable Energy Reviews*, *148*. https://doi.org/10.1016/j.rser.2021.111316

Putnam, H. (1987). Truth and Convention: On Davidson's Refutation of Conceptual Relativism. In *Dialectica* (Vol. 41, Issues 1–2). dialectica, 41(1-2). https://doi.org/10.1111/j.1746-8361.1987.tb00880.x

Qi, R., Liu, T., Jia, Q., Sun, L., & Liu, J. (2019). Simulating the sustainable effect of green mining construction policies on coal mining industry of China. *Journal of Cleaner Production*, *226*, 392–406. https://doi.org/10.1016/j.jclepro.2019.04.028

Rajwani, T., & Liedong, T. A. (2015). Political activity and firm performance within nonmarket research: A review and international comparative assessment. *Journal of World Business*, *50*(2), 273–283. https://doi.org/10.1016/j.jwb.2014.10.004

Ramirez, J. (2021). Governance in energy democracy for Sustainable Development Goals: Challenges and opportunities for partnerships at the Isthmus of Tehuantepec. *Journal of International Business Policy*, *4*(1), 119–135. https://doi.org/10.1057/s42214-020-00077-3

Rathert, N. (2016). Strategies of legitimation: MNEs and the adoption of CSR in response to host-country institutions. *Journal of International Business Studies*, *47*(7), 858–879. https://doi.org/10.1057/jibs.2016.19

Reddy, C. D., & Hamann, R. (2018). Distance Makes the (Committed) Heart Grow Colder:

MNEs' Responses to the State Logic in African Variants of CSR. *Business and Society*, *57*(3), 562–594. https://doi.org/10.1177/0007650316629127

Rentschler, J., & Bazilian, M. (2017). Reforming fossil fuel subsidies: drivers, barriers and the state of progress. *Climate Policy*, *17*(7), 891–914. https://doi.org/10.1080/14693062.2016.1169393

Rhee, Y. P., Park, C., & Petersen, B. (2021). The effect of local stakeholder pressures on responsive and strategic CSR activities. *Business & society,* 60(3), 582-613.

Ringquist, E. J., & Kostadinova, T. (2005). Assessing the effectiveness of international environmental agreements: The case of the 1985 Helsinki protocol. *American Journal of Political Science*, *49*(1), 86–102. https://doi.org/10.1111/j.0092-5853.2005.00112.x

Rodgers, P., Stokes, P., Tarba, S., & Khan, Z. (2019). The Role of Non-market Strategies in Establishing Legitimacy: The Case of Service MNEs in Emerging Economies. *Management International Review*, *59*(4), 515–540. https://doi.org/10.1007/s11575-019-00385-8

Rodriguez, P., Siegel, D. S., Hillman, A., & Eden, L. (2006). Three lenses on the multinational enterprise: Politics, corruption, and corporate social responsibility. *Journal of International Business Studies*, *37*(6), 733–746. https://doi.org/10.1057/palgrave.jibs.8400229

Rogge, K. S., & Johnstone, P. (2017). Exploring the role of phase-out policies for low-carbon energy transitions: The case of the German Energiewende. *Energy Research and Social Science*, *33*(September), 128–137. https://doi.org/10.1016/j.erss.2017.10.004

Rogge, K. S., & Reichardt, K. (2016). Policy mixes for sustainability transitions: An extended concept and framework for analysis. *Research Policy*, *45*(8), 1620–1635. https://doi.org/10.1016/j.respol.2016.04.004

Rossiter, J. R. (2008). Content validity of measures of abstract constructs in management and organizational research. *British Journal of Management*, *19*(4), 380–388. https://doi.org/10.1111/j.1467-8551.2008.00587.x

Roy Suddaby. (2010). Editor's Comments: Construct Clarity in Theories of Management and Organization. *Academy of Management Review*, *35*(3), 346–357. https://doi.org/10.5465/amr.35.3.zok346

Rugman, A. M. ;, & Verbeke, A. (1998). Corporate strategy and international environmental policy. In *Journal of International Business Studies; Fourth Quarter* (Vol. 29).

Rugman, A. M., & Verbeke, A. (1998). Corporate strategies and environmental regulations: An organizing framework. *Strategic Management Journal*, *19*(4), 363–375. https://doi.org/10.1002/(SICI)1097-0266(199804)19:4<363::AID-SMJ974>3.0.CO;2-H

Salamon, L. M. (2002). The Tools of government: a guide to the new governance. In *Choice Reviews Online* (Vol. 40, Issue 04, pp. 40-2422-40–2422). New York: Oxford University Press. https://doi.org/10.5860/choice.40-2422

Sarma, K. M., & Andersen, S. O. (2011). Science and Diplomacy: Montreal Protocol on Substances that Deplete the Ozone Layer. *Science Diplomacy : Science, Antarctica, and the Governance of International Spaces*, 123–131. https://doi.org/10.5479/si.9781935623069.123

Saunders, M. A., Lewis, P., & Thornhill, A. (2012). Research Methods for Business Students Sixth Edition Research Methods for Business Students. In *Research Methods for Business Students*. Pearson education. www.pearson.com/uk%0Ahttps://www.amazon.com/Research-Methods-for-Business-Students/dp/1292208783/ref=sr_1_2?dchild=1&qid=1614706531&refinements=p_27%3A

Adrian+Thornhill+%2F+Philip+Lewis+%2F+Mark+N.+K.+Saunders&s=books&sr=1-2&text=Adrian+Thornhill+%2F+Phili

Schepers, D. H. (2006). The impact of NGO network conflict on the corporate social responsibility strategies of multinational corporations. *Business and Society*, *45*(3), 282–299. https://doi.org/10.1177/0007650306289386

Schuler, D., Rasche, A., Etzion, D., & Newton, L. (2017). Guest Editors' Introduction: Corporate Sustainability Management and Environmental Ethics. *Business Ethics Quarterly*, *27*(2), 213–237. https://doi.org/10.1017/beq.2016.80

Schumpeter, J. (1942). Creative destruction. Capitalism. *Socialism and Democracy*, *825*(82–85).

Scott, W. R., Ruef, M., Mendel, P. J., & Caronna, C. A. (2000). *Institutional change and healthcare organizations: from professional dominance to managed care*. University of Chicago press.

Scott, W. R. (1995). Institutions and Organizations: Foundations for Organizational Science. In *Legal Theory* (Vol. 1, Issue 3). London: A Sage Publication Series.

Senaviratna, N. A. M. R., & A. Cooray, T. M. J. (2019). Diagnosing Multicollinearity of Logistic Regression Model. *Asian Journal of Probability and Statistics*, *5*(2), 1–9. https://doi.org/10.9734/ajpas/2019/v5i230132

Setyorini, & I. (2012). Corporate social and environmental reporting: A case of mimetic isomorphism. *American International Journal of Contemporary Research*, *2(5)*, 11–17.

Shadish, W., Campbell, D. T., & Cook, T. D. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (Vol. 1195). Boston, MA: Houghton Mifflin.

Sharfman, M. P., Shaft, T. M., & Tihanyi, L. (2004). A Model of the Global and Institutional Antecedents of High-Level Corporate Environmental Performance. *Business & Society*, *43*(1), 6–36. https://doi.org/10.1177/0007650304262962

Sharma, S., & Henriques, I. (2005). Stakeholder influences on sustainability practices in the Canadian forest products industry. *Strategic Management Journal*, *26*(2), 159–180. https://doi.org/10.1002/smj.439

Sharma, S., & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, *19*(8), 729–753. https://doi.org/10.1002/(sici)1097-0266(199808)19:8<729::aid-smj967>3.0.co;2-4

Shirodkar, V., McGuire, S., & Strange, R. (2020). *MNEs, Organizational Legitimacy, and the Need for Non-market Strategies*. 1–15. https://doi.org/10.1007/978-3-030-35074-1_1

Shubham, Charan, P., & Murty, L. S. (2018). Secondary stakeholder pressures and organizational adoption of sustainable operations practices: The mediating role of primary stakeholders. *Business Strategy and the Environment*, *27*(7), 910–923. https://doi.org/10.1002/bse.2041

Silva, A., & Stocker, L. (2018). What is a transition? Exploring visual and textual definitions among sustainability transition networks. *Global Environmental Change*, *50*, 60–74. https://doi.org/10.1016/J.GLOENVCHA.2018.02.003

Smith, A., Voß, J. P., & Grin, J. (2010). Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Research Policy*, *39*(4), 435–448. https://doi.org/10.1016/J.RESPOL.2010.01.023

Sonpar, K., Pazzaglia, F., & Kornijenko, J. (2010). The Paradox and Constraints of Legitimacy. *Journal of Business Ethics*, *95*(1), 1–21. https://doi.org/10.1007/s10551-009-0344-1

Stegmaier, P., Kuhlmann, S., & Visser, V. R. (2014). The discontinuation of socio-technical systems as a governance problem. *The Governance of Socio-Technical Systems: Explaining Change*, 111–131. https://doi.org/10.4337/9781784710194.00015

Stimpson, S., Todesco, J., & Maginley, A. (2016). Strategies for Risk Management and Corporate Social Responsibility for Oil and Gas Companies in Emerging Markets. *Alberta Law Review*, *53*, 259. https://doi.org/10.29173/alr404

Stoian, C., & Mohr, A. (2016). Outward foreign direct investment from emerging economies: escaping home country regulative voids. *International Business Review*, *25*(5), 1124–1135. https://doi.org/10.1016/j.ibusrev.2016.02.004

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research*. SAGE Publications.

Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Https://Doi.Org/10.5465/Amr.1995.9508080331*, *20*(3), 571–610. https://doi.org/10.5465/AMR.1995.9508080331

Sullivan, R. (2009). The management of greenhouse gas emissions in large European companies. *Corporate Social Responsibility and Environmental Management*, *16*(6), 301–309. https://doi.org/10.1002/csr.187

Tallman, S., & Li, J. (1996). Effects of International Diversity and Product Diversity on the Performance of Multinational Firms. *Academy of Management Journal*, *39*(1), 179–196. https://doi.org/10.5465/256635

Tang, Q., & Luo, L. (2014). Carbon management systems and carbon mitigation. *Australian Accounting Review*, *24*(1), 84–98. https://doi.org/10.1111/auar.12010

Tansey, R., White, M., Long, R. G., & Smith, M. (1996). A comparison of loglinear modeling and logistic regression in management research. *Journal of Management*, *22*(2), 339–358. https://doi.org/10.1016/S0149-2063(96)90052-5

Tashakkori, A., & Teddlie, C. (2003). Issues and dilemmas in teaching research methods courses in social and behavioural sciences: US perspective. *International Journal of Social Research Methodology: Theory and Practice*, *6*(1), 61–77. https://doi.org/10.1080/13645570305055

Tashman, P., Marano, V., & Kostova, T. (2019). Walking the walk or talking the talk? Corporate social responsibility decoupling in emerging market multinationals. *Journal of International Business Studies*, *50*(2), 153–171. https://doi.org/10.1057/s41267-018-0171-7

Tatoglu, E., Bayraktar, E., Sahadev, S., Demirbag, M., & Glaister, K. W. (2014). Determinants of voluntary environmental management practices by MNE subsidiaries. *Journal of World Business*, *49*(4), 536–548. https://doi.org/10.1016/j.jwb.2013.12.007

Tharenou, P., Donohue, R., & Cooper, B. (2007). Management research methods. In *Management Research Methods* (Vol. 9780521694). Cambridge University Press. https://doi.org/10.1017/CBO9780511810527

Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The institutional logics perspective: A new approach to culture, structure and process*. OUP Oxford.

Tienhaara, K., Orsini, A., & Falkner, R. (2012). *Global corporations. Global environmental governance reconsidered*.

Timmermans, S., & Tavory, I. (2012). Theory construction in qualitative research: From grounded theory to abductive analysis. *Sociological Theory*, *30*(3), 167–186. https://doi.org/10.1177/0735275112457914

Tong, T. W., & Reuer, J. J. (2007). Real options in multinational corporations: Organizational

challenges and risk implications. *Journal of International Business Studies*, *38*(2), 215–230. https://doi.org/10.1057/palgrave.jibs.8400260

Toppinen, A., & Korhonen-Kurki, K. (2013). Global Reporting Initiative and social impact in managing corporate responsibility: A case study of three multinationals in the forest industry. *Business Ethics*, *22*(2), 202–217. https://doi.org/10.1111/beer.12016

Truelove, H. B., Carrico, A. R., Weber, E. U., Raimi, K. T., & Vandenbergh, M. P. (2014). Positive and negative spillover of pro-environmental behavior: An integrative review and theoretical framework. *Global Environmental Change*, *29*, 127–138. https://doi.org/10.1016/J.GLOENVCHA.2014.09.004

Trusty, J. (2017). *Creating and Measuring Shared Economic and Social Value in Developing Countries Through Cross-Sector Partnerships*.

UNEP. (2021). *Making Peace with Nature*. https://www.unep.org/resources/making-peace-nature

Van der Byl, C., Slawinski, N., & Hahn, T. (2020). Responsible management of sustainability tensions: a paradoxical approach to grand challenges. *Research Handbook of Responsible Management*, 438–452. https://doi.org/10.4337/9781788971966.00038

van der Hoeven, N. (2005). The probability to select the correct model using likelihood-ratio based criteria in choosing between two nested models of which the more extended one is true. *Journal of Statistical Planning and Inference*, *135*(2), 477–486. https://doi.org/10.1016/j.jspi.2004.04.025

Van der Meer, T., Te Grotenhuis, M., & Pelzer, B. (2010). Influential cases in multilevel modeling: A methodological comment. *American Sociological Review*, *75*(1), 173–178. https://doi.org/10.1177/0003122409359166

Vargas-Sánchez, A., & Riquel-Ligero, F. J. (2016). Institutional pressures, environmental responsibility and social legitimacy: Longitudinal analysis applied to golf tourism. In *Impact Assessment in Tourism Economics* (pp. 173–187). Springer International Publishing. https://doi.org/10.1007/978-3-319-14920-2_12

Vormedal, I., & Skjærseth, J. B. (2020). The good, the bad, or the ugly? Corporate strategies, size, and environmental regulation in the fish-farming industry. *Business and Politics*, *22*(3), 510–536. https://doi.org/10.1017/bap.2019.30

Wagner, M. (2015). A European perspective on country moderation effects: Environmental management systems and sustainability-related human resource benefits. *Journal of World Business*, *50*(2), 379–388. https://doi.org/10.1016/j.jwb.2014.08.005

Wagner, S. M. (2013). Why Do MNEs Engage in MNE-Government Relations? Empirical Evidence from the European Union and the Automotive Industry. *The Changing Geography of International Business*, 54–76. https://doi.org/10.1057/9781137277503_5

Wang, L., Li, S., & Gao, S. (2014). Do greenhouse gas emissions affect financial performance? - An empirical examination of Australian public firms. *Business Strategy and the Environment*, *23*(8), 505–519. https://doi.org/10.1002/bse.1790

Wang, S. L., & Li, D. (2019). Responding to public disclosure of corporate social irresponsibility in host countries: Information control and ownership control. *Journal of International Business Studies*, *50*(8), 1283–1309. https://doi.org/10.1057/s41267-019-00224-w

Wang, S., Li, J., & Zhao, D. (2018). Institutional Pressures and Environmental Management Practices: The Moderating Effects of Environmental Commitment and Resource Availability. *Business Strategy and the Environment*, *27*(1), 52–69.

https://doi.org/10.1002/bse.1983

White, H., & Sabarwal, S. (2014). *Quasi-experimental design and methods: Methodological briefs-Impact evaluation. No. 8 (No.*

White, G. O., Hemphill, T. A., Joplin, J. R. W., & Marsh, L. A. (2014). Wholly owned foreign subsidiary relation-based strategies in volatile environments. *International Business Review*, *23*(1), 303–312. https://doi.org/10.1016/j.ibusrev.2013.05.006

Whitmarsh, L. (2009). Behavioural responses to climate change: Asymmetry of intentions and impacts. *Journal of Environmental Psychology*, *29*(1), 13–23. https://doi.org/10.1016/j.jenvp.2008.05.003

Widerberg, O., Emil, K., & Kristensen, G. (2016). *Mapping the institutional architecture on global climate change governance. V.2 Fragmentation of Global Environmental Governance View project European Commission, DG Environment project on policy options for a future EU biodiversity strategy post-2010 View project*. https://doi.org/10.13140/RG.2.1.1514.2004

Williams, L. J., Edwards, J. R., & Vadenberg, R. J. (2003). Recent advances in causal modeling methods for organizational management research. *Journal of Management*, *29*(6), 903–936. https://doi.org/10.1016/S0149-2063(03)00084-9

Wilson, Jeff rey R., K. A. L. (2015). *Modeling Binary Correlated Responses using SAS, SPSS and R*. Springer.

Windsor, D. (2007). Toward a global theory of cross-border and multilevel corporate political activity. *Business and Society*, *46*(2), 253–278. https://doi.org/10.1177/0007650307301387

Yang, C. S. (2018). An analysis of institutional pressures, green supply chain management, and green performance in the container shipping context. *Transportation Research Part D: Transport and Environment*, *61*, 246–260. https://doi.org/10.1016/j.trd.2017.07.005

Yildirim, A., Clarysse, B., & Wright, M. (2022). The impact of institutional voids and ecosystem logics in the spread of ecosystems in emerging economies. *Industry and Innovation*, *29*(5), 649–671. https://doi.org/10.1080/13662716.2021.2007760

Yildirim, J., Alpaslan, B., & Eker, E. E. (2021). The role of social capital in environmental protection efforts: evidence from Turkey. *Journal of Applied Statistics*, *48*(13–15), 2626–2642. https://doi.org/10.1080/02664763.2020.1843609

Young, S. L., & Makhija, M. V. (2014). Firms' corporate social responsibility behavior: An integration of institutional and profit maximization approaches. *Journal of International Business Studies*, *45*(6), 670–698. https://doi.org/10.1057/jibs.2014.29

Zaheer, S. (2015). Overcoming the liability of foreignness. *International Business Strategy: Theory and Practice*, 362–380. https://doi.org/10.5465/256683

Zhang, Z., Guan, D., Wang, R., Meng, J., Zheng, H., Zhu, K., & Du, H. (2020). Embodied carbon emissions in the supply chains of multinational enterprises. *Nature Climate Change*, *10*(12), 1096–1101. https://doi.org/10.1038/s41558-020-0895-9

Zhao, A., Wang, J., Sun, Z., & Guan, H. (2022). Environmental taxes, technology innovation quality and firm performance in China—A test of effects based on the Porter hypothesis. *Economic Analysis and Policy*, *74*, 309–325. https://doi.org/10.1016/j.eap.2022.02.009

Zhao, M., Tan, J., & Park, S. H. (2014). From voids to sophistication: Institutional environment and MNC CSR crisis in emerging markets. *Journal of Business Ethics*, *122*(4), 655–674. https://doi.org/10.1007/s10551-013-1751-x

Zhao, Y., Parente, R., Song, M., & Wenger, L. (2020). Host country institutional diversity and

MNE performance persistence. *Journal of Business Research*, *113*, 1–12. https://doi.org/10.1016/j.jbusres.2020.03.018

Zheng, Q., Luo, Y., & Maksimov, V. (2015). Achieving legitimacy through corporate social responsibility: The case of emerging economy firms. *Journal of World Business*, *50*(3), 389–403. https://doi.org/10.1016/j.jwb.2014.05.001

Zhenmin, L., & Espinosa, P. (2019). Tackling climate change to accelerate sustainable development. *Nature Climate Change 2019 9:7*, *9*(7), 494–496. https://doi.org/10.1038/s41558-019-0519-4

Zhu, Q., & Sarkis, J. (2007). The moderating effects of institutional pressures on emergent green supply chain practices and performance. *International Journal of Production Research*, *45*(18–19), 4333–4355. https://doi.org/10.1080/00207540701440345

Žukauskas, P., Vveinhardt, J., & Andriukaitienė, R. (2018). Management Culture and Corporate Social Responsibility. In *Management Culture and Corporate Social Responsibility*. BoD–Books on Demand. https://doi.org/10.5772/65483

## Appendices

## Appendix I: Principal Component Analysis (PCA) on Worldwide Governance Indicators (WGI) for Institutional Voids

As described earlier, below are steps initiated to extract institutional voids.

### Correlation Matrix

| | | CC_Estimate | GE_Estimate | PS_Estimate | RQ_Estimate | RL_Estimate | VA_Estimate |
|---|---|---|---|---|---|---|---|
| Correlation | CC_Estimate | 1.000 | .904 | .766 | .856 | .941 | .767 |
| | GE_Estimate | .904 | 1.000 | .728 | .931 | .928 | .692 |
| | PS_Estimate | .766 | .728 | 1.000 | .664 | .787 | .702 |
| | RQ_Estimate | .856 | .931 | .664 | 1.000 | .904 | .740 |
| | RL_Estimate | .941 | .928 | .787 | .904 | 1.000 | .786 |
| | VA_Estimate | .767 | .692 | .702 | .740 | .786 | 1.000 |

### KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .868 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1708.261 |
| | df | 15 |
| | Sig. | .000 |

### Anti-image Matrices

| | | CC_Estimate | GE_Estimate | PS_Estimate | RQ_Estimate | RL_Estimate | VA_Estimate |
|---|---|---|---|---|---|---|---|
| Anti-image Covariance | CC_Estimate | .100 | −.027 | −.007 | .017 | −.042 | −.035 |
| | GE_Estimate | −.027 | .074 | −.028 | −.056 | −.016 | .054 |
| | PS_Estimate | −.007 | −.028 | .332 | .051 | −.038 | −.088 |
| | RQ_Estimate | .017 | −.056 | .051 | .101 | −.022 | −.059 |
| | RL_Estimate | −.042 | −.016 | −.038 | −.022 | .064 | −.025 |
| | VA_Estimate | −.035 | .054 | −.088 | −.059 | −.025 | .307 |
| Anti-image Correlation | CC_Estimate | .891[a] | −.315 | −.039 | .172 | −.519 | −.201 |
| | GE_Estimate | −.315 | .831[a] | −.176 | −.642 | −.229 | .355 |
| | PS_Estimate | −.039 | −.176 | .913[a] | .276 | −.263 | −.277 |
| | RQ_Estimate | .172 | −.642 | .276 | .828[a] | −.269 | −.338 |
| | RL_Estimate | −.519 | −.229 | −.263 | −.269 | .885[a] | −.175 |
| | VA_Estimate | −.201 | .355 | −.277 | −.338 | −.175 | .875[a] |

a. Measures of Sampling Adequacy(MSA)

## Communalities

|  | Initial | Extraction |
|---|---|---|
| CC_Estimate | 1.000 | .911 |
| GE_Estimate | 1.000 | .896 |
| PS_Estimate | 1.000 | .706 |
| RQ_Estimate | 1.000 | .865 |
| RL_Estimate | 1.000 | .950 |
| VA_Estimate | 1.000 | .719 |

Extraction Method: Principal
Component Analysis.

## Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
|  | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.047 | 84.115 | 84.115 | 5.047 | 84.115 | 84.115 |
| 2 | .414 | 6.902 | 91.017 | | | |
| 3 | .311 | 5.182 | 96.199 | | | |
| 4 | .132 | 2.202 | 98.401 | | | |
| 5 | .051 | .855 | 99.256 | | | |
| 6 | .045 | .744 | 100.000 | | | |

Extraction Method: Principal Component Analysis.



Scree Plot
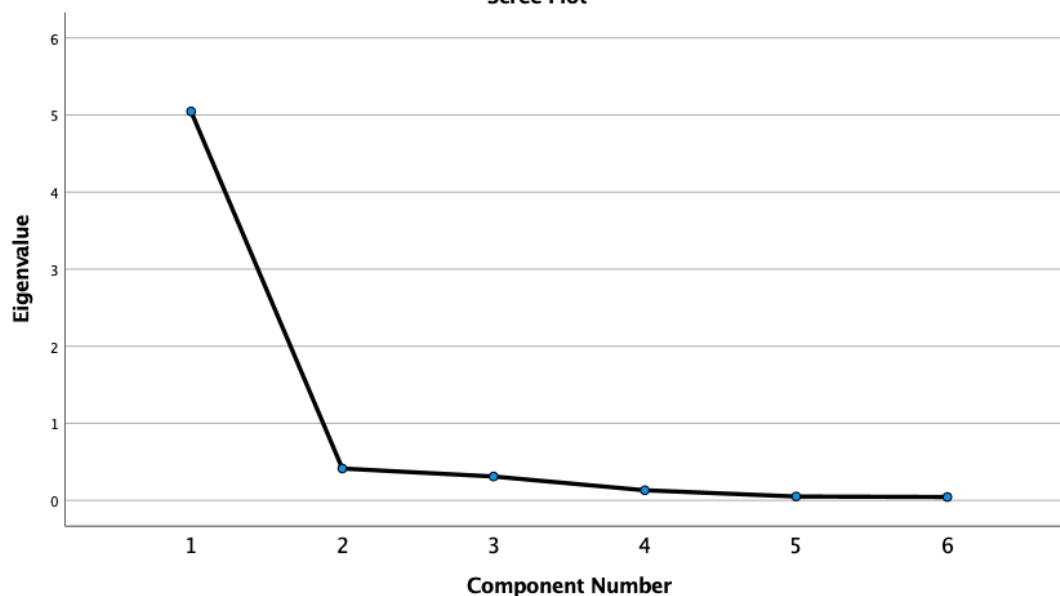
## Component Matrix[a]

| | Component 1 |
|---|---|
| RL_Estimate | .975 |
| CC_Estimate | .954 |
| GE_Estimate | .947 |
| RQ_Estimate | .930 |
| VA_Estimate | .848 |
| PS_Estimate | .840 |

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

### Reproduced Correlations

| | | CC_Estimate | GE_Estimate | PS_Estimate | RQ_Estimate | RL_Estimate | VA_Estimate |
|---|---|---|---|---|---|---|---|
| Reproduced Correlation | CC_Estimate | .911[a] | .904 | .802 | .888 | .930 | .809 |
| | GE_Estimate | .904 | .896[a] | .795 | .881 | .923 | .803 |
| | PS_Estimate | .802 | .795 | .706[a] | .781 | .819 | .712 |
| | RQ_Estimate | .888 | .881 | .781 | .865[a] | .907 | .789 |
| | RL_Estimate | .930 | .923 | .819 | .907 | .950[a] | .826 |
| | VA_Estimate | .809 | .803 | .712 | .789 | .826 | .719[a] |
| Residual[b] | CC_Estimate | | .000 | −.036 | −.032 | .011 | −.042 |
| | GE_Estimate | .000 | | −.068 | .051 | .005 | −.110 |
| | PS_Estimate | −.036 | −.068 | | −.118 | −.032 | −.010 |
| | RQ_Estimate | −.032 | .051 | −.118 | | −.003 | −.049 |
| | RL_Estimate | .011 | .005 | −.032 | −.003 | | −.041 |
| | VA_Estimate | −.042 | −.110 | −.010 | −.049 | −.041 | |

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals are computed between observed and reproduced correlations. There are 4 (26.0%) nonredundant residuals with absolute values greater than 0.05.

# Appendix II: Studies in international business with sample size (number of MNEs in data) and number of countries included in their sample size

| Author(s) | Journal | Year | Sample size | Home country | Host country |
|---|---|---|---|---|---|
| Greg Distelhorst, Richard M. Locke | AJPS | 2018 | 981 | 35 developing countries | * |
| Petra Christmann | AMJ | 2004 | 512 | US | * |
| Yang Pok Rhee, Chansoo Park, and Bui Petersen | BAS | 2021 | 177 | China, Vietnam, Bangladesh, Indonesia, Russia, Thailand, Philippines, Mexico, Mongolia | Korean foreign subsidiaries |
| Minna Halme, Jukka Rintamäki, Jette Steen Knudsen, Leena Lankoski, and Mika Kuisma1 | BAS | 2020 | 19 | Different European companies | * |
| Edward J. Carberry, Pratyush Bharati, David L. Levy, and Abhijit Chaudhury | BAS | 2019 | 425 | US | * |
| Colin David Reddy and Ralph Hamann | BAS | 2018 | 93 | Europe, Asia, NA | South Africa |
| Edeltraud Guenther, Thomas Guenther, Frank Schiemann, and Gabriel Weber | BAS | 2016 | 1120 | Europe, NA, Asia-Pacific | * |
| Ans Kolk, Jonatan Pinkse | BAS | 2007 | 218 | Europe, NA, Asia-Pacific | * |
| Lyton Chithambo, Ishmael Tingbani, Godfred Afrifa Agyapong, Ernest Gyapong, Isaac Sakyi Damoah | BSE | 2020 | 215 | UK | * |
| Dennis Kolcava, Lukas Rudolph, Thomas Bernauer | GEC | 2021 | 1941 | Switzerland | * |
| Jane Lister, René Taudal Poulsen, Stefano Ponte | GEC | 2015 | 37 | Denmark, Germany, Canada | * |
| Julian F. K lbel, Timo Busch | GSJ | 2019 | 604 | Germany, Switzerland, United States, Australia, United Kingdom, Italy, Canada, France, Netherlands, Finland, Sweden, Spain, and Japan | * |
| Kuo-Hsiung Chang, Donald F. Gotcher | IBR | 2020 | 124 | Taiwan | * |
| Dawn L. Keig, Lance Eliot Brouthers, Victor B. Marshall | IBR | 2019 | 408 | Europe, Asia, and North America | * |
| Norifumi Kawai, Roger Strange, Antonella Zucchella | IBR | 2018 | 123 | Japan | United States, Czech Republic, United Kingdom, Germany, Hungary, Poland, France, Netherlands, Canada, Belgium, Portugal, Spain, Turkey, Italy, Mexico, Romania, Russia, Sweden, Denmark, Ireland, Montenegro, Slovakia, and Switzerland |
| Norifumi Kawai, Roger Strange, Antonella Zucchella | IBR | 2018 | 123 | Japan | United States, Czech Republic, United Kingdom, Germany, Hungary, Poland, France, Netherlands, Canada, Belgium, Portugal, Spain, Turkey, Italy, Mexico, Romania, Russia, Sweden, Denmark, Ireland, |

| | | | | | Montenegro, Slovakia, and Switzerland |
|---|---|---|---|---|---|
| Byung Il Park, Adam H. Cave | IBR | 2018 | 118 | South Korea | * |
| Byung Il Park, Adam H. Cave | IBR | 2018 | 118 | South Korea | * |
| Luis Alfonso Dau, Elizabeth M. Moore, Jonathan P. Doh, and Margaret A. Soto | JIBP | 2021 | 11992 | 133 countries | Various |
| Jacobo Ramirez | JIBP | 2021 | 30 | Mexico | * |
| Julia Hartmann, Andrew C Inkpen and Kannan Ramaswamy | JIBS | 2021 | 90 | 33 countries | * |
| Stephanie Lu Wang and Dan Li | JIBS | 2019 | 3528 | * | 140 countries |
| Sanjay Patnaik | JIBS | 2019 | 1322 | 24 EU members | * |
| Peter Tashman, Valentina Marano and Tatiana Kostova | JIBS | 2019 | 333 | Brazil, China, Egypt, Hong Kong, India, Malaysia, Mexico, S. Korea, Russia, Singapore, S. Africa, Taiwan, Thailand, Turkey, and UAE | * |
| Sadok El Ghoul, Omrane Guedhami and Yongtae Kim | JIBS | 2017 | 11672 | * | 53 countries |
| Susan L Young and Mona V Makhija | JIBS | 2014 | 612 | 23 countries | * |
| Nicole Darnall, Irene Henriques, Perry Sadorsky | JIM | 2008 | 1355 | Canada, Germany, Hungary, and the United States | * |
| Punit Arora, Prabal De | JWB | 2020 | 986 | Latin America (Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Panama, Paraguay, Peru, and Uruguay) | * |
| Julia Hartmann, Klaus Uhlenbruck | JWB | 2015 | 2724 | 42 countries | * |
| Marcus Wagner | JWB | 2015 | 2000 | Belgium, France, Germany, Hungary, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. | * |
| Qinqin Zheng, Yadong Luo, Vladislav Maksimov | JWB | 2015 | 289 | China | China |
| Ekrem Tatoglu, Erkan Bayraktar, Sunil Sahadev, Mehmet Demirbag, Keith W. Glaister | JWB | 2014 | 193 | USA, Germany, France, Italy, UK, Switzerland, Netherlands, other EU countries and Asian countries. | Turkey |
| R. Scott Marshall, Michele E.M. Akoorie, Ralph Hamann, Paresha Sinha | JWB | 2010 | 486 | US and New Zealand | * |
| R. Scott Marshall, Michele E.M. Akoorie, Ralph Hamann, Paresha Sinha | JWB | 2010 | 486 | US and New Zealand | * |
| Ricky Y.K. Chan | JWB | 2010 | 356 | Hong Kong, US, Japan, Western Europe, Taiwan, and South EastAsia | China |
| Yousef Eiadat, Aidan Kelly, Frank Roche, Hussein Eyadat | JWB | 2008 | 119 | Jordan | * |
| Yousef Eiadat, Aidan Kelly, Frank Roche, Hussein Eyadat | JWB | 2008 | 119 | Jordan | * |
| Ricky Y. K. Chan, Katherine H. Y. Ma | MIR | 2016 | 414 | China | * |
| Alfonso Vargas-Sa nchez and Francisco J. Riquel-Ligero | MIR | 2016 | 108 | Spain | * |
| Fabienne Fortanier, Ans Kolk, and Jonatan Pinkse | MIR | 2011 | 250 | US, Japan, South Korea, France, Germany, UK, Belgium, Finland, Italy, Luxembourg, the Netherlands, Norway, Spain, and Switzerland | * |

| Samuel Famiyeh, Robert.A. Opoku, Amoako Kwarteng, Disraeli Asante-Darko | RP | 2021 | 164 | * | Ghana |
|---|---|---|---|---|---|
| Adam R. Fremeth and J. Myles Shaver | SMJ | 2014 | 127 | US | * |
| Adam R. Fremeth and J. Myles Shaver | SMJ | 2014 | 127 | US | * |
| Erin M. Reid and Michael W. Toffel | SMJ | 2009 | 524 | US | * |
| Pratima Bansal | SMJ | 2005 | 45 | Canada | * |
| Pratima Bansal | SMJ | 2005 | 45 | Canada | * |
| Kristel Buysse and Alain Verbeke | SMJ | 2003 | 197 | Belgium | * |

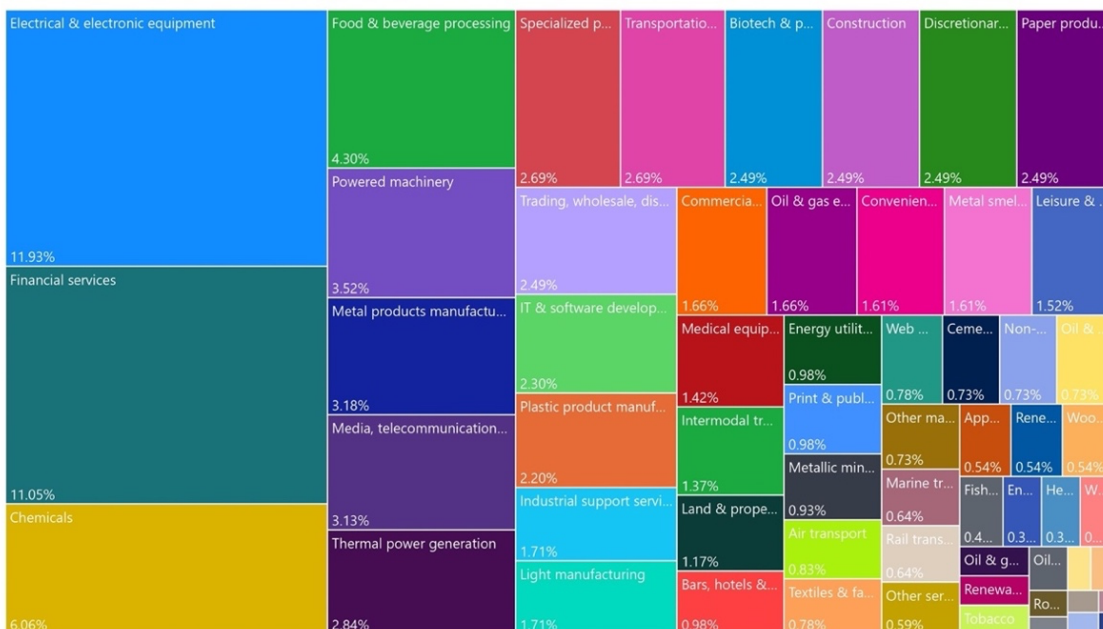# Appendix III: Descriptive analysis on dataset



*Figure 19: MNEs by industry sector*



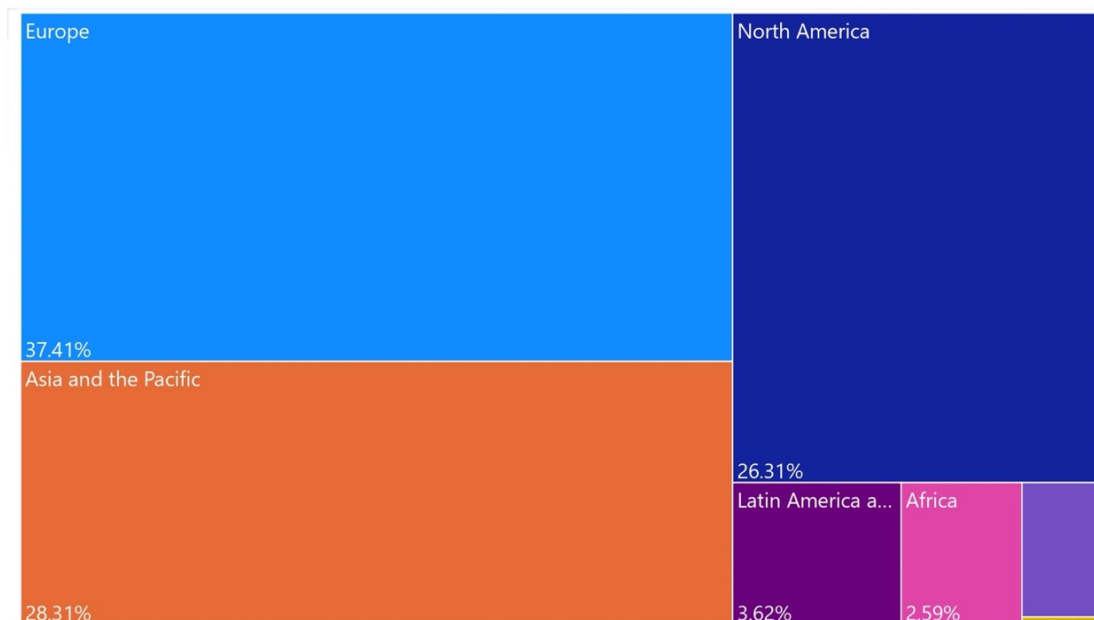*Figure 20: MNEs by home country*
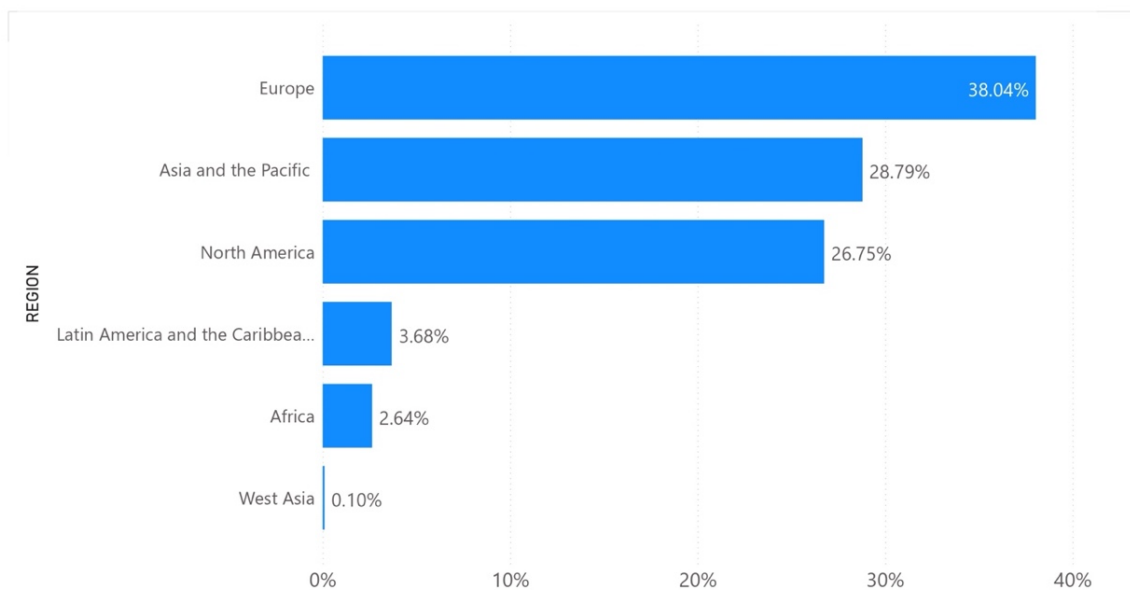
*Figure 21: MNEs by region of home country*



*Figure 22: MNEs by region of host countries*

## Correlation Matrix Study II

| | Constant | HomeC_EnvNGOPerCapita | HomeC_CCPI_Score | HomeC_IEA_EIF | HomeC_Institutional_Void | HostCsEnvNGOPerCap | HostCsIEAsEIF | HostCsCCPI | HostCs_Inst_Voids_Avrg | Primary_Industry_coded | FFS_TotalPerGDP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Constant | 1.000 | .044 | -.004 | -.240 | -.519 | .398 | -.346 | -.501 | -.144 | -.152 | -.642 |
| HomeC_EnvNGOPerCapita | .044 | 1.000 | -.352 | .212 | -.338 | -.226 | -.090 | .066 | .145 | .021 | .118 |
| HomeC_CCPI_Score | -.004 | -.352 | 1.000 | -.399 | .149 | -.022 | -.051 | -.144 | .049 | -.019 | .087 |
| HomeC_IEA_EIF | -.240 | .212 | -.399 | 1.000 | -.189 | -.069 | -.220 | -.016 | .131 | -.058 | .286 |
| HomeC_Institutional_Void | -.519 | -.338 | .149 | -.189 | 1.000 | -.054 | .183 | .108 | -.179 | -.015 | .399 |
| HostCsEnvNGOPerCap | .398 | -.226 | -.022 | -.069 | -.054 | 1.000 | -.098 | -.457 | -.609 | .030 | -.120 |
| HostCsIEAsEIF | -.346 | -.090 | -.051 | -.220 | .183 | -.098 | 1.000 | -.227 | -.474 | .007 | -.006 |
| HostCsCCPI | -.501 | .066 | -.144 | -.016 | .108 | -.457 | -.227 | 1.000 | .454 | -.026 | .198 |
| HostCs_Inst_Voids_Avrg | -.144 | .145 | .049 | .131 | -.179 | -.609 | -.474 | .454 | 1.000 | -.097 | .102 |
| Primary_Industry_coded | -.152 | .021 | -.019 | -.058 | -.015 | .030 | .007 | -.026 | -.097 | 1.000 | -.042 |
| FFS_Total PerGDP | -.642 | .118 | .087 | .286 | .399 | -.120 | -.006 | .198 | .102 | -.042 | 1.000 |

## Correlation Matrix Study III

| | Constant | HomeC_Env NGOPerCapita | HomeC_CCPI_Score | HomeC_IEA_EIF | HomeC_Institutional_Void | HostCsEnvN GOPerCap | HostCsIEAs EIF | HostCsCC PI | HostCs_Inst_ Voids_Avrg | Primary_Industry_coded | FFS_Total PerGDP |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Constant | 1.000 | .073 | .021 | -.212 | -.537 | .374 | -.330 | -.449 | -.114 | -.158 | -.642 |
| HomeC_EnvNGOPerCapita | .073 | 1.000 | -.395 | .233 | -.375 | -.226 | -.061 | .045 | .140 | .031 | .037 |
| HomeC_CCPI_Score | .021 | -.395 | 1.000 | -.428 | .178 | -.017 | -.055 | -.151 | .029 | -.018 | .043 |
| HomeC_IEA_EIF | -.212 | .233 | -.428 | 1.000 | -.218 | -.064 | -.233 | -.021 | .135 | -.050 | .229 |
| HomeC_Institutional_Void | -.537 | -.375 | .178 | -.218 | 1.000 | -.051 | .187 | .070 | -.178 | -.026 | .510 |
| HostCsEnvNGOPerCap | .374 | -.226 | -.017 | -.064 | -.051 | 1.000 | -.047 | -.439 | -.612 | .028 | -.134 |
| HostCsIEAsEIF | -.330 | -.061 | -.055 | -.233 | .187 | -.047 | 1.000 | -.292 | -.518 | .000 | .007 |
| HostCsCCPI | -.449 | .045 | -.151 | -.021 | .070 | -.439 | -.292 | 1.000 | .452 | -.043 | .165 |
| HostCs_Inst_Voids_Avrg | -.114 | .140 | .029 | .135 | -.178 | -.612 | -.518 | .452 | 1.000 | -.084 | .091 |
| Primary_Industry_coded | -.158 | .031 | -.018 | -.050 | -.026 | .028 | .000 | -.043 | -.084 | 1.000 | -.048 |
| FFS_Total PerGDP | -.642 | .037 | .043 | .229 | .510 | -.134 | .007 | .165 | .091 | -.048 | 1.000 |