

Sustainable Development Goals and Corporate Actions:
The Impacts of Corporate Interlocks and Institutional Logics on
Corporate Social and Environmental Responsibility

By

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1. Introduction

1.1. Importance

With a significant reduction in state regulation of corporations, which has been a consistent social trend since the spread of neoliberalism during the 1980s, it has become more important to discuss and engage in the debates of corporate practices, corporate social and environmental performance, and corporate sustainability (Ireland and Pillay 2010). Corporations often operate in a poorly regulated economic environment, yet their practices have deep impacts on our daily lives from our jobs to the environment and sustainability. For example, corporations are responsible for consuming 32% of energy in the United States in 2018, which is more than any other sector (U.S. Energy Information and Administration 2018). Just 100 companies are responsible for more than 70% of the world's greenhouse gas emissions since 1988 (Griffin 2017) and corporations have been criticized for other environmental concerns, such as toxic sludge and water contamination (Spearing-Bowen and Schneider 2017). Overall, corporations have been causing \$2.2 trillion USD worth of environmental damage every year (Jowit 2010). In other words, Corporations are responsible for a large part of the environmental challenges that we face today, and their presence has been challenged by a number of movements from environmentalism to the Occupy movement.

However, it would be inaccurate to argue that corporations have done nothing to amend the environmental and social struggles that many societies face. Many corporations have a history of stepping up to fill regulatory gaps. For example, when former President Trump decided to remove the U.S. from the Paris Agreement, 200 American businesses, cities, states, institutions, faith groups, universities, and health-care organizations decided to declare support for climate action to meet the Paris Agreement. The number of member organizations has

increased to approximately 3,000, representing 169 million people. This is a good example of the importance of corporate sustainability behavior even in a nonregulating and neoliberal environment. Furthermore, benefit corporations (B corporations), which are based on a certification system in the United States given to companies that pass the test of social and environmental responsibility, have been found to have few economic benefits in terms of profits (Richardson and O'Higgins 2019). Despite the low financial incentive in comparison with the cost of being a B corporation, companies continue to register to receive the certification. These examples indicate that the relationship between corporations, which embed the very essence of capitalistic ideals, and environmental and social responsibility is complex.

This dissertation investigates the relationship between corporations and environmental and social responsibility. Specifically, the project quantifies corporate social and environmental responsibility behavior and identifies the contexts in which corporations become more responsible.

1.2. Contribution to the Literature

Corporate social and environmental responsibility (CSER) has theoretical implications for sociological concepts and theory. Corporate behavior has been a part of a long conversation in the discipline about how social change occurs. Sociologists recognize that the explanation of change requires attention to both structural conditions and agency, but there are fundamental differences in how one approaches the balance.

The Marxist tradition (Marx 2011) has developed a social structural perspective on social change anchored in class conflict and the power of capital to effect change. Several important theorizations of capitalism in environmental sociology highlight the double contradiction of

social inequality and environmental degradation. For example, O'Connor (1991) argued that the second contradiction of capitalism (after the labor-capital conflict) was the relationship between the conditions of production and the environment. Likewise, treadmill of production (TOP) theory describes two effects of the treadmill of the growth and the accumulation logic of capitalism: ecological and social. The ecological dimension involves the growth logic of capitalist accumulation, which requires continued increases of consumption and utilization of the natural resources, whereas the social dimension of the treadmill refers to the need for the state to increase spending because technological innovation in search of higher profits results in the displacement of employees (Schnaiberg, Pellow, and Weinberg 2002). Research using the TOP perspective also engaged with the discussions of health problems, labor organizations, lower property values, and limited wages, which are by-products of the accumulation process (Gould, Pellow and Schaiberg 2004; Schnaiberg 1997). Schnaiberg, Pellow, and Weinberg (2002) argued that both the ecological and social are central components of TOP and that the treadmill actors, which are mostly corporations, are likely to resist policies that aim to rectify social justice and equality issues (Schnaiberg 1997). Clark and Foster (2010) provided a third example of attention to the environmental and social dimensions of capitalism in their discussion of social metabolism. They claimed that mass production, which was at a larger scale than it ever was before, "intensified the metabolic demands on nature, introducing new social relations and forms of socio-ecological exchange" (2010:126). Their analysis showed that in pursuit of private wealth and capital, there was a simultaneous exploitation of the natural and social systems. In short, the Marxist perspective has been used to understand the structural dimensions of the connections between social change driven by capitalist development and ecological degradation (e.g., Harvey 1993).

In contrast, a group of sociologists and environmental theorists claim that there is sufficient institutional autonomy for the state to intervene and make capitalism more sustainable. This is particularly evident in the ecological modernization theory (Mol 2002). This approach drew on the analyses of Beck and Lau (2005) on capitalism and the thesis of a “second modernity” created by the crises of industrial society. Ecological modernization also has its theoretical roots in the Weberian approach in sociology because it adapts central notions of Weber, such as historical change, rationalization (modernization), and institutional analysis (Spaargaren and Mol 1992). Ecological modernization theorists argue that with a “specialist branch of the machinery of government” (Weale 1992:75), environmental problems can be adequately addressed. In other words, the theory perceives environmental problems to be the result of omission in the working of the institutions of modern society (Hajer 1995) and the need for an environmental logic to become embedded both in government policy and in corporate behavioral (Buttel 2000; Dauda 2019; Mol et al. 2020; Millington et al. 2016). In this sense, environmental challenges can be managed when the right government bodies, apt policies, and working administrations are present. Because of its practical applications, the theory has gained influence in the realm of environmental policy. The approach is widely accepted in policy circles, including in the United Nation’s approach to sustainable development as codified in the Sustainable Development Goals (United Nations 2019).

The institutionalist-modernization approach faced severe criticisms and skepticism from the structuralist school. Many scholars tend to choose one theoretical paradigm, which is then applied somewhat aimlessly. However, Fisher and Jorgenson’s (2019) understanding of the concept “anthro-shift,” which explains how society-environmental relationship changes over time, shows that one sociological theory cannot be a be-all-end-all answer to the dynamic

relationship between capitalism, corporations, and environmental and social struggles. This dissertation is an attempt to contribute to the middle ground of the two theoretical paradigms in environmental sociology using both structuralist political economy and institutionalist-modernization theory. The structuralist-political economy approach to corporate change that will inform the present study includes the concepts of disproportionality and transnational capitalist class. The Weberian tradition (Weber 1993) has developed a perspective on social change based on conflicts of values and systems of meaning that are related to social structure but were not reducible to it. This perspective informs contemporary research on institutional logics, environmental governance, and organizational change, which are also used in this dissertation.

The contributions of this dissertation are further discussed below in detail (refer to 1.4. Theoretical and Methodological Contributions), but the main contribution is that this dissertation bridges the gap between the two sociological approaches, namely Marxist and Weberian, to provide an approach to the analysis of CSER that is anchored in sociological theory.

1.3. Outline

In this dissertation, I identify the gaps and weaknesses in the existing literature on CSER and investigate the underlying causes and structures of corporate behavior. In doing so, I explore sociological theories and their contributions to understanding corporations. This dissertation includes three research chapters that investigate the issues around CSER.

The first research chapter introduces a new index that measures CSER using the United Nations' Sustainable Development Goals (SDGs) as the foundational guideline. These goals are important theoretically because they represent the leading global policy application of the modernization approach to environmental and social problems. By developing an approach to

measuring CSER that is based on both a broad index of SDGs as well as metrics based on each SDG, it becomes possible to measure CSER in a more granular way than previous studies that use off-the-shelf indices. The new index is then used to extend Freudenberg's disproportionality thesis, which argues that a small number of industries or corporations are responsible for a disproportionate amount of pollution and environmental degradation. These actions are justified by corporate revenue or other social benefits such as employment. I expand on this thesis by bringing in the concept of "social disproportionality" and by showing how corporate performance varies across the SDGs. The identification of uneven performance of companies across the SDGs provides new opportunities for identifying targeted improvement.

This chapter merges the two sociological traditions. First, by using the SDGs, it incorporates the modernization assumptions embedded in the United Nations' sustainable development approach to global problems. Second, it also brings in a structuralist approach by using the disproportionality thesis. It should be noted that the approach that this chapter uses is distinguished from TOP because it does not focus on critiquing corporate behavior. Instead, it attempts to find policy recommendations within the existing economic system, which is informed by the institutional perspective, and in carrying out this task, this research chapter relies on structural theories.

Using the new index developed in the first research chapter, the second research chapter uses this index to empirically investigate the validity of the structuralist approach developed by Leslie Sklair (2001; 2002). The second research chapter examines whether membership in the transnational capitalist class (TCC), which is measured by the centrality of corporations in corporate networks, leads to different behavior in issues related to CSER. Sklair argues that the TCC is motivated not only by the economic interests of the class but by also by global corporate

citizenship, which he defines as the TCC's responsibility to be actively involved in social and environmental challenges as the leaders of the global market. In other words, Sklair's understanding of global corporate citizenship embeds both the political economy perspective (discussion of class hierarchy) but also a Weberian approach to values and meanings (discussion of the values that the TCC should have as global leaders). Nevertheless, Sklair also argues that the concern with profitability is paramount and that social goals will be preferred over environmental goals because companies view environmental goals as a greater threat to profits.

This study provides an empirical test of Sklair's view of how the profitability logic affects the responsibility logic of global corporate citizenship. In doing so, the study also draws on the universal owner perspective, which suggests relative parity among the two types of goals. Although the scholars that discuss universal owner approach do not necessarily engage with the ecological modernization approach largely due to the separation caused by different disciplines, the two approaches share similarities. The universal owner perspective accepts that the capitalist pursuit of profit exists, but it argues that a type of capitalist (the universal owner) also accepts a complementary value system that involves concern with addressing society-wide environmental and social challenges.

The results of the empirical analysis suggest that the TCC is more concerned with both social and environmental issues than less central corporations. Thus, the data are consistent with the universal owner perspective. This study makes three notable contributions: it expands the TCC and global corporate networks literature by bringing in CSER, it empirically tests Sklair's concept of global corporate citizenship, and it connects the universal owner literature with the TCC and CSER.

This research chapter shows that the structural approach (i.e., the TCC theory by Sklair) alone does not fully explain CSER behavior. In order to understand why corporations value environmental and social goals equally, which contradicts Sklair's hypothesis, an institutional modernization approach (i.e., universal owner perspective) is useful. In this sense, this chapter finds the middle ground between the two theoretical traditions of sociology. The chapter is largely based on the structural perspective, but the institutional perspective complements the overall analysis.

The third research chapter again utilizes the SDG index developed in the first research chapter. Using institutional logics theory, this study investigates the extent to which the logic of profitability can coexist with the logics of environmental and social responsibility. This claim was central in the debate between the TOP (structuralist) sociologists and the advocates of modernization theory because the structuralists did not recognize the emergence of a separate and autonomous environmental logic. The findings indicate that there is evidence of the coexistence of the two logics and that larger companies and consumer-facing companies are more likely to have coexistence of the logics of profit and environmental responsibility. However, all types of companies showed evidence of the coexistence of the profit logic and the social responsibility logic. Therefore, this study suggests that under some conditions corporate social and environmental responsibility will not be in conflict with the profitability logic, and it identifies the potential causal factors that lead to the coexistence of logics.

This research chapter heavily relies on the institutionalist-modernization perspective because it examines the coexistence of logics of profit and corporate responsibility, which is a premise that structuralists reject. However, the variables that determine the likelihood of the coexistence of logics derive from the structuralist perspective. Company size and consumer

facing are the variables that represent corporate and industry structures (Schurman 2004), not corporate values and meanings. Although at first glance the third chapter may seem to be only an institutional analysis, it shows the merging of the structural and institutional approaches best. The findings of the chapter expand the scope of the institutional and Weberian approach, which can only be fully explained using the variables that derive from the structural theory.

In this dissertation, my most important finding is as follows: to understand the complexity of CSER and the economic and social system that we are currently situated in, we should readily adopt both structural and institutional approaches, and in doing so, we should not be bound by a theoretical label.

1.4. Theoretical and Methodological Contributions

Many scholars of CSER focus on the financial or economic aspects of CSER, using dependent variables such as stock prices, and importance in risk assessments, usefulness to determine investment opportunities, and higher rates of return. In this sense, the most important role of CSER, in their minds, is the profit and the investment opportunities that CSR may bring to corporations. Their work largely focuses on stakeholder theory and the rational-actor theory of economics and management because the studies originate from those fields. Although it is perfectly understandable for these particular disciplines to focus on the economic benefits of CSR, I discuss structural and cultural aspects of CSER such as disproportionality, transnational capitalist class, and institutional logics using sociological theories. Consequently, I provide a more in-depth sociological understanding of why some firms are more amenable to environmental and social responsibility using theories of social change based on both structuralist and institutional modernization approaches.

In this sense, I want to highlight that this dissertation is situated in sociological theory. Despite the inequalities and exploitation that capitalism has brought with its mode of production and class struggles, this dissertation is an attempt to find a solution within the existing economic system through understanding the social structures, institutions, and values and meanings that all lead to social change.

I make two important contributions in the fields of environmental sociology and economic sociology. First, in environmental sociology, I merge the two pillars of sociological thought that derive from the Marxist and Weberian traditions of sociological theory. I show that structures (disproportionality thesis and transnational capitalist class) as well as values and meanings that are related to social structures (SDG goals, the universal owner value perspective, and institutional logics) inform why some companies are more heavily involved in CSER than others.

Second, in economic sociology, I push the theoretical boundaries that currently exist. In the first chapter, I introduce a new concept “social disproportionality.” This is because the currently existing perspective of disproportionality, which only considers environmental disparities, is inadequate in explaining the intricacy of CSER. Furthermore, in the second research chapter, I bring in the universal owner perspective from the management and policy disciplines to further inform the economic sociology theory of the TCC. By applying the concept of the TCC to CSER and empirically testing some of Sklair’s key concepts such as global corporate citizenship, I identify the limits of the TCC approach and expand the theory by bridging the gap between economic sociology and management. Additionally, in the third research chapter, I show that in case of CSER, which embeds social structures and values as well as a theoretical debate between the treadmill of production and ecological modernization, a

single logic or successive logic approach does not suffice. Instead, I build on the existing literature on the coexistence of logics to show that corporations are complex actors that respond to many social and political cues.

I also make significant methodological contributions in this dissertation. I construct a new index that measures CSER using the SDGs. The existing indices have been developed for the purpose of investment and risk management, which led to the lack of theoretical guidance and methodological clarity. By building a new index that is informed by the SDGs and providing a step-by-step methodological explanation, I contribute to the future studies of CSER with a more robust measures of corporate responsibility behavior.

Finally, the study has policy implications. The findings from all three chapters indicate that the project of bringing about greater attention to and implementation of CSER requires attention to structural factors such as corporate interlocks, company size, and whether or not the company is consumer facing. In this sense, in order to further promote corporate environmental sustainability and social responsibility, corporate elites, directors, and other government actors must identify the conditions that lead to more sustainable corporate behavior and make such conditions more prevalent. For example, workshops and conferences for corporate directors to attend organized by government actors would further increase the tightness among corporations and lead to corporate behavior that is more environmentally and socially responsible as shown in the second research chapter of this dissertation. Furthermore, although not all companies can be consumer facing and have a substantial size, which are some of the characteristics that lead to better corporate behavior (research chapter 3), companies can have continuous interactions with consumers and have enough resources for CSER with governmental support. In short, the

findings of this dissertation show that a better understanding of the conditions that promote CSER behavior can help to promote improvements.

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Chapter 2. Measuring Corporate Social and Environmental Responsibility: Environmental and Social Disproportionality and the Sustainable Development Goals.

2.1. Introduction

Corporations often operate in an under-regulated economic environment, yet their practices have deep impacts on our daily lives, from our jobs to the environment and sustainability. With a significant reduction in government regulation of corporations since the advent of neoliberal policies during the 1980s, it has become more important to engage in the debates of corporate social and environmental responsibility (CSER).

Because of the voluntary nature of CSER, which is a significant change from the 1970s, there have been leaders and laggards among corporations in their contributions to environmental sustainability and social justice. On the one hand, some companies are making active efforts to reduce their carbon emissions and to contribute to environmental sustainability (e.g., Google claims net zero carbon footprint; Apple has a goal for carbon neutrality by 2030). On the other hand, the same companies that are striving for environmental sustainability suffer from social justice challenges (e.g., privacy challenges for Google and tax sheltering for Apple). And of course, there are companies that do not perform well on either of the goals.

In order to empirically address this discrepancy in CSER, this paper empirically tests the validity of the disproportionality thesis developed by Freudenburg (2005; 2006) using the Sustainable Development Goals (SDGs). Moreover, it extends the existing concept of disproportionality by introducing a new concept, “social disproportionality,” which describes the unequal contributions to social justice from large corporations. Because the use of the SDGs in calculating CSER allows for more granular analysis of corporate behavior, this study builds on

subsequent expansions of Freudenburg's work to analyze a variety of forms of disproportionality. In this sense, this study contributes to the ongoing development of research inspired by the disproportionality perspective.

In short, the contributions of this study are twofold: the incorporation and expansion of Freudenburg's disproportionality thesis and the granularity of the index that measures CSER performance, which is achieved through incorporating the SDGs into the discourse.

2.2. Literature Review

2.2.1 Institutional approaches and structural approaches to CSER

The United Nations Sustainable Development Goals (SDGs) are considered the leading global governance platform for sustainable development. The history and foundation of the SDGs go back as far as the Brundtland report of the World Commission on Environment and Development (Brundtland et al. 1987), in which environmental issues such as population, food security, biodiversity, and industrial use of resources were discussed to formulate a method for sustainable development. These social and environmental issues are echoed again in the SDGs and their indicators, in which the United Nations highlights the main goals (e.g., improvement in poverty, hunger, health, education, gender inequality, water, energy, etc.) and the relevant policies and actions that would lead to positive outcomes.

The SDGs represent a global attempt to acknowledge and act upon the desperate need for international governance intervention in terms of sustainability, but they also have theoretical importance. The ideas discussed in the SDGs are consistent with ecological modernization theory (Mol 2002; Mol et al. 2020), which argues that environmental issues can be successfully addressed with the right institutions and policy guidance. Deriving from the Weberian tradition

that stresses the importance of values and meanings that are closely aligned with social structures, the SDGs have become a socially and politically important institution for global environmental and social sustainability.

This paper adopts the disproportionality perspective to test CSER performance using the SDGs. The disproportionality thesis is a concept developed by Freudenburg (2005; 2006; Freudenburg et al. 2009) to discuss the disproportionate amount of pollution (in comparison with assets) emitted by a small number of companies or corporations. In explaining this disparity, Freudenburg argued that these companies were able to get away with such environmental destruction because of the structural advantages that they had. For example, companies that emitted a disproportionate amount of carbon or used up a disproportionate amount of water could justify it because they were seen as a significant contribution to the local economy and created jobs. The concept of disproportionality is further discussed in the section, “2.2.5 The Disproportionality Thesis: Double Diversion.” In using the disproportionality thesis to test the validity and the applicability of the SDGs to corporations, this paper further expands the disproportionality thesis with the introduction of a new concept “social disproportionality.” This concept refers to the disproportionate social inequalities, such as gender, education, and poverty, that are outcomes of corporate actions.

In summary, this paper merges the two perspectives. The perspective that underlies the sustainable development framework and CSER emphasizes the institutionalization of values that can bring about a transition to a more sustainable and just world. In contrast, Freudenburg represents a political economy perspective in understanding corporate actions and environmental and social challenges. The SDGs are used to inform the structuralist perspective (the

disproportionality thesis), which is then expanded to incorporate and explain broader discourses of environmental as well as social disparities.

2.2.2 The SDGs as a New Approach to Measuring CSER Performance

The first contribution of this study is building on and integrating the peer-reviewed literatures on CSER and SDGs as basis for the development of a new index. Both private companies and academic researchers have attempted to quantify CSER by assigning environmental, social, and governance (ESG) scores to companies (Gjøølberg, 2009; Pérez & Del Bosque, 2013). ESG scores can be described as a CSER performance measure of a company's contributions to society, sustainability, policy priorities, and other socially and politically significant values or goals. These scores are of particular interest to the financial industry because they are often included in risk assessment analysis (Escrig-Olmedo, Muñoz-Torres, and Fernandez-Izquierdo 2010). Additionally, with an increasing interest in socially responsible investments, investors and financial firms are requesting more ESG data on companies' CSER performance (King and Gish 2015). However, because of the applied focus of current CSER measures, they are not particularly well suited for environmental sociology research, and this study instead uses a new index based on the SDGs.

The SDGs, introduced by the United Nations (UN) in 2015 as a part of the 2030 Agenda for Sustainable Development, are divided into 17 goals for all countries of the world to follow. (See Appendix.) The UN states that the SDGs involve “a holistic approach to achieving sustainable development for all” (United Nations 2019). The SDGs provide guidelines for all countries to grow in a sustainable manner in both environmental and social dimensions, and Lockie (2016a, 2016b) argued that the SDGs are important for the interdisciplinary work of

environmental sociology. The goals address issues of poverty, water sanitation, employment, gender, climate change, and other widely discussed political issues (United Nations 2019). They can be used by local authorities, government agencies, and civil society organizations, and among high, medium, and low-income countries.

Although the SDGs were initially created with country-level developmental goals in mind, they can also be used to guide corporate behavior. In enacting these goals, the UN suggests that private companies are important actors in the implementation the SDGs. The relationship between the SDGs and corporate performance has already been a topic in many studies (Hu et al., 2016; Macellari et al., 2018; Martinuzzi et al., 2017; PriceWaterhouseCoopers, 2015). However, the SDGs have not yet been used to reconstruct indices that measure CSER performance.

Several peer-reviewed studies have focused on the relationship between corporations and the SDGs. For example, Martinuzzi et al. (2017) claimed that the SDGs can be perceived as a framework for transnational corporations to address and improve their CSER performance. Likewise, Van Zanten and Van Tulder (2018:227) found that the SDGs provide the foundational platform and “central and lasting framework” for companies.

However, there are also some shortcomings in the application of the SDGs to corporations. Corporations may cherry pick the SDGs, and self-interest may be at the basis of choosing which SDG to focus on (PriceWaterhouseCoopers 2015). Furthermore, the SDGs are not necessarily uniformly applicable across industry and geography (Hu et al. 2016).

2.2.3. The Shortcomings of Existing Measures of CSER

Bloomberg, Morgan Stanley Capital International (MSCI) and Thomson Reuters are

among the leading private companies that have developed ESG data. These companies collect data on various metrics related to ESG and provide raw data as well as the final score. Table 2.2.1 shows the five leading ESG scores: Bloomberg, MSCI, Thomson Reuters, Newsweek Green Ranking, and the Carbon Disclosure Project (CDP).

Table 2.2.1: CSER Measures by Private Companies

Company	Description	Method of Calculation	Strengths	Limitations
Bloomberg	Provides transparency scores.	Measures how much corporate specific data a company discloses. They do not exactly measure CSER performance.	ESG data is available on the Terminal, which makes accessing ESG data easier for investors and financial experts.	Does not quantify CSER performance, just the transparency score.
MSCI (KLD)	Provides CSER performance scores of companies	Uses different weights based on GICS sub-industry level based on each industry's relative impact and the time horizon associated with each risk. Industry and time specific.	Industrial differences and controversies are taken into account in measuring CSER performance.	Methods are unclear, no justification for choosing weight and key performance indicators.
ASSET 4 (Thomson Reuters)	Provides CSER performance scores of companies	400 measures are collected from companies' public disclosures, which aggregated to 178 critical ESG measures.	Publishes 23 controversy measures and ESG combined data, which focuses on both ESG performance and controversies.	No methodological justification.
Newsweek Green Ranking	Publishes the rankings of companies based on environmental sustainability	8 key performance indicators that have different weights. Data are obtained from Bloomberg, FactSet, Thomson Reuters, and CDP.	High media coverage and an increase in public awareness on CSER related issues. Clear explanations on	Does not take social aspects into account. Weights are not justified.

			methods.	
Carbon Disclosure Project (CDP)	Provides different environmental scores such as climate score, water score, timber score etc.	Different scores have different calculation methods. Governance, communications, risks and opportunities are taken into account.	More sustainability related data compared to other sources.	Only considers environmental aspects of CSER.

Bloomberg provides transparency scores that they name “ESG disclosure” scores. These transparency scores measure how much firm-specific data a company discloses through resources such as annual reports, sustainability reports, press releases, and third-party research (Framework ESG 2019). A disclosure score is different from CSER performance scores.

MSCI provides CSER performance scores of companies. It uses over a thousand data points on ESG policies, programs, and performance with 37 key performance indicators that they have developed. Data come from over a hundred specialized datasets, company disclosures, and media sources. The indicators are based on industry, and each key performance indicator is weighted differently depending on industry, but the details are not specified further (MSCI 2018:9). Although MSCI provides an expansive dataset on CSER performance, it does not publish methods, and it provides no justification for choosing the weights or key performance indicators.

ASSET4 refers to the ESG section of Thomson Reuters data. Over 400 measures were collected from company reports, which are turned into 178 “critical ESG measures” (Refinitiv 2019) and 23 controversy measures. It has ten key performance indicators and uses the weights system to calculate their scores. This calculation strategy is rankings based; that is, it involves ranking the companies instead of using absolute numbers. The key limitation of ASSET4 is that it does not provide any methodological justification for choosing its key performance indicators and weights.

Newsweek Green Ranking provides the sustainability ranks of the largest publicly traded companies headquartered in the United States. Their ranking continued for many years and stopped in 2017, with some minor updates made in 2018. One strength of the Newsweek Green Ranking is their clarity on methodology. Newsweek has a separate page on methods and describes how each key performance indicator is calculated (Newsweek 2017). The ranking has 8 key performance indicators that focus only on sustainability, and each key performance indicator is weighted differently. The key performance indicators and the weights are not justified in the methods, which means that although their methods are clear, they lack any scholarly justification for choosing their data points and weights. Additionally, they do not take social aspects into account, which means that this ranking does not provide a holistic understanding of CSER performance.

The Carbon Disclosure Project (CDP) provides different sets of environmental scores, such as climate, water, and timber scores. Different scores have different calculation methods and are based on separate questionnaires. The CDP provides extensive environmental data, and governance, communications, risks, and opportunities are considered, but it provides no social scores.

Collecting ESG data requires resources and human capital much greater than what an individual scholar or even a group of researchers can afford. Therefore, the data that these private companies provide are often used as the foundation that researchers use to build their own indices. For example, Gjølberg (2009) developed two indices, with a particular focus on 20 OECD countries using a formative measurement model. She examined whether companies of certain nationalities perform better than others in global CSER initiatives and rankings, relative to the size of the national economies.

Despite several efforts made in the past to quantify CSER performance of corporations, two main criticisms of the existing indices are raised. First, in most indices, corporate governance is considered as a part of the dependent variable. However, several studies showed that governance is the motivation that drives corporate performance, not the outcome (Macellari et al 2018; Panayiotou 2009). Second, many indices do not have a foundational justification for choosing their variables. Instead, the variables used to quantify CSER performance are chosen with little explanation. Some scholars attempted to address this issue by collecting their own data to measure CSER performance. For example, Pérez and Del Bosque's (2013) index was based on CSER reports, stock market indices, corporate communications, media publications, scientific publications, and in-depth interviews with CSER managers of the institutions. Although these researchers should be commended for their efforts because of the time and resources required to collect data and build indices, the CSER issues and the sample size addressed in these novel indices tend to be limiting.

2.2.4. An Alternative Index Based on the SDGs

To address the limitations of the existing indices that are discussed above as well as to incorporate the SDGs into quantifiable measures for corporations, this study constructs a new SDG index, which differs from the previous studies in three main ways. First, this study treats corporate governance as a variable that shapes CSER performance. It is considered as an independent variable rather than part of the dependent variable of CSER metrics. This view is consistent with Panayiotou (2009), who argued that CSER should be measured and controlled by top management.

The second main difference is to adopt the perspective that the variables used in

constructing the index should not be randomly chosen. In general, private companies do not justify their choice of key performance indicators or weights. In other words, the most critical weakness of the existing indices is not the collection of data, but how the data are grouped and analyzed. This study will explore the proposition that the SDGs can be used to provide a more robust justification for the construction of a CSER index and for its constituent elements.

Because the SDGs relate to widespread international values that have been articulated through a United Nations process, they provide a better foundation for categorizing the indicators of CSER. In this sense, the SDG index stands out from the existing indices because although it uses the same raw data provided by the private companies, it provides a clear justification for choosing the variables.

Moreover, because existing indices categorize CSER disclosure or performance scores into larger groups, such as environmental, social, and governance, they do not allow for any variation within each group. This new index's contribution differs from the existing indices because it provides granular data on corporate performance by each SDG. However, the SDG index provides scores for each SDG, which allows more exact and specific research questions.

2.2.5 The Disproportionality Thesis: Double Diversion

This study uses the disproportionality thesis to provide a new perspective on CSER (Freudenburg 2005). In Freudenburg's original formulation, disproportionality occurs when some firms harm the environment more significantly and heavily than others in a comparison group. In explaining this unequal polluting of corporations and industries, Freudenburg (2005) developed two key concepts referred to as a "double diversion": privileged access and privileged accounts. Privileged access refers to disproportionate access to the use of shared environmental

resources and services. Although many environmental resources, such as clean air and water, are considered public goods, there is disproportionate use of the resources. Despite this unequal mechanism, privileged access is rarely challenged because of privileged accounts. Privileged accounts refer to environmental and social inequities that gradually become “natural.” For example, some corporations argue that it is necessary to pollute because by doing so, they are creating jobs and helping the local economy (Kulcsar et al. 2016). Consequently, the public’s attention is diverted from the polluting activities to the economic contributions of the corporation.

This paper focuses on the concept of disproportionality and attempts to identify the corporations that have privileged access (i.e., corporate laggards) and the corporations that have outperformed the expectations by polluting and consuming environmental resources and services less than expected (i.e., corporate leaders). Although Freudenburg’s use of disproportionality largely involves negative outcomes, such as pollution and other environmental and social harms, this study shows that it can also be used to identify those that have more significant social and environmental contributions than their peers. The idea of including positive outcomes of disproportionality is also represented by Harvey and Varuzzo’s (2014) study. They showed that the outcome of disproportionality does not always have to be environmental harm, but instead it can entail environmental action.

Since the publication of Freudenburg’s seminal work, other researchers have supported the disproportionality perspective on externalities and other environmental damage from industrial processes. For example, in a study of industrial pollution in Milwaukee, Wisconsin, Collins (2011) found that 10% of the facilities contributed to 90% of health risks in nearby communities. She argued that policies paid insufficient attention to the high polluters partially

because there is an underlying assumption that pollution is necessary for creating jobs and essential products. Similarly, Collins et al. (2020) showed that there are higher levels of within-industry disproportionality of toxic pollution in U.S. manufacturing in comparison with other industries. Robertson and Collins (2018) also found that in the U.S. coal-fired electric utility industry, a small number of parent companies are responsible for environmental pollution.

Furthermore, some studies moved beyond the industry-focused debate of disproportionality. For example, Prechel and Istvan (2016) showed that variation in organizational structure and firm performance had a significant impact on determining disproportionality. They found that the number of penalties, the presence of registered holding company, mean number of subsidiary layers, and the mean number of toxic release inventory facilities all contributed to having privileged access.

This study builds onto previous studies and expands the disproportionality perspective because it uses the Fortune 500 companies to identify the leaders and the laggards in the SDGs. This is an important theoretical contribution, because disproportionality in the past was only used to identify the laggards. The alternative approach developed here has policy implications such as rewarding the leaders as well as penalizing the laggards. Because these are the largest companies in the U.S., they are likely to have greater ecological footprint than smaller companies (Prechel and Istvan 2016), and their high levels of employment and global reach have significant social implications. Thus, this group of companies is an important segment of corporations to study. By extending the concept of disproportionality to the Fortune 500, this study shows how the disproportionality perspective can be used to identify extreme leaders and laggards among leading U.S. corporations. However, it should be clear that the study does not imply generalizations to the broader economies in other parts of the world.

H₁: Environmental disproportionality will be evident among the Fortune 500 companies.

2.2.6. Social Disproportionality

The term “social disproportionality” is used here to refer to corporations that disproportionately contribute to inequality, inequity, diversity, and employment. The concept of social disproportionality might be inferred from Freudenburg’s discussion of privileged access, but it can also be derived from the broader literature on disproportionality. For example, Collins (2011) argued that lower income communities were exposed to unequal levels of environmental toxins. Further evidence for unequal exposure to toxins is shown in Collins et al.’s (2016) study on hyper-polluters. Liévanos (2018) also discussed the social effects of pollution. Focusing on the Bay-Delta region in California, he found that there were two dimensions of disproportionality, the social actors’ “privileged access to pollute” (2018:4) (environmental disproportionality) as well as the disproportionate environmental health threats that non-white, low-income communities faced due to super emitters (social disproportionality).

Some scholars have expanded social disproportionality further than just health disparities caused by environmental pollution. Applying the disproportionality concept to spatial analysis, Greenberg (2019) argued that disproportionality is evident in Appalachia, where risk habituation persists among lower income-disadvantaged communities.

The understanding of social disproportionality also connects with the political economy tradition of environmental sociology. For example, the treadmill of production (TOP) theory describes two effects of the treadmill of the growth and accumulation logic of capitalism: ecological and social. Here, the social dimension of the treadmill refers to the employees that

were displaced because they were perceived as easily replaceable with the adoption of machines (Schnaiberg, Pellow, and Weinberg 2002). Similarly, the discussion of social metabolism showed that because of mass production, new social relations and socio-ecological exchanges emerged. Additionally, the concept also suggested that in pursuit of private wealth and capital, there was a simultaneous exploitation of the natural and social systems (Clark and Foster 2010).

This study builds on the second type of expansion of the disproportionality perspective by including not just environmental pollution as the outcome of interest but also the social effects of companies. In other words, in addition to ecological disproportionality, I hypothesize that it is also possible to identify and analyze social disproportionality. Thus, the second hypothesis is the following:

H₂: Social disproportionality will be evident among the Fortune 500 companies.

2.3. Data and methods

2.3.1. Data Sources

This study focuses on the 2017 Fortune 500 companies. Data for 2017 were available at the time of data collection, and the 2018 data were not complete. Among highly developed or wealthy countries, the U.S. has the largest economy and ecological footprint (Global Footprint Network 2019) at 8.1 gha. It is argued that the US has an ecological footprint equivalent to that of Brazil, France, Italy, Germany, Japan, Mexico, and the United Kingdom combined (Global Footprint Network 2016). In this sense, as a country that is leading in both the size of the economy and ecological footprint, it is important to focus on some of the biggest corporations in that country. This study focused on the 500 largest US companies, of which 32 companies were

removed because they did not publish any ESG data. The reasons for not publishing data include being a privately held company and bankruptcy after 2017. Therefore, the final sample size of this dataset was 468.

There were three main sources of data: Bloomberg ESG, Thomson Reuters ASSET4, and the Carbon Disclosure Project (CDP). These are three of the four main data sets published by private companies. MSCI data, another major dataset on CSER, could not be added due to accessibility. The only limitation that the lack of MSCI data poses is that the index does not account for the intensity of the controversies because MSCI data publishes controversy intensity scores. Instead, the study uses the count of the controversies from ASSET4.

2.3.2. Construction of the SDG scores

In this study, the term “variable” refers to a measure of a component of SDGs, such as total greenhouse gas (GHG) emissions, worker and wage controversies, or biodiversity policies. Variables were matched to SDGs based on the SDG indicators published by the United Nations (2016) (See Appendix). After a complete list of variables was constructed, the variables with no variation or observation were deleted. For example, when none of the Fortune 500 companies had answered a specific question, that variable was deleted. Moreover, if all the companies had the same answer, the variable was deleted because there was no variation. From the data set, a total of 105 variables that were relevant to SDGs was identified. Of these 105 variables, those with more than 350 missing observations were also removed, which resulted in the final 87 variables. The correlation between a measure that included these high missing variables and a measure that did not include these high missing variables was high at .99 ($p < .01$). The mapping of the variables into each SDGs are explained in the Appendix.

Variables that can be attributed to more than one goal were included in the measure for each SDG. Therefore, some variables were weighed more heavily. However, even when a measure was constructed with equal weights for all variables (only adding variables once throughout the analysis), the correlation with the weighted index was .99 ($p < .01$), which indicates that weighing them makes little difference to the overall scores.

The SDGs report published by the United Nations provides 230 indicators for their 17 goals (United Nations 2016). It was not possible to address all 230 indicators for corporations because SDGs were originally developed for governments and international organizations. For example, goals such as “1.5.1: Number of deaths, missing persons and persons affected by disaster per 100,000 people” are more relevant for governments than corporations. Likewise, Goal 10, which states “Reduce inequality within and among countries,” was excluded in the analysis because it applies more to governments and international organizations than to corporations. Furthermore, to make the SDGs quantifiable for corporations, variables that may not directly describe the SDGs were included. For example, for Goal 12, which focuses on sustainable consumption and production patterns, biodiversity controversies were included because Tschardt et al. (2012) argued that smallholder farmers domination and the lack of biodiversity can lead to global food insecurity.

With respect to duplicates, total energy use, total waste, total recycled waste, and hazardous waste appeared in two datasets, namely Bloomberg and ASSET4. For these four variables, the two data sets were merged using the average between the two observations. Observations were similar enough that merging did not yield any significant difference.

Once relevant variables for each SDG were identified and grouped to each SDG, a z-score was calculated across each variable. Using a standardized measure such as the z-score was

necessary because the units of measurement were different across all variables. The use of z-scores should not be interpreted to gauge the distribution of the disproportionality of all industries in the United States. Instead, it is a method to unify the units among differently defined variables. Variables that would have negative environmental and social impact were reverse coded so that the highest number would lead to the lowest z-scores.

The z-scores were then averaged to calculate a score for each SDG. For example, for Goal 2 (hunger), four variables were used: biodiversity controversies, product access low price, product quality controversies, and biodiversity policies. (See Appendix.) Each of the four variables had a z-score for each company. The z-scores were averaged for each company to create one z-score distribution for Goal 2 (hunger). The same calculation was done for all goals (except Goal 10, which as stated above was left out in the analysis due irrelevance to corporations). In calculating the SDG score using the variables, all variables were weighed the same within a goal. However, the number of variables per SDG is different. Goal 2 (hunger) only includes 4 variables, but goal 12 (sustainable consumption) has 19 variables. Therefore, although biodiversity policy is a variable that happens to be included in both SDGs, it weighs significantly more in Goal 2 (hunger) than in Goal 12 (sustainable consumption) because of the differences in the number of variables included in each SDG.

Once scores for all SDGs were obtained for each company, they were averaged to have a z-score that would represent the aggregate or overall SDG performance score for each company. This meant one company would have an overall score that would represent its SDG performance. In calculating the aggregate SDG score, all SDGs were weighed the same.

Factor analysis was considered to construct the index. However, because SDGs tend to embody more than one social and environmental issues instead of focusing on a single latent

variable, the model fits of factor analysis were poor. Of 16 SDGs, only 5 SDGs had an acceptable model fit for factor analysis. Therefore, using z-scores was the most appropriate method in constructing the index.

To calculate environmental and social disproportionality, I have divided the SDGs into environmental and social goals. This decision was made based on the indicators of each SDG. Because most SDGs do not consider just one aspect of sustainable development, many goals tended to include both social and environmental issues. The decision to include them in the environmental or social group was made based on the emphasis of the goal. For example, Goal 9 (industry innovation and infrastructure), in addition to discussing industry developments, also stresses sustainable developments such as clean and environmentally sustainable technologies. Because the goal highlighted the importance of sustainable behavior of consumers and industries, this goal was perceived to be more environmental than social. Similarly, Goal 11 (sustainable cities) includes sustainable transport systems, sustainable urbanization, waste management, and green spaces, as well as the equal access to these infrastructures. Because the goal requires sustainable infrastructures, it was also considered environmental.

The following goals were included in creating the social scores: Goal 1 (poverty), Goal 2 (hunger), Goal 3 (health), Goal 4 (quality education), Goal 5 (gender equality), Goal 8 (work and economic growth), Goal 16 (peace and justice), and Goal 17 (partnership). The goals included in creating the environmental scores are Goal 6 (clean water), Goal 7 (affordable and clean energy), Goal 9 (industry innovation and infrastructure), Goal 11 (sustainable cities), Goal 12 (responsible consumption and production), Goal 13 (climate action), Goal 14 (water), and Goal 15 (land).

2.3.3. Missing Data and Robustness Checks

As in most large data sets, there is an issue of missing data. Missing metrics mean the company is not publishing data because either it is doing badly or because it does not care about the issue deeply enough to invest in measuring it. Because missing data have behavioral implications, they cannot be considered as missing completely at random (MCAR) or missing at random (MAR). Instead, missing data are considered as missing not at random (MNAR). Companies with missing data show an important corporate characteristic, which is the lack of transparency, and many previous studies in the past have included transparency as a part of CSER (Graafland and Eijffinger 2004; Guenther, Hoppe, and Poser 2007). Corporate transparency has been associated with having little or nothing to hide and with identifying themselves as “rule-followers, meeting the demands of their stakeholders” (Carroll and Einwiller 2014:2). To elaborate, Wu et al. (2018) found that both green CSR and innovation performance became stronger with greater firm transparency and public visibility. Their research indicates that companies that are transparent and visible are more likely to perform better in both CSER and innovation. The assumption that less transparent companies tend to perform worse in CSER than transparent companies is also evident in a study by Nazari et al. (2017), who found that clearly written reports and disclosure led to better CSER performance and that the reverse was the case for vague and unclear written CSR reports. Consequently, companies with missing data were penalized and given the lowest z-score within the same variable. For example, Berkshire Hathaway did not publish data on total greenhouse gas emissions. Therefore, for this variable the company were given the lowest z-score (-7.27) within the same variable. This method penalizes the company for its lack of transparency.

Because this method assigns missing data the lowest value for a variable, missing data may affect the overall SDG z-score for a company. Most studies in CSER tend to use the listwise

deletion method, which deletes observations that carry any missing data (Giannarakis 2014; Tang, Hull, and Rothenberg 2012). However, for the construction of this index, listwise deletion was not a feasible method because this study uses 87 variables from three different datasets. All companies had at least 1 missing observation, and the mean number of missing observations per company was 17.2. This meant that the listwise deletion would have deleted all companies. Therefore, the most appropriate way to deal with missing data was to assign the lowest score for a variable to companies that did not provide data.

For a robustness check, the same calculation was conducted controlling for sector. Some indices control for sectors in measuring their CSER performance scores. Therefore, this step was necessary to measure whether controlling for sector was yielding a significantly different result compared to not controlling for sector. In this alternative index, a z-score was obtained within the sector to which a company was assigned. For missing data, the company was given the lowest z-score within the sector to which the company belongs. For example, because Berkshire Hathaway did not publish greenhouse gas emissions data, it was given the lowest z-score within the same variable within FIRE. Therefore, in this case, Berkshire Hathaway was given -3.84, which was the lowest z-score for total greenhouse gas emission for the FIRE sector. The correlation between the SDG index and this alternative index (which controlled for sector) was high ($r=.94$, $p<.01$). For a further robustness check, correlation analyses were done between the SDG index and the existing indices, namely, Bloomberg disclosure scores and ASSET4 CSER performance scores. This index correlates highly with both indices ($r=.7$, $p<.01$), which shows that the existing studies on CSER that use these two indices remain valid, although they are of limited value for the hypotheses that are tested here.

2.3.4. Analytic Strategy

It is necessary first to define the concept disproportionality precisely. Dissimilarity is different from disproportionality because dissimilarity calculates whether the means of the two datasets are statistically different. Disproportionality refers to observations that are *substantially* different from the rest of the observations. Some studies use spatial regression analysis and geographic information systems (Collins 2011; Freudenburg et al. 2009; Greenberg 2017; Nowak et al. 2006), and other studies use the percentage change approach (Freudenburg 2006). Because spatial analysis is not feasible with this dataset, the percentage change approach is used.

This study analyzes disproportionality based on total assets, which is collected from Bloomberg. Here, total assets are used as the control variable to investigate companies that are performing particularly poorly and well in comparison to their corporate size and performance. To identify disproportionality, a graph is drawn with total assets on the x axis and the CSER score on the y axis. Then the companies that have low total assets and high scores (top left corner; leaders) and the companies that have high total assets and low scores (bottom right corner; laggards) are identified. Providing an exact cut-off point is not feasible for this paper because the distributions of all scores are different. Using statistical outliers (more than 1.5 times the interquartile range above the third quartile or below the first quartile) was considered, but this method identified too many outliers and did not fit the description of disproportionate behavior, which describes a smaller number of observations clearly standing out and distinguished from the rest. Therefore, to identify disproportionality, graphical representations of SDG scores and total assets were used.

2.4. Results

2.4.1. Descriptive Statistics and Overall Disproportionality

Tables 2.4.1, 2.4.2, and 2.4.3 show the descriptive statistics of the SDG index. All scores are in z-scores. Overall, environmental goals are worse performing with many goals below -1 compared to social goals. The best performing sector on all SDGs is materials, whereas the worst performing sector of total SDG scores is communications. The average scores are all negative numbers because of the missing data. Because companies were penalized for not disclosing data, this meant that the SDG scores, although z-scores were used, were skewed to the right. Figure 2.4.1.1 also shows the distribution of total SDG scores and Table 2.4.3. shows the sectoral differences. The degrees of freedom (9,458) are the same because there are 10 sectors and 468 companies. Except for Goal 5 (gender), Goal 7 (energy), and Goal 16 (justice), all other goals are dissimilar across sectors. In other words, companies in different sectors tend to behave differently regarding most SDGs.

Table 2.4.1 Average SDG Scores by Goals

Environmental Goals	Average Score	Social Goals	Average Score
Goal 6: Water	-1.365	Goal 1: Poverty	-.134
Goal 7: Energy	-1.577	Goal 2: Hunger	-.014
Goal 9: Infra. Innov.	-1.669	Goal 3: Health	-.039
Goal 11: Cities	-.020	Goal 4: Education	-.083
Goal 12: Sust. Consump.	-1.159	Goal 5: Gender	-.266
Goal 13: Climate	-1.015	Goal 8: Employment	-.469
Goal 14: Oceans	-.022	Goal 16: Justice	-.075
Goal 15: Forests	-.006	Goal 17: Partnership	-.076
Total	-.854	Total	-.144

Table 2.4.2 Average SDG Scores by Sector

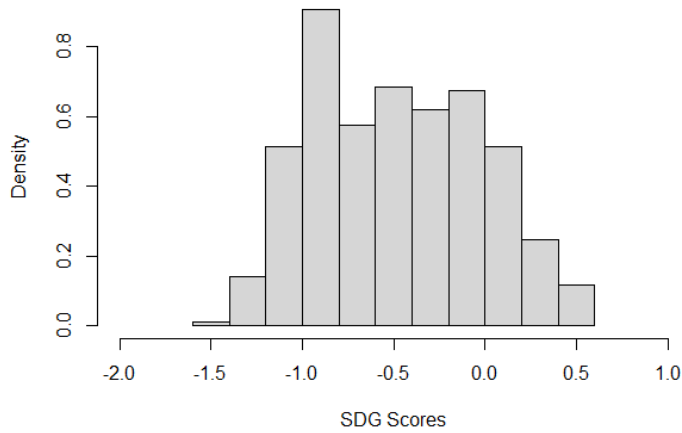
Sector	Average Score
Communication	-.659
Discretionary	-.623
Energy	-.577
Financial, Insurance, Real Estate (FIRE)	-.569
Health	-.423
Industrial	-.434
IT	-.383
Material	-.298
Staples	-.384
Utilities	-.311
Total	-.482

Table 2.4.3 ANOVA Analysis of SDG Scores by Sector

Environmental Goals	F value	Social Goals	F value
Goal 6: Water	2.416 *	Goal 1: Poverty	4.466 ***
Goal 7: Energy	0.804	Goal 2: Hunger	5.561 ***
Goal 9: Infra. Innov.	2.470 **	Goal 3: Health	5.299 ***
Goal 11: Cities	2.155 *	Goal 4: Education	2.878 **
Goal 12: Sust. Consump.	4.503 ***	Goal 5: Gender	1.531
Goal 13: Climate	3.084 **	Goal 8: Employment	5.624 ***
Goal 14: Oceans	8.405 ***	Goal 16: Justice	0.533
Goal 15: Forests	4.410 ***	Goal 17: Partner	2.435 *

*p < 0.1, **p < 0.05, ***p < 0.01.

Figure 2.4.1.1 The Distribution of SDG Scores of Fortune 500



Using three sets of corporate sustainability scores, namely the SDG overall score, Bloomberg disclosure score, and ASSET4 performance score, Figures 2.4.1.1, 2.4.1.2, and 2.4.1.3 show that corporations that stand out from the group are fairly consistent across all three scores.

Figure 2.4.1.2. Disproportionality between SDG Score and Total Assets

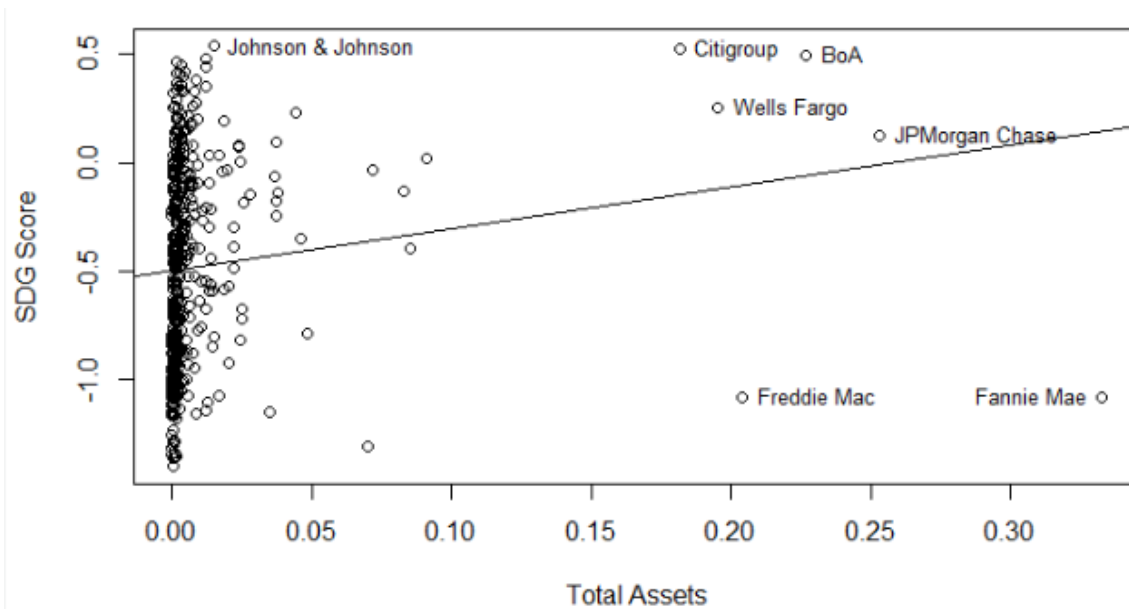


Figure 2.4.1.3. Disproportionality between ASSET4 Scores and Total Assets

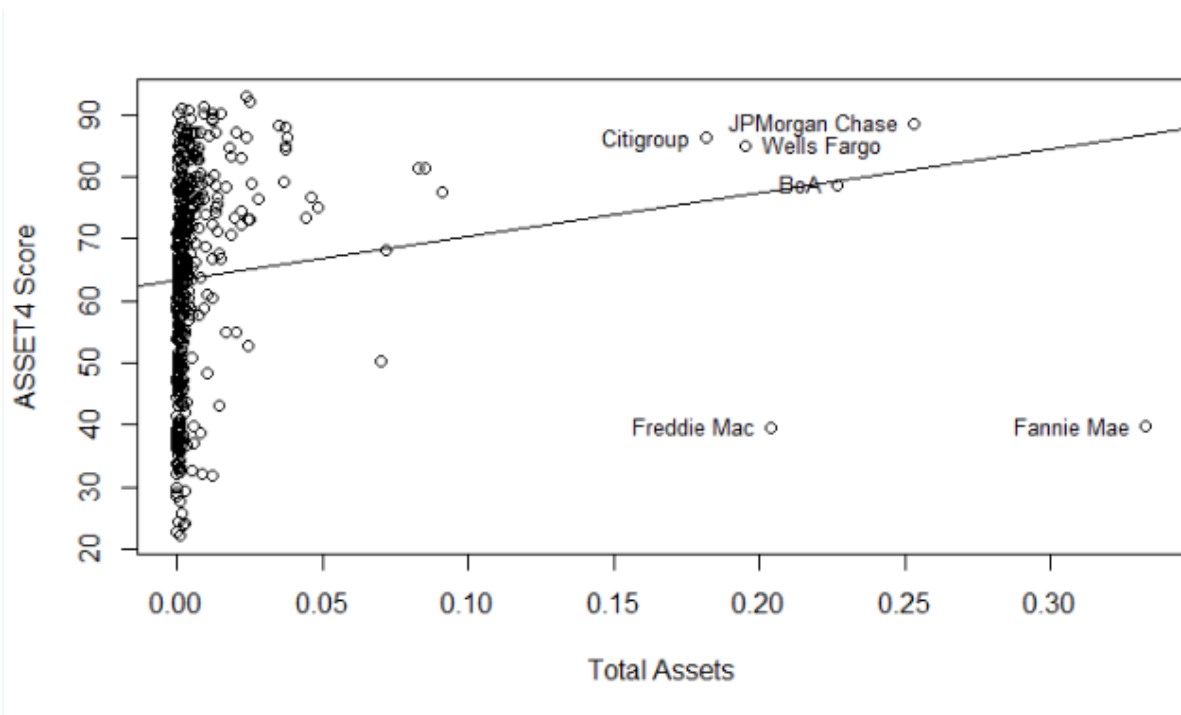
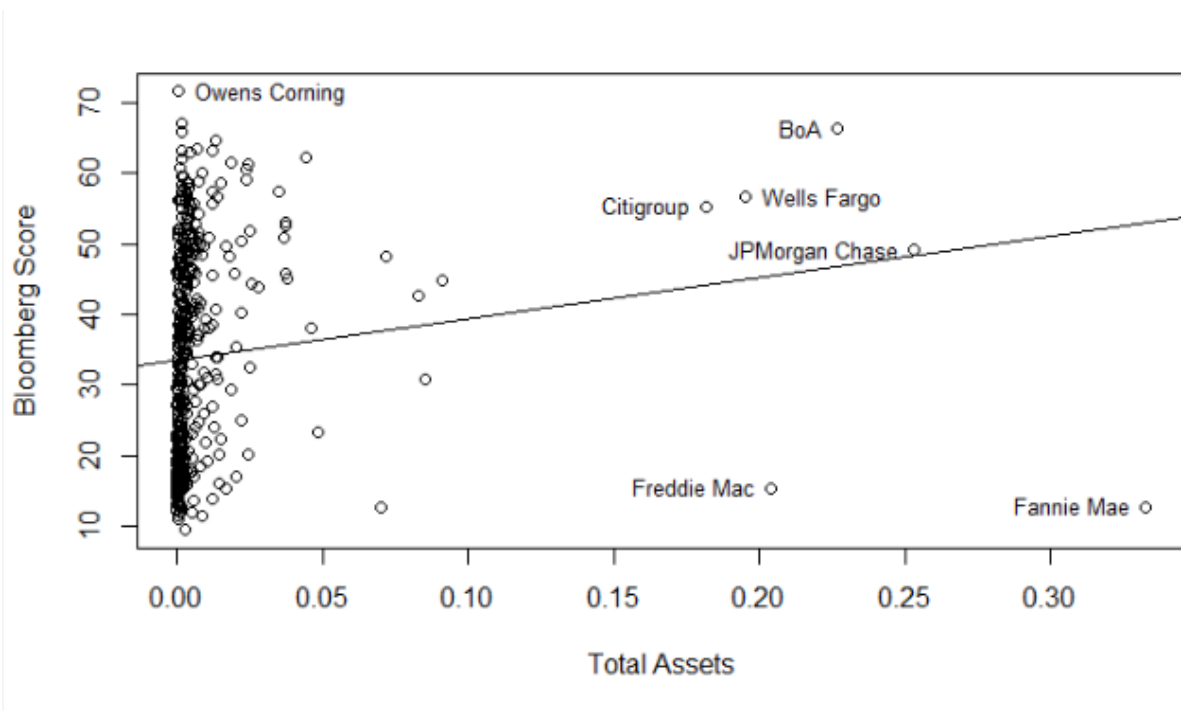


Figure 2.4.1.4. Disproportionality between Bloomberg Disclosure Scores and Total Assets



All the companies that stood apart from the group in the figures are labelled. To clarify, the disproportionate companies are placed in top left-hand corner (low total assets but high sustainability score, which would indicate that these companies are the leaders) and the bottom right hand corner (high total assets but low sustainability score, which would indicate that these companies are the laggards). In the SDG index, Johnson & Johnson is identified as the leader and in the Bloomberg disclosure score, Owens Corning is leading. These companies also score high in ASSET4, but they do not stand out enough to be considered leaders. The laggards in all three indices are Fannie Mae and Freddie Mac, which have large total assets but score particularly low in transparency (Bloomberg disclosure scores) and performance (ASSET4 and SDG scores).

2.4.2. Environmental Disproportionality

The strength of the SDG index lies with its granularity. Although ASSET4 and Bloomberg also publish environmental and social scores, they do not further break down into smaller goals or objectives. However, the SDG index provides scores for each SDG, which is then can be used to identify the leaders and laggards for each goal. This is theoretically important because it allows more specific targeting of industries, sectors, and corporations on very specific issues.

The first hypothesis stated that *environmental disproportionality will be evident among the Fortune 500 companies*. In this section, I show graphs that indicate disproportionality within the environmental SDGs.

Figure 2.4.2.1. show the disproportionality between Goal 6 (Water) scores and total assets. Two companies are notably leading the group, as indicated in the top left corner. They score particularly high in Goal 6 compared to other companies considering their total assets.

There are a few laggards, namely Freddie Mac, JP Morgan Chase, and Fannie Mae. Although their total asset is larger than others, they score particularly low in Goal 6.

Figure 2.4.2.1: Disproportionality Between Goal 6 (Water) Scores and Total Assets

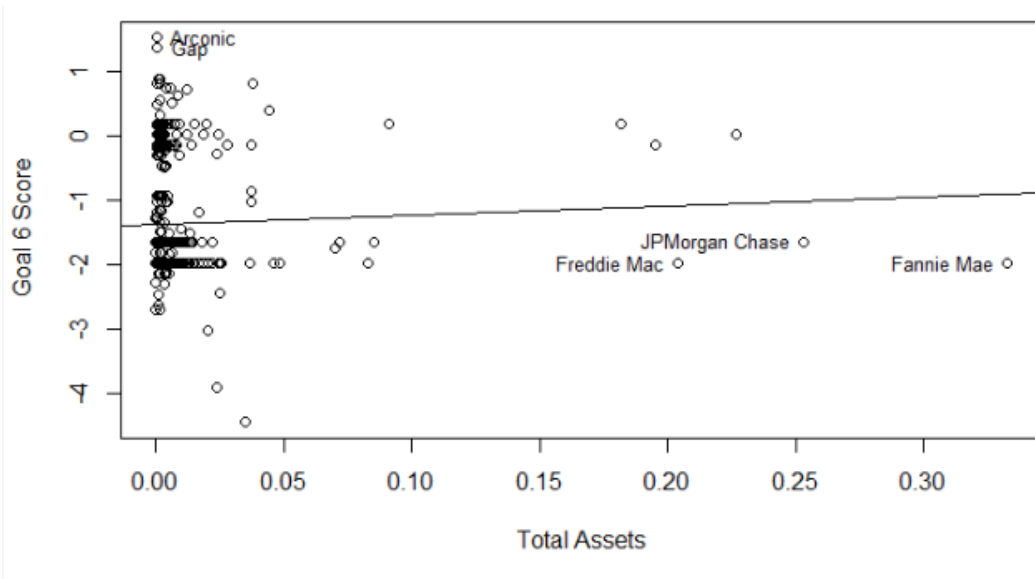


Figure 2.4.2.2: Disproportionality between Goal 7 (Energy) Scores and Total Assets

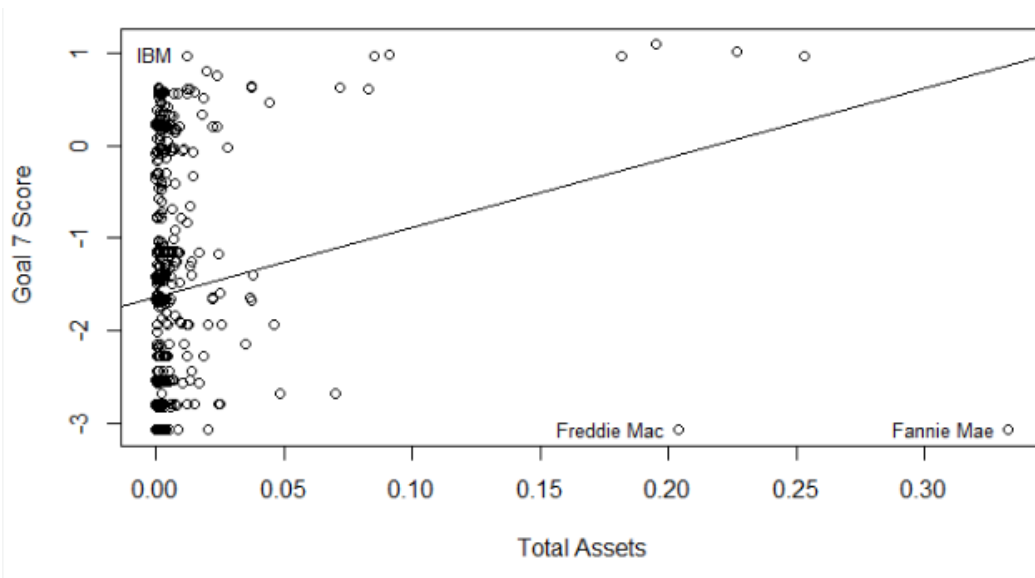


Figure 2.4.2.3: Disproportionality between Goal 9 (Infra. Innov) Scores and Total Assets

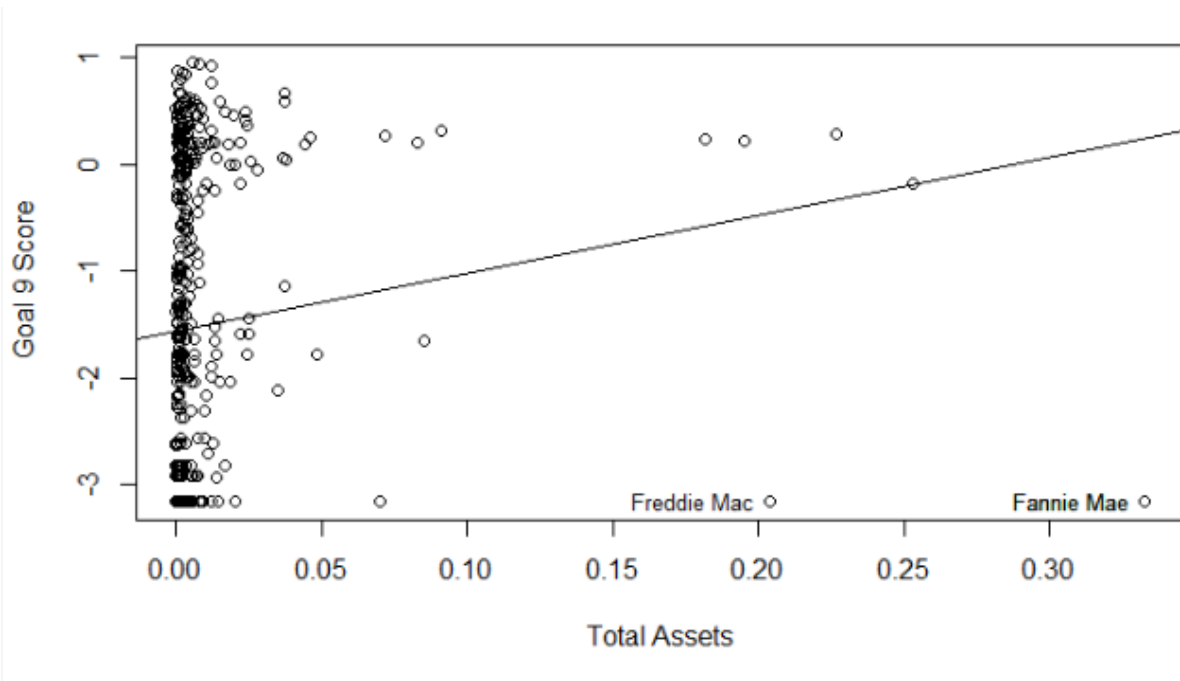


Figure 2.4.2.4: Disproportionality between Goal 12 (Sustainable Consumption) Scores and Total Assets

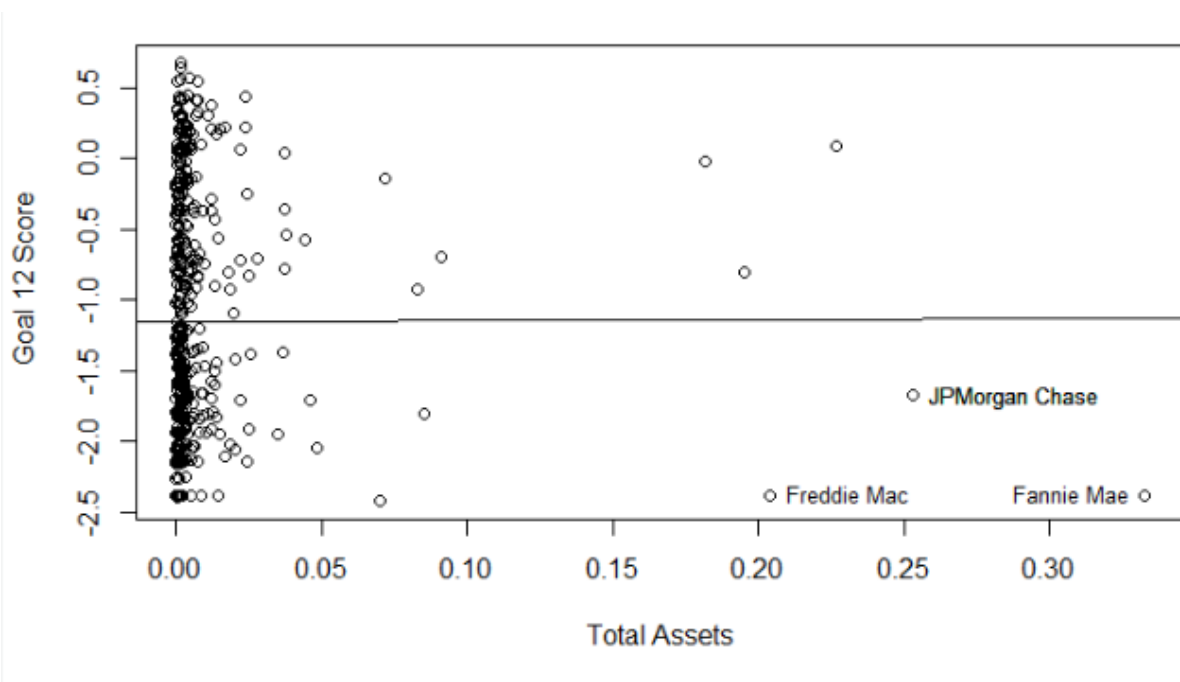


Figure 2.4.2.5: Disproportionality between Goal 13 (Climate) Scores and Total Assets

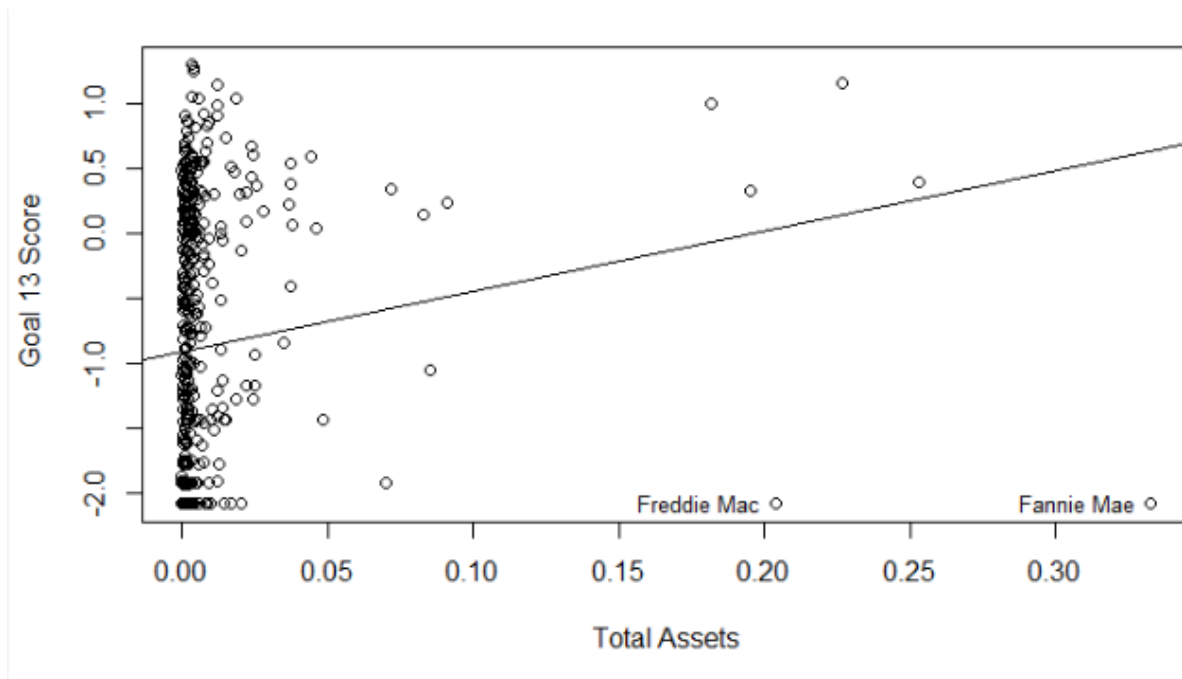


Figure 2.4.2.2 shows that IBM is leading Goal 7 (Energy) whereas Fannie Mae, again, is lagging. Figure 2.4.2.3 shows the disproportionality between Goal 9 (Infra. Innov.) and total assets. Here, there are no clear leaders, but Fannie Mae is scoring very poorly despite its large total assets. Figure 2.4.2.4. shows that there are no clear leaders, but JP Morgan Chase and Fannie Mae are lagging behind other companies in Goal 12 (Sustainable Consumption). The similar pattern is evident in Goal 13 (Climate), which shows that Fannie Mae is a laggard, but there are no clear leaders.

2.4.3. Social Disproportionality

The second hypothesis stated that *social disproportionality will be evident among the Fortune 500 companies both within and across sectors*. To test this hypothesis, the same analysis of disproportionality was conducted for social goals.

Figure 2.4.3.1. show the disproportionality between Goal 1 (Poverty) scores and Total Assets. There are several leaders for Goal 1, as shown in the top left corner, which indicates that these companies are scoring particularly high in alleviating poverty when their total assets are taken into account. Goal 5 (Gender; Figure 2.4.3.2) also shows one leader, Estee Lauder and one laggard, Fannie Mae. For Goal 8 (Employment), there are no clear leaders, but Fannie Mae is scoring particularly low compared to other companies. Figure 2.4.3.4 shows that there are a few leaders, such as Merck, Monsanto, Microsoft, Johnson & Johnson, and Lockheed Martin that is leading the group whereas Fannie Mae and Freddie Mac fall behind again.

Figure 2.4.3.1: Disproportionality between Goal 1 (Poverty) Scores and Total Assets

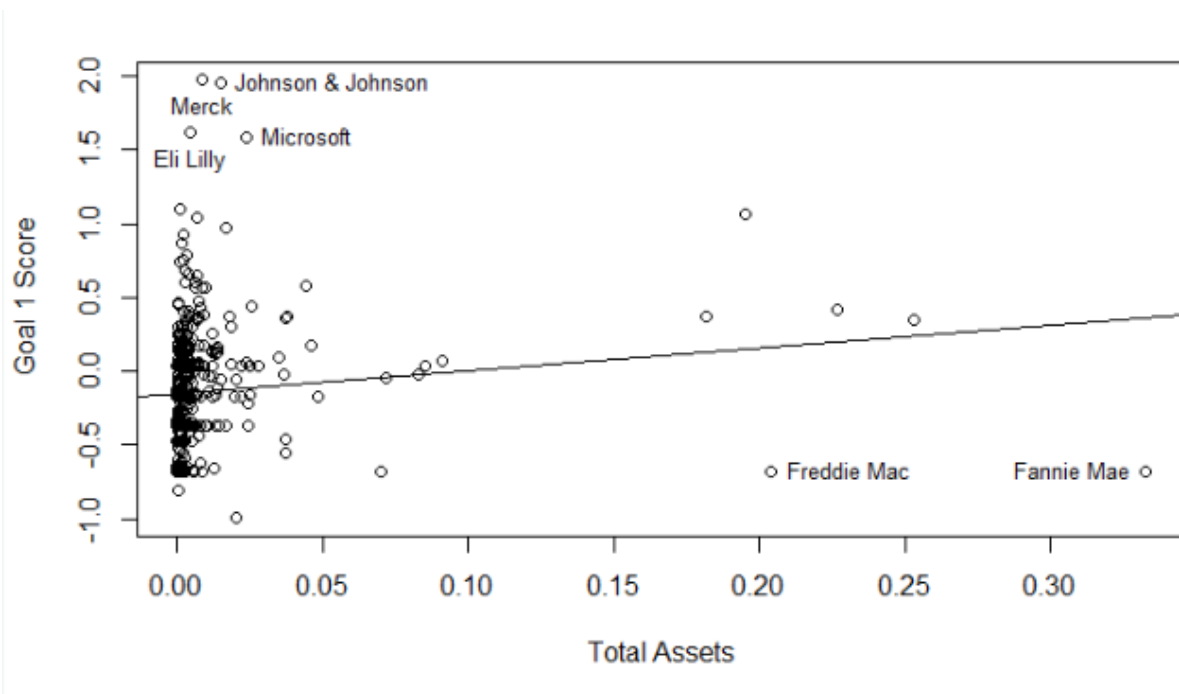


Figure 2.4.3.2: Disproportionality Between Goal 5 (Gender) Scores and Total Assets

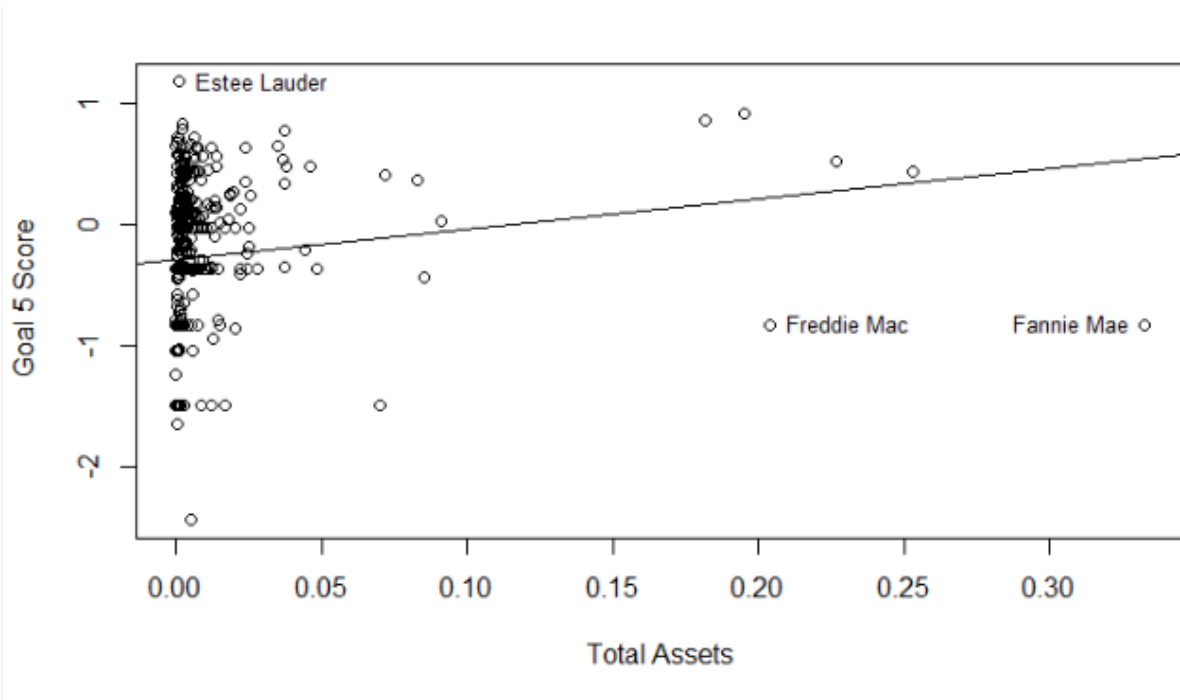


Figure 2.4.3.3: Disproportionality between Goal 8 (Employment) Scores and Total Assets

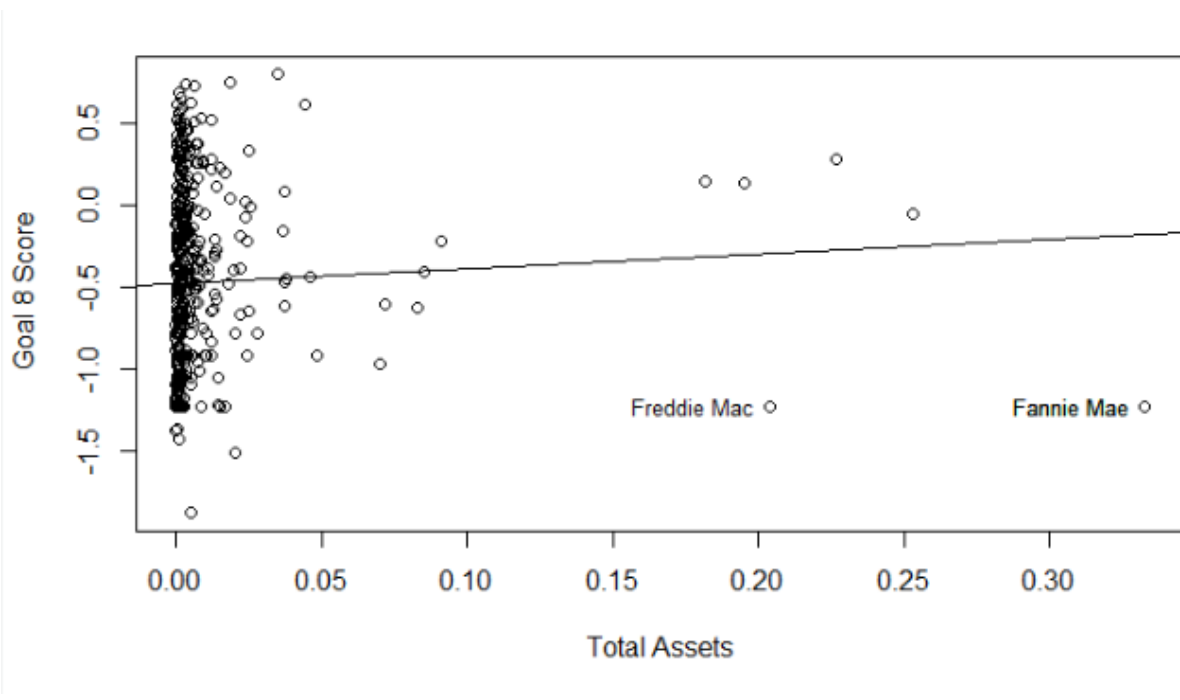
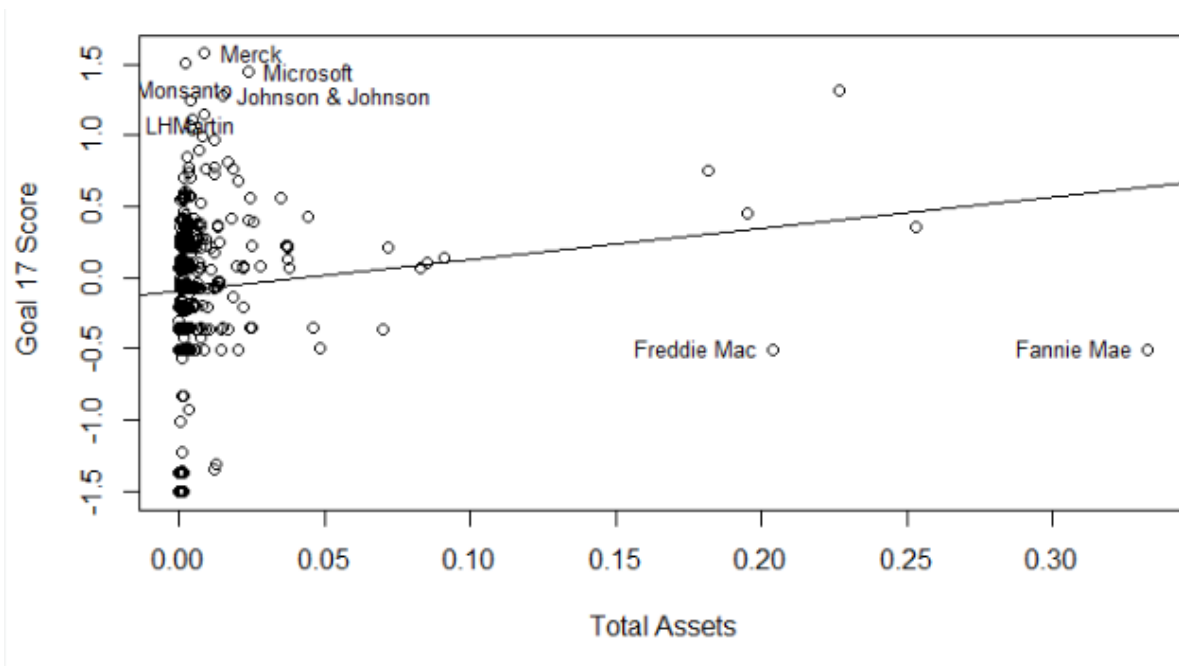


Figure 2.4.3.4 Disproportionality between Goal 17 Scores (Partnership) and Total Assets



2.5. Discussion

This study finds support for both of its hypotheses. Fannie Mae and Freddie Mac are laggards in several figures. However, except these two companies, there is little consistency across the SDGs on which companies would generally lead or lag among the group on a specific topic. Therefore, the analysis indicates that a granular approach (focusing on each SDG) provides an improved way to measure CSER performance.

Freudenburg's disproportionality thesis provides the theoretical basis for the analysis of corporate disproportionality. Controlling for total assets, the findings indicate that there is significant disproportionality between the companies on their privileged access regarding the SDGs. In other words, even if we account for "inevitable" disproportionality in terms of environmental and social goals because it creates economic benefits, some companies are either leading or lagging.

I expected a greater number of laggards; however, the laggards across most goals were limited to one or two companies. One explanation of the fewer number of laggards is that the method for handling missing data leads to the clumping together of laggards. Another explanation is that companies try to compensate for their bad behavior by doing better on similar variables that are also included in the measure for the same SDG. For example, many energy companies score badly on their GHG emissions because they emit significantly more than other sectors or because they refuse to disclose their data. Instead, many energy companies have signed UN Global Compact signatories, have climate-change policies, and score relatively well in emission reductions. Therefore, firms that score particularly badly for one variable can do well overall for an SDG, which is comprised of multiple variables.

Despite the difficulties of interpretation, the identification of leaders and laggards in the SDG index is a theoretically important finding. This study shows that the disproportionality perspective can be expanded beyond the analysis of negative corporate behavior and geographical inequalities as shown in previous studies. In addition, the approach can be used to identify a group of firms that are performing significantly better than other firms for CSER. It also suggests that social disproportionality is an important concept that has been left out of the literature until now.

2.6. Conclusion

Despite numerous efforts to make corporations more responsible for their environmental and social impact, there is still room for further improvement for corporations. In contrast with existing indices, this paper develops a new index that, is grounded in the UN SDGs. The most significant contribution of this paper is that it brings together the institutional and political

economy approaches. In doing so, this paper expands the structuralist theory of disproportionality by arguing that the concept does not fully explain the social disparities that corporations cause. Consequently, a new concept of social disproportionality is introduced.

Another significant contribution of this paper is that it provides a new index that is more methodologically robust and theoretically clearer. By having a measure of CSER that can be broken down into multiple metrics based on the SDGs, it becomes possible to investigate in a more granular way the predictive causes of SDG adoption by corporations. For example, one hypothesis that emerges from this study is that the reason why some corporations perform better for some SDGs (or that there are leaders for some of the SDGs) may be because some SDGs have a lower impact on profitability or because of the delayed effects of expenditures on some types of SDGs for corporate reputation. Another hypothesis is that different aspects of corporate governance may predict performance on the different SDGs and overall performance. This hypothesis is consistent with previous studies that have argued that CSER governance is a motivator rather than a metric of ESG performance and CSER, and it would be interesting to test which aspect of governance leads to better SDG scores. In summary, with CSER broken down into the different SDGs and with its quantitative threshold it would be possible to test, for example, if the gender composition of the board can make a significant difference in CSER performance on goal 5 (gender) (Bear et al., 2010; Galbreath, 2018). These hypotheses will be investigated in future research using this new index of CSER.

The results of this study could be used to inform policy designed to encourage CSER. Many of the studies on disproportionality published to date focused on the concentrated environmental harm from a handful corporations and on geographic inequalities. In addition to penalizing the laggards, this study indicates that there are some leaders in the business

communities that should be praised for their actions. Attention could be given to what motivates or causes their high performance and how their practices can be encouraged for other companies. By having a cross-sector perspective, the study also draws attention to leaders and laggards in a broader context than a single-industry study, and it could draw lessons for performance that might be taken from one sector adopted in another.

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2.8. Appendix

Sustainable Development Goal	Variables of Measure
Goal 1: End poverty in all its forms everywhere. (10 variables.) Social.	A4_wagesandWorkingConditionControversies A4_Product Access Low Price A4_Technology Know-How Sharing A4_Donations Total A4_Employee Engagement Voluntary Work A4_Human Rights Processes/Human Rights B_pctemployeeUnionized B_communitySpending B_humanRightsPol B_fairRemunerationPol
Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. (4 variables.) Social.	A4_biodiversityControversies A4_productAccessLowPrice A4_productQualitycontroversies B_biodiversityPol
Goal 3: Ensure healthy lives and promote well-being for all at all ages. (5 variables.) Social.	A4_consumerHealthControversies A4_publicHealthControversies A4_Employee Health&SafetyILOGuidelines A4_Employee Health&SafetyOHSAS18001 B_healthSafetyPol
	A number of indicators described for this particular goal refers more to reduction of specific diseases, which companies are often not involved in and are managed by government regulations.
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. (10 variables.) Social.	A4_diversityandOpportunityControversies A4_diversityandOpportunityPolicyElements/ DiversityandOpportunity A4_humanRightsProcesses/ChildLabour A4_humanRightsProcesses/ForcedLabour A4_humanRightsProcessesHumanRights A4_managementTraining A4_supplierESGtraining B_employeeCSRtraining B_trainingPol B_policyAgainstChildLabor
Goal 5: Achieve gender equality and empower all women and girls. (6 variables.) Social.	A4_diversityandOpportunityControversies A4_diversityandOpportunityPolicyElements/ DiversityandOpportunity A4_positiveDiscrimination B_pctWomenEmpl B_genderPayGap B_equalOppPol

Goal 6: Ensure availability and sustainable management of water and sanitation for all. (6 variables.) Environmental.	A4_publicHealthControversies A4_spillsandPollutionControversies A4_waterRecycleInitiative A4_waterTechnologies A4_spillImpactReduction B_totalWaterUse
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. (8 variables.) Environmental.	A4_electricityPurchased A4_renewableEnergyUse (yes or no) A4_energyEfficiencyInitiatives A4_renewableCleanEnergyProducts2017 energyUseTotal (merged) B_renewEnergyUse(refers to the amount) B_renewElectricityTargetPol B_energyEfficiencyPol
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. (15 variables.) Social.	A4_diversityandOpportunityControversies A4_diversityandOpportunityPolicyElements/ DiversityandOpportunity A4_wagesandWorkingConditionControversies A4_humanRightsProcesses/ChildLabour A4_humanRightsProcesses/ForcedLabour A4_humanRightsProcessesHumanRights A4_diversityandOpportunityPolicyElements/ WorkLifeBalance A4_positiveDiscrimination A4_tradeUnionRepresentation A4_strikes B_pctemployeeUnionized B_pctWomenEmpl B_genderPayGap B_policyAgainstChildLabor B_totalIncidentRate
Goal 9: Build Resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. (8 variables.) Environmental.	A4_landEnvironmentalImpactReduction A4_sustainableBuildingProducts B_GHGScope1 B_GHGScope2 B_greenBuilding B_sustainPackaging CDP_integratedPerformaceScore CDP_scope1EmissionsGlobally
Goal 10: Reduce inequality within and among countries.	This is a goal for government actors and civil society organizations. Therefore, I do not account for this particular goal in my index.
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. (6 variables.) Environmental.	A4_publicHealthControversies A4_productImpactControversiesenv A4_spillsandPollutionControversies A4_envResourceControversies

	<p>A4_landEnvironmentalImpactReduction A4_sustainableBuildingProducts</p> <p>A number of indicators for this goal specifically refer to disaster prevention and relief, which are more government specific than corporations.</p>
<p>Goal 12: Ensure sustainable consumption and production patterns. (18 variables.) Environmental.</p>	<p>A4_biodiversityControversies A4_productImpactControversies A4_envResourceControversies A4_consumerControversies A4_envSupplyChainManagement A4_landEnvironmentalImpactReduction A4_sustainableBuildingProducts A4_productImpactMediaControversies A4_commercialRisksandClimateOpportunities waste (merged) hazardousWaste (merged) wasteRecycled (merged) B_wasteReduction B_greenBuilding B_envSupplyMgt B_sustainPackaging B_envQualMgt B_biodiversityPol</p>
<p>Goal 13: Take urgent action to combat climate change and its impacts. (14 variables.) Environmental.</p>	<p>A4_ISO9000 A4_Supplier ESG training B_GRIChecked B_GRICompliance B_verificationType B_GHGScope1 B_GHGScope2 B_UNGlobalCompactSig B_emissionReduction B_climateChangeProducts B_climateChangePol B_employeeCSRtraining CDP_integratedPerformaceScore CDP_scope1EmissionsGlobally</p>
<p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development. (4 variables.) Environmental.</p>	<p>A4_biodiversityControversies A4_spillsandPollutionControversies A4_spillImpactReduction B_biodiversityPol</p> <p>Not many variables in the dataset measure ocean sustainability.</p>

<p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt reserve land degradation and halt biodiversity loss. (3 variables.) Environmental.</p>	<p>A4_biodiversityControversies A4_businessEthicsControversies B_biodiversityPol</p> <p>Not many variables in the dataset measure forest sustainability.</p>
<p>Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. (7 variables.) Social.</p>	<p>A4_businessEthicsControversies A4_privacyControversies A4_marketingControversies A4_productLabellingControversies A4_taxFraudControversies B_antiBriberyEthicsPolicy B_ethicsPol</p> <p>A number of indicators for this goal specifically refers to crime and violence and related laws, which are more government specific than corporations.</p>
<p>Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable development. (15 variables.) Social.</p>	<p>A4_envSupplyChainPartnershipTermination A4_ISO9000 A4_taxFraudControversies A4_donationsTotal A4_technologyKnow-HowSharing A4_privacyControversies B_GRIChecked B_GRICompliance B_verificationType B_UNGlobalCompactSig B_renewElectricityTargetPol B_energyEfficiencyPol B_climateChangePol B_biodiversityPol B_ethicsPol</p>

A4 refers to ASSET4; B refers to Bloomberg; CDP refers to Carbon Disclosure Project.

3. Corporate Social and Environmental Responsibility and Transnational Capitalist Class: Comparing the global corporate citizenship and universal owner perspectives.

3.1. Introduction

3.1.1. Importance

Many studies in the past have focused on the drivers of corporate behavior on corporate social and environmental responsibility (CSER). On the one hand, some studies identified financial gains as the main driver (Muthuri and Gilbert, 2011; Whitehouse, 2006). On the other hand, some scholars went beyond the commercial imperative and argued that the main drivers were institutional. These factors included internal corporate structures, such as personal values of individual managers (Hemingway and Maclagan, 2004) and external political structures, such as global institutional pressures (Muthuri and Gilbert, 2011) and NGOs (Whitehouse, 2006). This study contributes to the debate by developing a better understanding of another driver, membership in the transnational capitalist class (TCC). The TCC is operationalized through corporate centrality, which refers to the level of embeddedness of a corporation within a corporate network and is a common operationalization of the concept (Murray, 2014; 2017).

Several studies have claimed that the TCC is more likely to address CSER-related issues compared to less central corporations (Miller and Sklair, 2010; Sklair, 2001; 2002). Sklair (2001) developed the concept of global corporate citizenship to describe this particular characteristic of the TCC. Global corporate citizenship is defined as the TCC's global corporate responsibility to be concerned about social and environmental problems. Sklair also uses the term "caring capitalist" (Sklair 1998a: 11) to describe global corporate citizenship. The concept is important because it provides a counter-balance to a purely political economy perspective that would view

the TCC as motivated only by the economic interests of the class. Instead, the TCC is also motivated by a second institutional logic, which is CSER. By recognizing the idea of global corporate citizenship, Sklair combines the structuralist position that derives from the Marxist perspective, which would argue that the TCC would only be interested in economic aspects, with the institutional position that derives from the Weberian perspective, which would argue that the TCC are capable of being interested in social and environmental issues. He argues that the TCC is more likely to be involved in CSER practices than less central corporations because the TCC has a broader view of the role of CSER in maintaining and expanding markets. However, because the profit logic is dominant, Sklair also argues that the TCC is more likely to be interested in social than environmental challenges because environmentally oriented changes can negatively impact short-term gains in profits.

The findings of this study are consistent with Sklair's view, which is that the TCC is more likely to be involved in CSER practices than less central corporations. However, at a more specific level, this study also tests Sklair's claim that the TCC is more concerned with social responsibility than environmental responsibility. In order to evaluate the claim, this study brings in the concept of the universal owner, which is widely used in policy circles. In contrast to Sklair's argument, the universal owner perspective states that because powerful economic actors own a large share of the economic market, they are motivated to address both environmental and social issues. This is because both are equally considered to be threats to long-term market stability (Hawley and Williams, 2000; 2002). The findings of this study support the universal owner perspective and suggest that the TCC as a group is concerned with both social and environmental issues. In other words, the TCC has a unified interest in social and environmental issues, and it is responsive to short-term gains as well as long-term gains. Short-term gains such

as increased profit and consumption are achieved through social goals, which involve social equity and justice that can increase demand and consumption. Long-term goals, such as market stability, are more associated with environmental goals.

In summary, this study makes three novel contributions to the literature on the TCC. First, by showing that Sklair's concept of the TCC and the associated concept of centrality apply to CSER, this study expands the scope of research on CSER. It demonstrates that the links between the TCC, corporate centrality, and corporate responsibility are accurately portrayed in Sklair's work. Second, the study empirically tests the concept of global corporate citizenship. In other words, I am testing whether global corporate citizenship is a relevant concept – that the TCC are more likely to score higher environmentally and socially goals compared to non TCC. This empirical analysis shows that the logics that the TCC embed are significantly different from the non-TCC that the TCC are more likely to embed both logics, the logic of profit and the logic of CSER, which interlinks the two theoretical approaches of sociology, Marxist and Weberian. Third, it incorporates the previously separate literature on the universal owner into the analysis of the TCC and CSER. The universal owner perspective has significant similarities with the ecological modernization theory (discussed in detail in the introduction of this dissertation, refer to 1.2., Contribution to the Literature), which suggests more autonomy for the CSER logic that is reflected in the relative parity of environmental and social goals.

3.2. Literature Review

This section has three parts that discuss the three main concepts of transnational capitalist class, global corporate citizenship, and the universal owner.

3.2.1. Transnational Capitalist Class

The first key concept is the transnational capitalist class (TCC). An essential concept in understanding networks among corporations, the TCC refers to a segment of the capitalist class that has control over globalizing processes with networks that expand beyond national borders (Sklair, 2001). Because of the TCC's strong internal network ties as well as its power, which encompasses not just the economic sphere but also the political and social spheres, the TCC is interpreted as the most powerful segment of the capitalist class. Two similar concepts are the inner circle membership (Useem, 1984) and the policy planning network (Domhoff, 2010); however, the TCC is more specific than the former, which is defined as having more than one corporate board affiliation, and the policy planning network is mostly focused on the United States.

The existence of the TCC in contemporary society has been questioned in the political sociology literature. Mizruchi (2013) argued that corporate elites formed a bond during the 1970s when they were faced with threats from the government and labor movements. However, by the early 1980s, corporations and business communities had gained enough strength to thwart and weaken labor movements and government regulations. As their power grew, the value of organizing collective action within the business community became less important. In other words, there were minimal additional gains from building a cohesive community for corporate elites, which meant that companies began to go their own way and focus on industry-specific issues. Similarly, Chu and Davis (2016) claimed that well-connected directors were less preferred. In short, because of the diversification of the economy, there was no longer a need to have a powerful and tightly knit group.

In contrast, another group of researchers claimed that although some elements of corporate networks and the TCC have changed due to political and economic shifts, the presence and power of the TCC remain significant not only in domestic politics but also in transnational economy and international politics (Banerjee, 2020; Beaverstock 2018; Carroll, 2009, 2013; Carroll and Carson 2003; Gonzalez, 2019; Heemskerk 2011; Murray, 2014, 2017; Robinson & Harris, 2000; Sklair, 2001). More specifically, empirical studies operationalized the concept of the TCC through corporate centrality and argued that it has an impact on corporate decisions and actions (Murray, 2014, 2017). Here, centrality refers to the level of embeddedness of a corporation within a corporate network, which is often measured by the number of networks (also called interlocks) that a board of directors has with other corporations. For example, Tim Cook, the CEO of Apple, Inc., is also a board member of Nike, Inc., as of April 2020. This shared board membership indicates that there is an interlock between these two corporations. The more interlocks a corporation has, the more central a corporation is in the business community.

2.2 Global Corporate Citizenship

The concept of global corporate citizenship describes the TCC's social and environmental responsibility goals and associated actions. In other words, global corporate citizenship refers to the TCC's "the highest standards of business practice wherever the corporation operates" (Sklair 1998b: 207). This idea is based on the institutional approach, which places emphases on values and meanings, and it can be conceptualized as an institutional logic that is distinct from the profitability logic.

Sklair did not invent this concept; rather, several studies, particularly in the management literature, have linked the relationship between CSER and global corporate citizenship before

him (Pies, Beckmann, & Hielscher, 2010; Schwab, 2008; Thompson, 2005; von Weltzien Hoivik & Melé, 2009). For example, Schwab (2008) stressed the importance of the inclusion of civil society and local actors in corporate environmentalism and social responsibilities, thereby articulating the concept of global corporate citizenship as broader than CSER by placing companies in a “global space.” Sklair’s definition of global corporate citizenship is somewhat different from the existing literature because he linked the concept to the TCC, which derives from the tradition of political economy. Sklair emphasized the importance of the TCC’s actions in CSER precisely because of the TCC’s political and economic power and the value of CSER in ensuring market stability.

Some researchers, such as Thompson (2005), viewed CSER as a meaningless concept that promises more than it delivers: “the idea of global corporate citizenship lacks credibility and should be treated with extreme caution” (Thompson, 2005, p. 148). In contrast, Sklair (2001) argued that whereas greedy capitalism had peaked during the 1980s, “caring capitalism” (2001, p.159) emerged during the 1990s as an economic structure that included concern with social responsibility. The TCC started to value and respect its social responsibility. In the book “*The Transnational Capitalist Class*,” Sklair (2001) discussed a number of case studies in which transnational corporations, led by the TCC, directed and improved diversity initiatives, employment relations (e.g., human rights and unions), philanthropy, and community development.

Sklair claimed that there are four main components of global corporate citizenship: “employee relations,” “corporate philanthropy for community development,” “safety and health of all those who are impacted by corporate activities,” and “the environmental challenge” (2001, pp.159-160). Employee relations refer to supporting and providing fair training for a company’s

employees and to having diversity and equality of opportunity. Although many companies acknowledged the importance of human capital and tried to address employment relation issues, Sklair argued that it is often difficult for them to do so on a global scale because of the differences in labor markets. At the same time, regional human resources management offices have contributed to having a global perspective on employee relations. The second component of global corporate citizenship refers to a traditional form of corporate citizenship, in which companies engage in corporate philanthropy by making contributions to communities. For example, companies frequently sponsor arts, education, or popular culture. The third issue, safety and health, refers to the responsibility of companies to respect the health of not only their employees but also their consumers and communities that are affected by companies' environmental degradation. Although Sklair recognized the importance of CSER and associated institutional changes, he also claimed that the TCC is worsening class polarization by simultaneously increasing the rate of poverty and creating larger capitalist markets and more consumers (Sklair 2001, p.6).

The last of the four components of global corporate citizenship, the environmental challenge, which Sklair also called "the ecological crisis," is somewhat different. According to Sklair, corporate environmentalism is always in conflict with the environmentalist view that capitalism creates a growth logic that leads to ongoing ecological degradation. Many corporations have moved their most environmentally damaging sectors to developing countries, but it is unlikely that this will be a long-term solution due to international political pressure and opposition that has emerged in those countries. Corporations' efforts to expand the market in less developed countries also reflect their capitalist interest. In this sense, Sklair argued that the TCC

is concerned with environmental struggles only in a limited way, such that it does not directly affect their profits and growth.

In summary, although Marxists would agree with Sklair that the transnational capitalist class exists, they also would argue that corporations are capable of having only the capital logic and that other logics are pushed aside. In this sense, Sklair merged the two perspectives of structural political economy and institutional-modernization, but he did so by recognizing the primacy of the profitability logic. This view is especially evident in his argument that although corporations have made some attempts to embed social responsibility in their practices, they are much less interested in environmental responsibility.

2.3 Ecological Modernization and the Universal Owner

Another view is in the fully Weberian tradition that recognizes more autonomy for the different institutional sectors and, within organizations, institutional logics. This view is reflected in modernization theory such as reflexive modernization and ecological modernization (Beck and Lau 2005, Mol 2002, Mol et al. 2020). An implication of this view is that the global corporate citizenship perspective is more autonomous and that both social and environmental logics would be acceptable to corporations. This view is similar to discussions in policy and CSER circles involving the concept of the “universal owner,” which refers to a segment of corporate elite investors that not only care about the individual performance and governance of companies but also the economy as a whole (Hawley & Williams, 2000; 2002; Hoepner et al., 2019).

Although the universal owner concept focuses more on investors than on corporate board directors, Gjessing and Syse (2007) note that because investors’ main contact point is top

management or the board of directors, they have a great influence in nominating directors. Additionally, Turnbull (1997) and Amao and Amaeshi (2008) expanded the concept of universal owner to include “institutions” that own a small portion of the economy, instead of limiting the concept to investors. The scholarship that developed around the concept of the universal owner argues that because the market leaders “own” the economy – or at least a huge bulk of it – they strive for the improvement of the economy as a whole. Universal owners concern themselves with public policy affairs such as health care (Hawley & Williams, 2000); sustainable development (Hawley & Williams, 2002); and other environmental, social, and governance issues (Gjessing & Syse, 2007; Quigley, 2019; Urwin, 2011).

The proponents of the universal owner perspective include not only researchers, mostly in the discipline of management (Hawley & Williams, 2000; 2002; Quigley, 2019), but also industry professionals (Gjessing & Syse, 2007) who are interested in CSER. The concept of the universal owner is also widely used in the policy literature, particularly among United Nations organizations. For example, the United Nations Environmental Programme (UNEP) (2011:8) states, “Universal Owners recognize that they own a share of the economy and therefore adapt their actions to promote a prosperous, sustainable future.”

Building on these expansions of the universal owner concept, this study explores the implication that the interests of investors in both economic and socio-environmental responsibility would likely be aligned with those of the TCC. To the extent that the universal owner concept applies to the TCC, then the TCC would value environmental concerns on an equal footing with social concerns because it would wish to minimize investment risks and stabilize the market, not just for short-term profits but for long-term environmental and ecological conditions. In other words, the universal owner perspective on the responsibility logic

of the TCC differs from that of Sklair (2001), who argued that environmental struggles are directly related to the profitability of corporations and thus are less likely to be addressed compared to social concerns. Thus, the universal owner perspective provides a different view of the TCC's CSER behavior than that predicted by Sklair. In contrast to Sklair's perspective, the universal owner perspective suggests that the TCC would be particularly concerned with general sustainability issues because environmental sustainability is necessary for preserving the stability and the health of the economy (United Nations Environmental Programme, 2011). In other words, from the universal owner perspective, corporate sustainability is not considered to threaten profits; rather, by reducing externalities and risk, it can protect long-term returns and stability.

3.2.4. Hypotheses

I propose two hypotheses that test the theory of the TCC and global corporate citizenship. The overall foci of these hypotheses are twofold: (1) whether global corporate citizenship exists; and (2) whether the TCC tends to prioritize social goals more than environmental goals. To elaborate on the former, this paper investigates whether the TCC is involved in CSER activities more so compared to less central corporations. In other words, this study empirically tests whether global corporate citizenship as defined by Sklair exists and plays an important role in shaping CSER action. If central corporations, which have more network ties and are situated in the heart of the business community, are more likely to have higher CSER scores, this will indicate the presence of the global corporate citizenship, as defined by Sklair. Following from this line of argumentation, I propose the first hypothesis:

H₁: Central corporations are more likely to have higher CSER scores compared to less central corporations.

The literature review section of this paper analyzed the differences between Sklair's concept of global corporate citizenship and the concept of the universal owner. Both the TCC perspective and the universal owner perspective would agree that corporate elites would be concerned with social equality issues such as employment, public health, and local communities and would try their best to address and alleviate these issues. However, in regard to environmental issues, the two perspectives suggest possible differences. Thus, the following hypothesis is tested:

H₂: Central corporations have higher social scores than environmental scores.

3.3. Methods

3.3.1. Using the Sustainable Development Goals to Measure CSER

This paper uses the United Nations Sustainable Development Goals (SDGs) as the measure for CSER. The SDGs were first introduced in 2015 with an intention to harmonize global goals of sustainable development (United Nations, 2019; 2020). The SDGs include environmental issues, such as water, climate change, energy, infrastructures and cities, and natural resources (e.g., oceans and forests), and they also include social issues including poverty, hunger, health, education, gender diversity and equality, employment, justice, and partnership (United Nations, 2019). The grouping of these goals is somewhat artificial because there are many overlaps between the goals. Nevertheless, there are differences between the goals

that emphasize social equality and justice and the goals that strive for environmental sustainability. The differences between social and environmental goals become clearer in the United Nation’s document on global indicators for SDGs (United Nations, 2020). Table 3.1. shows how the environmental and social goals are grouped.

Table 3.3.1. Social and Environmental Groups of Sustainable Development Goals

Social Goals	Environmental Goals
Goal 1: Poverty	Goal 6: Water
Goal 2: Hunger	Goal 7: Energy
Goal 3: Health	Goal 9: Infra. Innov.
Goal 4: Education	Goal 11: Cities
Goal 5: Gender	Goal 12: Sust. Consump.
Goal 8: Employment	Goal 13: Climate
Goal 16: Justice	Goal 14: Oceans
Goal 17: Partnership	Goal 15: Forests

One of the main advantages of using the SDGs when thinking about CSER is the granularity of information that they can provide. Published data on CSER and corporations tend to lump all environmental and social goals together (e.g., ASSET4 ESG performance and controversy scores). However, being able to break down the data into categories such as employment relations, local community, safety and health, and environment is crucial in understanding whether corporations tend to favor responsibility goals and action oriented toward social issues rather than environmental issues. In this sense, the SDGs can be broken down into smaller groups, namely goals, in order to provide a more granular perspective of CSER. Moreover, the SDGs can work as a solid theoretical foundation that other indices lack (Lee, under review). Therefore, this paper also contributes to the literature by bringing the discussion about CSER, corporate citizenship, and the TCC into conversation with the SDGs.

In both the policy and scholarly literatures, corporations have not been perceived as central actors in meeting the demands of the SDGs. The literature so far has focused more on how governments implement the goals (Kroll, 2015; Lim et al., 2016; Stenberg et al., 2017). This tendency is evident in Goal 10, which aims to reduce inequality within and among countries, and some aspects of Goals 1 (No Poverty) and 2 (Zero Hunger). Goal 1 states that the poor and the vulnerable should have equal access to economic resources, and Goal 2 emphasizes that small scale producers should have secure and equal access to land and other productive resources.

Although the primary focus of the SDGs has been on governments, a group of studies argues that corporations can and should play an important role in realizing the SDGs (Martinuzzi, Schönherr, & Findler, 2017; Moldavska & Welo, 2019; Stafford-Smith et al., 2017; van Zanten & van Tulder, 2018). In other words, the SDGs provide a “central and lasting framework” (van Zanten & van Tulder, 2018, p. 227) through which corporations can develop their ideas and practices of global sustainable development. Building on the previous literature on corporations and the SDGs, this study uses the SDGs as the main dependent variable that measures corporations’ social and environmental practices.

3.3.2. Data collection and Operationalizing Concepts

The data for this paper were collected from the U.S. Securities and Exchange Commission, Bloomberg, ASSET4, Carbon Disclosure Project, and each companies’ websites. The SDG scores were calculated using data from Bloomberg, ASSET4, and the Carbon Disclosure Project. Focusing on the Fortune 500 companies in 2017, I collected all the relevant variables that correspond to the SDG indicators (United Nations, 2020) and calculated a z-score across each variable. Using a standardized measure was necessary because units varied widely

among different variables. These z-scores were grouped for each SDG and then were averaged. Companies with missing data, which would indicate the lack of transparency, were accordingly penalized by receiving the lowest score of the variable for the missing observations. I also did a robustness check by creating an alternative SDG scores, which assigned the lowest score of the variable of the industry that the company belonged to. Between the original scores and the alternative scores, the correlation was high at .94.

In order to analyze corporate centrality, I collected the list of each company's board of directors' names from the U.S. Securities and Exchange Commission website. To collect relevant control variables, such as market capitalization, financial leverage, and sector, I used the Bloomberg Terminal. Moreover, to find out whether a company was consumer facing or not, I visited each company's website to determine their main customer base.

Below I describe the variables I used in the analyses for this paper.

Dependent Variables

Total SDG Score: This variable shows the total SDG scores of corporations. The total SDG score is used to measure a company's score on their overall CSER performance. The existing indices of CSER performance published by private companies were not used because of its lack of methodological clarity and theoretical foundation (Lee, Under review). Instead, the total SDG scores were calculated by averaging the individual SDG scores. The values are in z-scores, which provide a standardized score of all variables and all scores across the SDGs. Here, the total SDG scores measure a company's performance of CSER. This measure includes both social and environmental aspects of CSER. In measuring the total SDG score, Goal 10, "Reduce inequality within and among countries" was excluded. Goal 10's indicators address more

government related issues, such as ensuring the representation and voice for developing countries, state level assistance and other policy issues, such as migration. Issues that are related to corporations within Goal 10, such as equal opportunity and elimination of discrimination are already covered by other goals in the SDGs index.

Goal 1-17 Scores: One of the main strengths of using the SDGs as the measure of CSER performance is the granularity that the scores can provide. By using each goal as the dependent variable, except Goal 10 (reduce inequality), this paper shows the varying importance of centrality in predicting different SDGs. All goal scores are in z-scores.

Social Score: The social scores of the SDGs are created by averaging the scores of the goals that emphasized social justice issues, such as poverty, equality, employment, and justice. The following goals were included in creating the social scores: Goal 1 (poverty), Goal 2 (hunger), Goal 3 (health), Goal 4 (quality education), Goal 5 (gender equality), Goal 8 (work and economic growth), Goal 16 (peace and justice), and Goal 17 (partnership). Social goals directly reflect the first three components of global corporate citizenship, namely employee relations, corporate philanthropy for community development, and safety and health, which are also grouped as the class polarization crisis. By grouping these goals together, this study measures whether a central company values the first three components of global corporate citizenship more as Sklair claimed or addresses environmental challenges just the same as the concept of universal owner described. The social scores are an average of the goal scores that are listed above, and all values are in z scores.

Environmental Score: The environmental scores of the SDGs are created by averaging the scores of the goals that highlighted environmental struggles, such as climate change, and natural resources. These environmental SDGs reflect what Sklair called the ecological crisis. The

goals included in creating the environmental scores are Goal 6 (clean water), Goal 7 (affordable and clean energy), Goal 9 (industry innovation and infrastructure), Goal 11 (sustainable cities), Goal 12 (responsible consumption and production), Goal 13 (climate action), Goal 14 (water), and Goal 15 (land). In some cases, it was difficult to accurately determine whether the goal was social or environmental. Therefore, in determining whether a goal is more social or environmental, the indicators list that the United Nations published on the SDGs (United Nations 2020) was used. For example, Goal 9 (industry innovation and infrastructure), in addition to discussing industry developments, also stresses sustainable developments such as clean and environmentally sustainable technologies. Additionally, Goal 11 (sustainable cities) includes sustainable transport systems, sustainable urbanization, waste management, and green spaces. Most environmental goals include some social aspects such as equity and justice. Nevertheless, they were considered as environmental SDGs because the emphases were placed on environmental and sustainable management rather than social. Refer to UN SDG list of indicators (United Nations 2020) for more information. The environmental scores are an average of the goal scores that are listed above, and all values are in z scores.

Independent Variables

Normalized Centrality: Degree centrality is used to measure the number of interlocks that a corporation board as a whole possesses, and it is also used to measure the TCC (Murray, 2014, 2017). In other words, the companies with more interlocks are situated in the center of the business community and considered to be a part of the TCC.

Control Variables

Market Capitalization: Market capitalization measures not only the firm's financial performance but also its ability to embrace growth opportunities and minimize risk exposure (Rusdi, Primiana, Sule, & Cahyandito, 2018). Market capitalization is an important variable to control for because it indicates a company's visibility and profitability. Consequently, previous studies of CSER control for market capitalization (Daszynska-Zygadlo, Slonski, & Zawadzki, 2016; Yusoff, Mohamad, & Darus, 2013). Moreover, previous studies on corporate transparency, which is one of the key elements of CSER, show that companies with higher market capitalization – in other words, companies that are more visible – are more likely to be transparent (Gamerschlag, Möller, & Verbeeten, 2011; Giannarakis, 2015; Gunningham, Kagan, & Thornton, 2004) because their brand images are more easily tarnished. Therefore, the expectation in this paper is that the SDG score of a company will increase with a higher market capitalization. The unit of this variable is 100 billion USD.

Financial Leverage: Financial leverage refers to using the ratio of borrowed money, which is debt, to purchased assets with the expectation that the purchased assets will bring more financial benefit than the cost incurred by the debt. Therefore, it can also be interpreted as debt-to-equity ratio, which is calculated by total debt divided by total equity. Financial leverage is considered as a variable of interest in predicting CSER in a number of studies in the past, but there is still some dispute in the literature about the variable's significance (Giannarakis, 2014; Mishra & Modi, 2013; Riantani & Nurzamzam, 2015).

Consumer Facing: Schurman (2004) claimed that firms and industries that manufacture products that are more politically sensitive (e.g., energy companies in terms of their environmental consequences) or are involved in behavior that are considered outside of social norm (e.g., sex trade in children, inhumane treatment of the weak social members such as the

elderly) are more likely to be targeted by consumer groups. Following from this argument, consumer facing companies are more likely to listen to the demands of the public, which include responsible behavior towards local communities and the environment. Reflecting this view, a variable named consumer facing is incorporated in the analysis, which measures whether a company deals directly with consumers or whether it is a business-oriented corporation. The companies that serve both, consumers and other businesses, were considered as a consumer facing organization as their corporate decisions would be affected by consumer demands. Consumer facing companies were coded as 1 and business-oriented companies were coded as 0.

Sector: Industries are considered as an important differentiation point of corporations in regards to CSER (Hull & Rothenberg, 2008). This is because depending on industry, a company may be more prone to act in a certain way. For example, energy companies may be more invested in internal energy policies because they are large emitters of carbon. Financial institutions may not care so much about the firm's direct impact on climate change, but instead they may develop programs that support environmental causes, such as socially responsible investing. For this study, industries were considered as too granular because the sample only included the Fortune 500. Therefore, instead of using industries, sectors were used. The definition of sectors is based on the Global Industry Classification Standard (GICS), which is argued to provide the most accurate variations in financial valuations as well as key financial ratios (Bhojraj, Lee, & Oler, 2003; Katselas, Sidhu, & Yu, 2019). There are eleven sectors in the GICS, which are Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health care, Financials, Information Technology, Telecommunication Services, Utilities, and Real Estate. All sectors remain the same in the analysis except the Financial and Real Estate sectors, which were combined to create the FIRE sector. The FIRE sector was used as the

reference group in the analysis. A number of studies showed that the banking sector lead the TCC (Davis & Kim, 2015; Davis & Mizruchi, 1999; Mizruchi, 1983). Moreover, banks are often among the companies that report their CSER initiatives and practices most frequently and are considered exemplary (Graafland & Eijffinger, 2004; Lock & Seele, 2015).

3.3.2. Sampling and Missing data

This paper focuses on the Fortune 500 in 2017, which means only the companies based in the United States are included in the analysis. Furthermore, 32 companies of the 500 were removed because they did not publish any CSER data. Because the scores tend to vary widely between different companies and because the variables considered in this paper were not sufficient to provide an accurate estimation, these 32 companies were dropped. Of the remaining 468 companies, 36 companies were missing market capitalization values, 34 companies were missing financial leverage values, and 16 companies were missing centrality values. Harrell (2015) argued that casewise deletion “results in regression coefficient estimates that can be terribly biased, imprecise or both” (2015, p. 47) and that it has little advantage except saving the analyst time. In addition to the general concerns about casewise deletion, after removing companies with missing data, I would have been left with 401 companies, which results in a removal of almost 20% of the sample. Therefore, in order to mitigate the problems caused by missing data, Bayesian multiple imputation was used for the independent variables. Five imputations were used, which is considered sufficient (Harrell, 2015), and the “set.seed” function was also used in order to maintain consistent results. The statistical significance of the variables remained the same between using the listwise deletion and the multiple imputation.

Because of the difficulty of controlling for different market structures in various countries, this study focuses on the top 500 companies in the United States. Because of this limitation, the findings can only be generalized to the context in the United States. Nevertheless, the companies in the United States closely resemble the characteristics of the companies that Sklair describes, because they are an integral part of the TCC that influence and shape the global economic market.

3.3.3. Analysis

In order to calculate corporate centrality, Bonacich social network analysis was used. Bonacich centrality is particularly powerful for the purpose of measuring corporate centrality because it measures every vortex and an overall network centrality index. In determining which model to use, I initially considered using multilevel model analysis with corporations nested within sectors. However, at .051, the intraclass correlation coefficient was too small for multilevel modeling. Moreover, some might argue that a sample size of 468 companies is not big enough for multilevel analysis. Therefore, in order to simplify the models and to provide the most parsimonious results, I decided to conduct the linear regression analysis, for which all the assumptions are met. The interaction terms were included in different models, but they were statistically insignificant; consequently, they were removed.

3.3.4 Descriptive statistics of the data

The descriptive statistics table (Table 3.3.4) shows the count of categorical variables and the mean and the standard deviation of continuous variables used in the analyses. In addition to the mean and the standard deviations, the table also shows the imputed mean and the imputed

standard deviations for the variables that had missing data. Because of the relatively small number of missing observations, the descriptive statistics have not changed significantly after multiple imputation.

Table 3.3.4: Descriptive Statistics

Variable	Count	Original Mean	Original SD	Imputed Mean	Imputed SD
Number of Consumer Facing companies (1=Consumer facing)	267				
Number of companies in each sector	468				
Communication	24				
Discretionary	83				
Energy	29				
FIRE (reference group)	70				
Health	46				
Industrial	70				
IT	46				
Materials	31				
Staples	43				
Utilities	26				
Total SDG Score		-0.481	0.455		
Goal 1 (poverty)		-0.134	0.392		
Goal 2 (hunger)		-0.012	0.519		
Goal 3 (health)		-0.039	0.471		
Goal 4 (quality education)		-0.083	0.579		
Goal 5 (gender equality)		-0.263	0.562		
Goal 6 (clean water)		-1.369	0.905		
Goal 7 (affordable, clean energy)		-1.577	1.258		
Goal 8 (work and econ. growth)		-0.469	0.542		
Goal 9 (industry innov.)		-1.669	1.410		
Goal 11 (sustainable cities)		-.020	0.465		
Goal 12 (consump. and produc.)		-1.159	0.862		
Goal 13 (climate action)		-1.015	1.030		
Goal 14 (water)		-0.022	0.553		
Goal 15 (land)		-0.006	0.558		
Goal 16 (peace and justice)		-0.075	0.545		

Goal 17 (partnership)	-0.076	0.466		
Social Goals	-0.144	0.357		
Environmental Goals	-0.819	0.618		
Centrality	0.413	0.904	0.413	0.908
Market cap (in 100bn USD)	0.587	1.358	0.563	1.314
Financial Leverage	6.295	13.044	6.179	12.604

3.4. Findings and Discussion

3.4.1 Corporate Centrality and Sustainable Development Goals

This section of the paper tests the first hypothesis: *Central corporations are more likely to have higher SDG scores compared to less central corporations*. Table 3.4.1. shows the results of the regression analysis, and Figure 3.4.1 shows the confidence intervals. The intercept is negative because most companies have a negative score due to missing data and/or poor performance. The findings indicate that as a unit of centrality increases, the total SDG score also increases by .135. This result supports the first hypothesis that centrality contributes to overall SDG scores. The importance of centrality is consistent across all SDGs except Goal 2 (hunger), Goal 3 (health), Goal 11 (sustainable cities), Goal 15 (land), and Goal 16 (peace and justice). It is possible that for these goals, corporate centrality did not matter because the goals involved uncommon social and environmental issues that many companies find irrelevant. However, centrality affects the performance of companies for the majority of the SDGs. In other words, the TCCs are more likely to address the issues around SDGs than less central companies, which indicates that global corporate citizenship is important for an analysis that connects CSER to the SDGs. This finding supports the theory developed by Sklair (2001) that the TCC is concerned with CSER issues.

Market capitalization is also an important predictor for SDG performance as indicated in the literature. For most goals, including the total SDG score, the larger the market capitalization, the higher the SDG score is. This is theorized as the importance of visibility. The larger companies are more visible; therefore, they have more to lose if their brand image gets tarnished by poor CSER behavior. It is notable that Goal 3 (health) and Goal 11 (sustainable cities) have a negative relationship between SDG scores and market capitalization; in other words, lower market capitalization is associated with higher SDG scores. These two goals may be more appropriate for governments than for companies. Likewise, Table 4.1. shows that consumer facing is not a statistically significant variable except for Goals 3 and 11. The coefficients for Goals 3 and 11 are negative at -.148 and -.141, which is consistent with the data set as a whole.

Financial leverage is not a statistically significant variable throughout all models. Largely used in the management literature, at least for the purpose of this study, financial leverage does not contribute much to the analyses.

Sectors are important control variables. This study uses the FIRE sector as the reference group not only because banks tend to lead the TCC (Davis & Kim, 2015; Davis & Mizruchi, 1999; Mizruchi, 1983) but also because they are considered exemplary in their CSER practices in the literature (Graafland & Eijffinger, 2004; Lock & Seele, 2015). Overall, sectors that perform better on the SDGs than the FIRE sector are materials, staples, and utilities. The materials sector, which is comprised of mostly chemical companies, is often under scrutiny because of potential environmental damage. The materials sector is well aware of such criticism and perceives it as a form of risk, which leads to stronger reporting to meet the demands of stakeholders (Lock & Seele, 2015). In fact, Martinuzzi and Robert (2012, p. 323) found that the chemical industry is “driven by innovation and the challenges of responsibly handling dangerous

substances.” Similarly, Graafland and Eijffinger (2004) also claimed that the chemicals industry is largely concerned with environmental struggles. Utilities also perform better than the FIRE sector potentially because of the government support programs for lower income households, green renewable energy initiatives, and other social pressure that the companies experience through civil society actors.

Figure 3.4.1. Coefficient Estimates and Confidence Intervals for Total SDG Score Regression Analysis

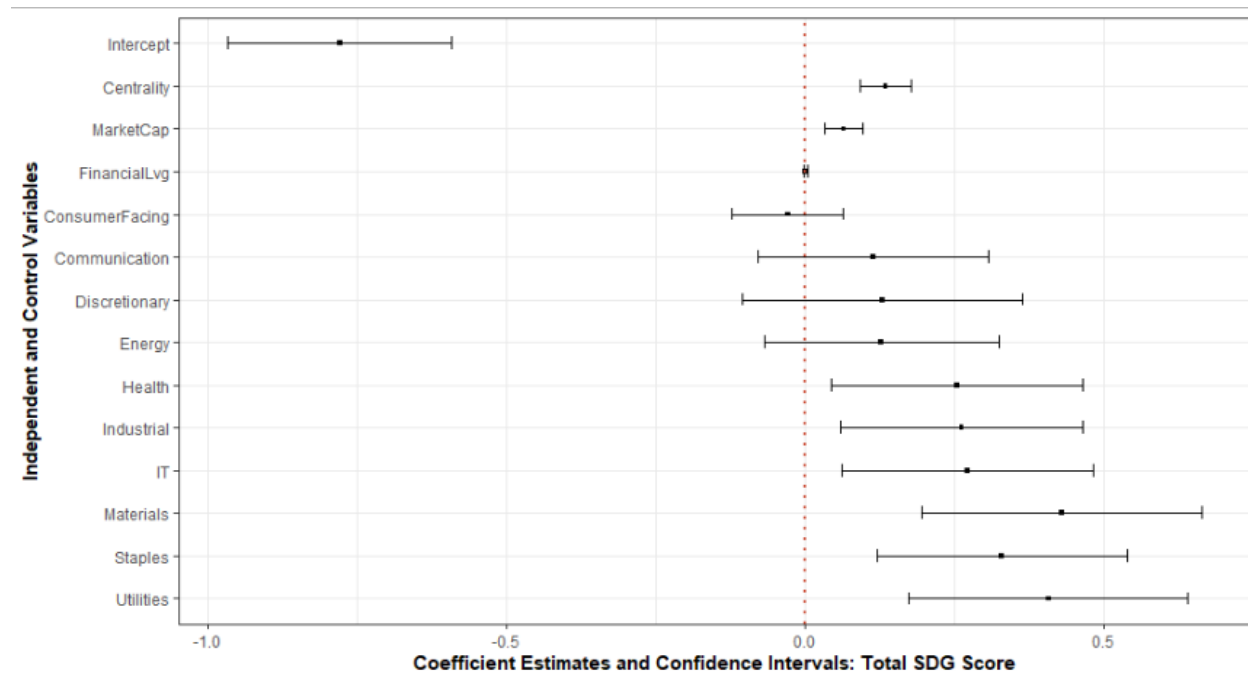


Figure 3.4.1. shows that for many sectors, the confidence intervals are wide, which indicate that there is a lot of variation in SDG performance even within the same sector. In contrast, both centrality and market capitalization show relatively small confidence intervals, which indicate that they are consistently important in predicting SDG performance.

Table 3.4.1: Linear Model Regression Estimates of Corporate Centrality and Sustainable Development Goals.

	Null	Total	Goal1	Goal2	Goal3	Goal4	Goal5	Goal6	Goal7	Goal8	Goal9	Goal11	Goal12	Goal13	Goal14	Goal15	Goal16	Goal17
Const	-0.605*** (0.063)	-0.651*** (0.061)	-0.221*** (0.053)	-0.063 (0.072)	-0.117 (0.065)	-0.320*** (0.078)	-0.313*** (0.077)	-1.622*** (0.129)	-1.613*** (0.175)	-0.793*** (0.072)	-2.015*** (0.189)	0.167* (0.065)	-1.456*** (0.119)	-1.293*** (0.137)	-0.225** (0.074)	-0.268*** (0.079)	-0.021 (0.079)	-0.253*** (0.063)
Cent		0.135*** (0.022)	0.110*** (0.019)	0.045 (0.026)	0.035 (0.023)	0.165*** (0.028)	0.162*** (0.028)	0.144** (0.045)	0.321*** (0.063)	0.155*** (0.026)	0.384*** (0.069)	-0.021 (0.022)	0.174*** (0.043)	0.284*** (0.050)	0.082** (0.025)	0.010 (0.027)	0.040 (0.029)	0.123*** (0.023)
MCap	0.083*** (0.016)	0.065*** (0.016)	0.035** (0.011)	0.035* (0.015)	-0.037** (0.014)	0.062*** (0.017)	0.052*** (0.016)	0.034 (0.026)	0.152*** (0.038)	0.059** (0.019)	0.181*** (0.040)	-0.067*** (0.014)	0.058* (0.024)	0.135*** (0.028)	0.022 (0.015)	0.036* (0.017)	-0.032* (0.016)	0.062*** (0.013)
FL	0.001 (0.002)	0.0004 (0.002)	-0.0002 (0.001)	-0.002 (0.002)	-0.001 (0.001)	-0.003 (0.002)	-0.0003 (0.002)	-0.0003 (0.003)	0.005 (0.004)	0.0001 (0.002)	-0.001 (0.005)	0.002 (0.002)	-0.002 (0.003)	-0.001 (0.004)	-0.001 (0.002)	0.003 (0.002)	0.0004 (0.002)	0.002 (0.002)
CF	-0.011 (0.049)	-0.029 (0.047)	-0.030 (0.041)	0.051 (0.056)	-0.148** (0.050)	0.004 (0.061)	0.029 (0.060)	-0.079 (0.100)	-0.227 (0.135)	0.009 (0.056)	0.257 (0.147)	-0.141** (0.050)	-0.115 (0.093)	0.179 (0.106)	-0.050 (0.058)	0.013 (0.061)	-0.048 (0.062)	-0.021 (0.049)
Comm.	-0.166 (0.104)	-0.128 (0.100)	-0.095 (0.088)	-0.110 (0.119)	0.195 (0.108)	-0.165 (0.130)	-0.364** (0.130)	-0.014 (0.213)	-0.379 (0.290)	-0.096 (0.118)	-0.584 (0.314)	0.123 (0.107)	-0.204 (0.197)	-0.389 (0.227)	-0.068 (0.123)	0.127 (0.130)	0.048 (0.132)	-0.119 (0.104)
Disc.	-0.044 (0.071)	-0.014 (0.069)	-0.102 (0.060)	-0.146 (0.081)	0.081 (0.073)	0.146 (0.088)	-0.137 (0.087)	0.119 (0.146)	-0.119 (0.198)	0.095 (0.081)	-0.316 (0.214)	-0.077 (0.073)	0.102 (0.134)	-0.203 (0.155)	0.105 (0.084)	0.211* (0.089)	-0.010 (0.090)	0.012 (0.071)
Ener.	-0.008 (0.099)	0.001 (0.095)	-0.069 (0.083)	0.007 (0.113)	0.305** (0.102)	0.016 (0.123)	-0.189 (0.121)	0.071 (0.202)	-0.374 (0.274)	0.214 (0.112)	-0.410 (0.297)	-0.368*** (0.101)	0.110 (0.186)	-0.168 (0.215)	0.416*** (0.118)	0.321** (0.123)	-0.054 (0.125)	0.008 (0.099)
Heal.	0.121 (0.083)	0.127 (0.080)	0.134 (0.070)	0.068 (0.095)	0.167 (0.086)	0.118 (0.103)	0.033 (0.102)	0.194 (0.170)	0.006 (0.230)	0.217* (0.094)	0.225 (0.250)	0.00001 (0.085)	0.456** (0.157)	0.116 (0.181)	0.075 (0.098)	0.167 (0.104)	-0.023 (0.105)	0.158 (0.083)
Indst.	0.135 (0.076)	0.134 (0.073)	0.042 (0.064)	-0.066 (0.086)	0.315*** (0.078)	0.154 (0.094)	-0.066 (0.093)	0.390* (0.155)	-0.236 (0.210)	0.313*** (0.086)	0.391 (0.228)	-0.049 (0.078)	0.286* (0.143)	0.329* (0.165)	0.147 (0.090)	0.186* (0.094)	0.001 (0.096)	0.086 (0.076)
IT	0.112 (0.085)	0.144 (0.082)	0.082 (0.071)	-0.138 (0.096)	0.147 (0.087)	0.356*** (0.105)	0.017 (0.104)	0.451** (0.173)	0.089 (0.234)	0.283** (0.097)	0.373 (0.254)	-0.177* (0.087)	0.393* (0.159)	0.388* (0.183)	0.109 (0.100)	0.102 (0.105)	-0.052 (0.107)	0.165 (0.084)
Mtls.	0.288** (0.098)	0.302** (0.094)	0.193* (0.082)	0.082 (0.111)	0.359*** (0.101)	0.411*** (0.122)	-0.001 (0.120)	0.351 (0.200)	-0.116 (0.271)	0.599*** (0.111)	0.629* (0.294)	-0.134 (0.100)	0.624*** (0.184)	0.689** (0.213)	0.368** (0.116)	0.492*** (0.122)	0.038 (0.124)	0.291** (0.098)
Stapl.	0.179* (0.084)	0.202* (0.081)	0.108 (0.070)	0.055 (0.096)	0.188* (0.087)	0.291** (0.104)	-0.083 (0.103)	0.493** (0.172)	0.057 (0.233)	0.344*** (0.096)	0.344 (0.253)	-0.035 (0.086)	0.459** (0.158)	0.287 (0.183)	0.466*** (0.099)	0.246* (0.105)	-0.142 (0.106)	0.199* (0.084)
Util.	0.269** (0.100)	0.279** (0.096)	0.272** (0.084)	0.579*** (0.114)	0.263* (0.103)	0.137 (0.124)	0.044 (0.123)	0.001 (0.204)	0.021 (0.277)	0.503*** (0.114)	0.073 (0.300)	0.019 (0.102)	0.710*** (0.188)	0.238 (0.218)	0.791*** (0.118)	0.684*** (0.125)	-0.087 (0.126)	0.201* (0.100)
Obs	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468
R ²	0.116	0.185	0.171	0.124	0.130	0.163	0.132	0.074	0.117	0.199	0.173	0.120	0.131	0.186	0.170	0.094	0.023	0.162

Adj R ²	0.093	0.162	0.148	0.099	0.105	0.139	0.107	0.048	0.092	0.176	0.149	0.095	0.106	0.163	0.146	0.068	-0.005	0.138
RSE (df=454)	0.433	0.416	0.362	0.493	0.446	0.538	0.531	0.883	1.199	0.492	1.300	0.442	0.815	0.942	0.511	0.539	0.547	0.433
F Stat (df=13; 454)	4.998***	7.929***	7.215***	4.932***	5.215***	6.786***	5.321***	2.802***	4.644***	8.666***	7.289***	4.764***	5.280***	8.001***	7.133***	3.626***	0.835	6.760***

Note: The null model has the degrees of freedom of 455 for the residual standard error and 12, 455 for F-statistic. Const: Constant; Cent: Centrality; MCap: Market capitalization; FL: Financial Leverage; CF: Consumer Facing; Comm.: Communication; Disc: Discretionary; Ener.: Energy; Heal.: Health; Indst.: Industrial; IT: Information Technology; Mtls.: Materials; Stapl: Staples; Util: Utilities

* p<0.05; ** p<0.01; *** p<0.001

3.4.2 Global corporate citizenship

With respect to the second hypothesis, Table 3.4.2 shows that centrality of a corporation positively affects social and environmental goal scores. In other words, the TCC is concerned with both social and environmental goals. In order to assess whether one group of goals scored higher than the other, correlations and t-tests were used. The correlation between the centrality coefficients (refer to Table 4.2) is .93, and the t-test is statistically insignificant with its p value at .877 ($t=-.157$; $df=16.53$). This finding suggests that there is little difference between environmental and social scores. In other words, central corporations are more likely to address both social and environmental issues compared to less central corporations, and the central corporations are just as likely to address environmental issues as social issues. (I do not show confidence interval graphs for these analyses because they closely resemble Figure 3.4.1.) Therefore, the second hypothesis is rejected, and the universal owner perspective is supported.

Market capitalization is an important variable in predicting both social and environmental scores. The larger the company, the higher the scores are. However, financial leverage and consumer facing organizations are both statistically insignificant.

Table 3.4.2. Linear Model Regression Estimates of Corporate Centrality and Social and Environmental Goals

	Social	Environmental
Constant	-0.265*** (0.048)	-1.041*** (0.083)
Centrality	0.104*** (0.018)	0.173*** (0.030)
Market Cap	0.039** (0.013)	0.071*** (0.017)
Financial Leverage	0.0001	-0.001

	(0.001)	(0.002)
Consumer Facing	-0.027 (0.038)	-0.013 (0.065)
Communication	-0.081 (0.080)	-0.188 (0.138)
Discretionary	-0.005 (0.055)	-0.023 (0.094)
Energy	0.034 (0.076)	-0.049 (0.131)
Health	0.103 (0.064)	0.166 (0.110)
Industrial	0.094 (0.058)	0.189 (0.100)
IT	0.098 (0.065)	0.217 (0.111)
Materials	0.245** (0.075)	0.369** (0.129)
Staples	0.118 (0.065)	0.292** (0.111)
Utilities	0.240** (0.077)	0.320* (0.132)
Observations	468	468
R ²	0.157	0.167
Adjusted R ²	0.133	0.143
Residual Std. Error	0.333 (df = 454)	0.572 (df = 454)
F Statistic	6.490*** (df = 13; 454)	6.977*** (df = 13; 454)

Note: *p<0.05; **p<0.01; ***p<0.001

Using the FIRE sector as the reference group, the findings indicate that the materials and utilities sectors perform better than the FIRE sector in their social goals, and the materials, staples, and utilities sectors perform better than the FIRE sector in their environmental goals. As discussed above, the reasons for the better performance can be attributed to risk perception and mitigation for the materials sector, corporate brand image maintenance particularly for the

staples sector, and government support programs for both social and environmental issues for the utilities sector.

3.5. Conclusion

This chapter suggests that centrality as understood in the TCC theory accurately depicts that the more central corporations tend to have higher CSER scores on various social and environmental goals compared to less central corporations. This supports Sklair's perspective that corporations in the TCC are distinguished from non-central corporations.

The findings also show that the TCC values both environmental and social issues, a finding that supports the perspective of universal owner on global corporate citizenship. This idea is consistent with the institutional-modernization perspective that is rooted in the Weberian understanding of corporations – that governance can make differences to the environmental aspects. Sklair's assumption that corporations would prefer social goals over environmental goals derived from a structuralist political economy perspective on the dominance of the profit logic over alternative institutional logics such as a responsibility logic. This is because Sklair clearly noted that corporations are less likely to address environmental goals because it would negatively affect their profit. However, as the findings show, corporations do not have a significant preference for social goals over environmental goals. This indicates that corporations' interests are not always capital based and that corporations are capable of having more than just the logic of capital and profits, a view that is closer to the ecological modernization and universal owner perspectives. Thus, the study advances and broadens the scope of research on CSER by showing the value of using both the structural political economy perspective and the

institutional-modernization perspective to develop a better understanding of how the profit logic is related to the responsibility logic.

This theoretical perspective is also significant because it generates some new possible research questions and problems. One problem is explaining why the universal owner perspective is accurate across a variety of sectors. An empirical study focusing on how the TCC links CSER and global corporate citizenship with support for environmental goals would be helpful for a deeper understanding of the universal owner perspective. Another research question that may come out of this study is examining whether the findings are applicable to corporations headquartered outside of the United States. O'Hagan and Green (2004) stated that corporate interlocks are more significant in a mature market such as the United States, whereas younger markets do not have developed networks that sway corporate decisions. However, Sklair (2001) has suggested that the behavior of the TCC would not change greatly based on the country of location. Therefore, a further study on the generalizability of the findings of this paper would be beneficial.

The findings can also be used to further develop the policy implications of the concept of global corporate citizenship. One of the implications of the findings of this study is that stronger communication among global corporations would enhance the CSER initiatives and practices. It would be helpful for corporations to communicate not just within their own sectors but across the business community to develop a sense of mutual bond and tight networks. Additionally, this study could also be of value to advocacy groups and government policymakers because the findings imply that central corporations would have a higher success rate in addressing SDG related issues, and the study identifies sectors that might be the most amenable targets for improvement on SDG goals. In particular, central corporations that are in the materials, staples,

and utilities sectors may be more open to the demands of many advocacy and government policy groups. In this sense, this paper has practical policy implications that may be useful for driving positive corporate change.

3.6. References

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4. Responsible and Profitable: The Coexistence of Institutional Logics in Corporations

4.1. Introduction

Many scholars have questioned whether corporations were capable of socially responsible behavior. On the one hand, some studies show that the most fundamental duty of corporations is to be profitable and consequently that corporate responsibility is often neglected (Hahn and Figge 2011; King and Gish 2015; Sneirson 2011). On the other hand, some studies suggest that corporations are capable of becoming both profitable and responsible (Hahn and Figge 2011; Hawkins 2006; Kinderman 2012; Marens 2012).

This study engages with the literature on corporate responsibility and institutional logics to investigate whether large transnational corporations are capable of pursuing their profit logic while meeting environmental and social responsibility goals. Here, corporate responsibility refers to not only environmental sustainability but also social goals such as equality and justice. This study essentially tests the theoretical conflict between the Marxist structural and political economy perspective and the Weberian institutional-modernization perspective. The structuralists would argue that corporations are dominated by the logic of profitability and capital accumulation, but the institutionalists would argue that corporations are capable of having more than one logic and can address environmental and social issues.

Structural equation modeling was selected as the best method because it allowed to construct latent variables. By constructing three latent variables (the logics of profit, environmental responsibility, and social responsibility), this study examines the extent to which the environment and social responsibility logics covary with the profit logic as a way to measure the coexistence of logics.

The coexistence of the logic of profit and the logics of environmental and social responsibility are examined at two different levels. First, this study shows that the Fortune 500 companies are capable of being profitable and of addressing social and environmental responsibility goals. Second, it focuses on which type of corporations are more likely to have coexistence of logics than others. This paper uses company size and consumer-facing companies (i.e., whether companies interact with consumers directly) as the main variables that lead to different outcomes in the coexistence of logics. This is because larger companies tend to have more resources to invest in corporate responsibility and because consumer facing companies are more concerned about brand image, which results in a higher likelihood of meeting the consumer demands for corporate responsibility. The finding is theoretically interesting because in order to explain the institutional-modernization perspective of the coexistence of logics, I used structuralist variables such as company size and consumer facing (Schurman 2004). In this sense, the structure and the formulation of this study indicates that corporate social and environmental responsibility behavior cannot be explained by one theory alone. Instead, the two theories, Marxist and Weberian, complement each other.

This study makes three notable contributions: (1) it builds on the literature on institutional logics (Joseph et al. 2014; Lounsbury 2007; Thornton and Ocasio 1999) and co-existence of logics (Binder 2007; Raynard et al. 2013; Skelcher and Smith 2015) by providing empirical evidence that more than one logic can coexist in a corporate setting, (2) it identifies the potential causal factors that lead to coexistence of logics, which the current existing literature does not focus on, and (3) it methodologically contributes to the quantitative analyses of logics by constructing institutional logics as latent variables using structural equation modeling, which allows for a multi-dimensional understanding of logics.

4.2. Literature Review

4.2.1. Dominance and Coexistence of Logics

The concept of institutional logics is widely used in the economic sociology and management literature and is broadly based on the culture concept. Institutional logics are the patterns of ideas, beliefs, cognitive categories, practices, values, assumptions, norms, and rules within institutions and organizations (Friedland and Alford 1991; Pache and Santos 2013; Thornton and Ocasio 1999). In introducing the institutional logics approach, Friedland and Alford (1991) argued that the most important institutional orders in Western societies such as capitalism, family, bureaucratic state, democracy, and Christianity have a central logic, which is “a set of material practices and symbolic constructions” (1991:248).

Similarly, Thornton and Ocasio (1999; 2008) described institutional logics as “the link between individual agency and cognition and socially constructed institutional practices and rule structures” (2008:101). In other words, they highlighted the agency that individuals have within organizations and the normative and cognitive structures that orient their action and that are changed by their action. Through the interactions between these factors, an institutional logic is maintained, challenged, replaced, or modified (Jackall 1988). In short, an institutional logic is a symbolic system that is concretized through social practices and that includes both cognitive and normative dimensions.

The idea of competing logics has been particularly notable in the institutional logics literature. This idea describes the processes of two logics competing, where over time, one logic becoming more dominant than the other (Joseph et al. 2014; Lounsbury 2007; Thornton and Ocasio 1999). An example is Lounsbury’s (2007) study on mutual funds. Comparing the cases of Boston and New York and the changes of institutional logics in two places, Lounsbury found

that it is not poor performance nor inefficiency that drives new practices but instead competing logics in the mutual fund industry shape the changes. The idea of one logic dominating another has been further supported by a group of scholars (Lee and Lounsbury 2015). Similarly, Shipilov et al. (2010) claimed that one logic becomes dominant because it defined the first wave of practices. They argued that once an organization adopts some practices of a certain logic, it becomes more likely that that the logic will become the dominant logic.

Although some researchers discuss the competition of logics and the dominance of one logic over another, other studies support the idea of coexisting and even merging of logics. This theory is particularly relevant to the study of corporations where multiple logics exist, and one does not become dominant over another (Binder 2007; Raynard et al. 2013; Skelcher and Smith 2015). The coexistence of logics occurs because managers and other key persons involved understand the significance of the other logic. In a study of company logics of business-like health care, Reay and Hinings (2009) suggested that the logics do not always compete and become dominant over one another over time. Using the example of medical and business logics, they also argued that there are four different causal conditions that lead to coexistence: (1) separating the medical and business logics in organizational rules and practices; (2) managers adhering to the logic of business-like healthcare but encouraging input from physicians; (3) managers and physicians working together against the government, thereby producing collaboration that mixes logics; and (4) co-existence of two logics to meet the local needs. Similarly, Pache and Santos (2013) also supported the coexistence logics because individuals receive and adhere to logics differently based on their social background and education. Some individuals may adhere to some logics significantly more than others, and they argue that the competition of logics may not be as severe and harsh as some studies argue.

Corporations' main pursuit has always been to increase profit. In the United States, corporations are required by law to maximize profit and to value the shareholders' economic interests. In this sense, there is little debate on the importance of profit for corporations. However, the main research question that this paper discusses is whether corporations are capable of being both profitable and environmentally and socially responsible.

Sociological theories of Marxist tradition claim that the foundations of capitalism are based on market expansion, which requires labor exploitation, class hierarchy, and environmental resource depletion. In this sense, the capitalist pursuit of profit is inevitably inversely correlated with environmental and social responsibility of corporations. This idea is further supported by empirical studies that investigate whether corporations are capable of being responsible. For example, King and Gish (2015) found that even for socially responsible investment (SRI), which targets investments to environmentally and socially responsible firms, there are competing logics of social justice and the logic of capital accumulation. They conclude that although many practitioners tend to place themselves at the intersection of the two logics, for-profit firms tend to take up more space in the market for responsible investing. Consequently, profit and competitive returns are likely to trump social justice ideals. They also claimed that it is the tension between the two logics, namely social justice and capital accumulation, that lead to innovation in SRIs. This argument is further supported by Yan et al.'s (2019) study on the rise of SRI. They found that the relationship between the social and financial logics tends to be an inverted U shape, which is due to the prevalence of the financial logic even in the field of SRI. They claim that although in the past, SRIs tended to embed both logics in a complementary manner, and the logics will gradually become more competing.

This idea of competing and dominating logics is challenged by the literature on complementary logics, which is supported by the Weberian and institutional-modernization perspective. As discussed in the introduction of this dissertation, ecological modernization theory, which is rooted in Weberian and institutional thinking, argues that corporations are capable of having more than the capital logic. This idea is particularly well presented in Hahn and Figge's (2011) study, which argued that the diffusion of sustainability and profitability will allow corporations to create a more inclusive notion of profitability that does not only focus on monetary and financial output but also sustainable outcomes from corporations. Furthermore, Oehmke and Opp (2020) argued that social responsibility and financial profitability are complementary. They argued that socially responsible investors can push firms to adopt clean production and raise a firm's financing capacity under clean production beyond the amount that purely profit-motivated investors would provide. In this sense, an increase in clean production results in an increase in total surplus. Moreover, Kinderman (2012) argued that there is an intricate link between corporate responsibility and the rise of neo-liberalism. In other words, corporations would not have acted through the lens of sustainability and responsibility without deregulation and global liberalization of corporations.

I follow this theoretical debate about the competing and coexistence of corporate logics. More specifically, I empirically test whether or not corporations are capable of integrating and merging two logics, namely the logic of profit and the logic of responsibility. Following from this discussion, the first hypothesis is as follows:

H1: The logic of profitability and the logics of environmental and social responsibility coexist in the Fortune 500.

4.2.2. Causal Factors for Environmental and Social Responsibility

Two factors are particularly widely discussed as key variables not only in economic sociology but also in strategic management and organizational behavior studies: can determine corporate behavior. Regarding corporate size, researchers have not yet arrived at a firm conclusion on whether company size has an impact on corporate responsibility. A group of studies claims that there is little correlation between company size and corporate responsibility (Adeneye and Ahmed 2015; Blomback and Wigren 2009; Trang and Yekini 2014). Instead, these studies argue that stakeholders' involvement in the issues of corporate responsibility, not company size, have a greater impact on corporate responsibility than company size. In other words, if shareholders, employees, consumers, and other stakeholders find corporate responsibility desirable, corporations will act accordingly (Adeneye and Ahmed 2015). Furthermore, Blomback and Wigren (2009) found that rather than firm size, local embeddedness, corporate governance, and individual motivation are considered essential in promoting sustainable behavior among firms.

However, another group of studies claims that company size is one of the most important factors in determining corporate responsibility because larger companies are more visible (Aras et al. 2010; Arendt and Brettel 2010; Fauzi et al. 2007). To elaborate, larger companies are more likely to be targeted and monitored for corporate responsibility. Consequently, the larger the company, the more likely it is that they will have a higher level of environmental and social responsibility than smaller companies. Moreover, Zbucnea and Pînzaru (2017) argued that one reason why the larger companies tend to perform better on corporate responsibility metrics is that they have more resources to invest.

Thus, the literature has divergent views on the relationship between corporate size and corporate responsibility performance. This study translates the research into the area of institutional logics by investigating the extent to which larger corporations have a higher covariance between the logic of profitability and the logic of responsibility compared to smaller corporations. I hypothesize that large companies, because of the resources available to them and because of the higher visibility, are more likely to have coexistence of institutional logics compared to smaller companies.

Another theoretical debate regarding corporate social responsibility is the contribution of consumer-facing companies. Here, the term “consumer facing” refers to companies that directly interact with consumers in providing their goods and services rather than with other businesses as their primary customers. Schurman (2004) argued that consumer-facing industries are more vulnerable to public opinion and are more likely to conform to public demands and campaigns. Similarly, Iankova et al. (2019) found that non-consumer-facing companies have a lower social media presence than consumer-facing companies and consider the relationship with their social media participants to be less important. Similarly, Hoejmose et al. (2012) showed that non-consumer-facing companies are less likely to be sustainable compared with consumer-facing companies. They found that green supply chain management was relatively limited among non-consumer-facing companies compared to consumer facing companies.

Focusing on these two main factors, namely company size and whether the company is consumer facing, both of which derive from more structuralist perspectives (Schurman 2004), I propose my second and third hypotheses:

H2: Larger corporations are more likely to show evidence of coexistence of the logic of profitability and the logics of social and environmental responsibility than smaller corporations.

H3: Consumer facing corporations are more likely to show evidence of coexistence of the logic of profitability and the logics of social and environmental responsibility than non-consumer facing corporations.

4.3. Method

4.3.1 Measuring Institutional Logics

Some of the most notable institutional logics studies adopted qualitative measures. For example, Reay and Hinings (2009) used archival and interview data to define the logics of business-like health care and medical professionalism. Their study showed that competing logics can co-exist and that the rivalry between logics can be managed through collaborative relationships. Similarly, Dahlmann and Grosvold (2017) used interviews with 55 firms to find that environmental managers face a conflict between the market-based logic and an emerging environmental logic, which over time become blended to create a new type of logic that represents the coexistence of two logics. King and Gish (2015) also used qualitative methods, and they showed that although socially responsible investment (SRI) firms are placed in the middle of logics of the market and social logics, it is difficult for firms to address both logics at the same time. Instead, the two logics engage in a continuous competition. Overall, qualitative studies have been essential in understanding the emergence, progression, development, and competition of logics because they allow the tracking of institutional changes.

Quantifying an institutional logic is not straightforward, particularly because a logic can embed values and cultural categories that are intertwined (Lee and Lounsbury 2015). Consequently, there is little consensus across the field with respect to quantification. Several studies incorporate panel data to track the progression of shifts of logics. For example, Zhao and Lounsbury (2016) incorporated longitudinal data from 2004 to 2012 and used the strength of market-supporting institutions to measure a country's market logic. They measured the market logic is measured by averaging five items: "business freedom, trade freedom, property rights, investment freedom, and financial freedom." The approach is also supported by a study by Meyer et al. (2009), who focused on the impact of market-supporting institutions on business strategies. Lee and Lounsbury (2016) used longitudinal data for the period between 1991 and 2003, and they measured the market logic pressure by estimating the total tip fee associated with each facility's benzene waste. Apkraian (2018) used Moody's ratings data from 2004-2001, in measuring the logic of debt investment and the logic of equity investment, to reflect S&P's and Moody's behavior since the Internet bubble crisis of the early 2000s. Additionally, Lounsbury (2007) also used longitudinal data from 1944 and 1985 to track the shift from a logic of trusteeship to the more market logic of performance. This analysis defined the market logic by tracking mutual funds establishments of new contracts to independent professional money management firms. In summary, the longitudinal studies indicate that various approaches have been used to define and measure a market-oriented institutional logic as a quantifiable variable.

In a similar way, cross-sectional studies also have used various definitions of a market or profit logic. Although panel data allow researchers to track the changes of dominant logics over time using time series or other time accounting models, cross-sectional data can also be used to capture the competitions and differences in institutional logics (Orlitzky 2011). To elaborate,

Orlitzky (2011) conducted a meta-analysis to find how the results of institutional logics studies differed based on the discipline of journals. He obtained 289 out of 388 meta-analyzed correlation coefficients in cross-sectional studies and concluded that many studies done in institutional logics remain cross-sectional. Furthermore, Singh et al. (2010) compared the German and U.S. insurance markets and used survey data that was sent out over a 7-10-week period, which is too short a period to consider longitudinal.

In summary, the quantitative literature to date has come up with various ways to define a market or profitability logic. Drawing on this knowledge of background definitions, this study used four variables based on data collected from Bloomberg on the Fortune 500 companies: percent executives holding shares, percent shares held by executives, percent non employed directors holding shares, and percent stock award given to the board. These four variables together measure the benefits that the board of directors would gain if the company were to pursue a more profit-oriented approach in comparison with competing logics such as a responsibility logic. To elaborate, all of the following would lead to the higher chances of the board taking actions that directly lead to an increase in shares and profit: more executives are holding shares, more companies are handing out more stock awards, more shares are owned by executives, and more non-employed directors hold shares.

4.3.2 Data Collection and Variables

To develop a quantitative approach to the responsibility logics (environmental and social), this paper uses the United Nations Sustainable Development Goals (SDGs) to measure environmental and social responsibility logics (United Nations 2020). The SDGs were first introduced in 2015 by the United Nations to promote international sustainable economic growth.

Although many studies focus on the country level analysis of SDGs (Kroll 2015, Lim et al. 2016, Stenberg et al. 2017), the use of SDGs is relevant for the study of corporations because they are regarded as one of the essential players in achieving the goals (Martinuzzi et al. 2017; van Zanten & van Tulder, 2018). SDGs are particularly beneficial in measuring logics because there are 17 SDGs, which can be broken down into environmental and social goals.

Table 3.1 shows how I grouped the SDGs. The grouping of these goals is somewhat artificial because there are many overlaps between the goals. Nevertheless, there are differences between the goals associated with environmental sustainability and the goals that emphasize social equality and justice. The differences between environmental and social goals become clearer in the United Nation’s document on global indicators for SDGs (United Nations 2020).

Table 4.3.1. Social and Environmental Groups of Sustainable Development Goals

Social Goals	Environmental Goals
Goal 1: Poverty	Goal 6: Water
Goal 2: Hunger	Goal 7: Energy
Goal 3: Health	Goal 9: Infra. Innov.
Goal 4: Education	Goal 11: Cities
Goal 5: Gender	Goal 12: Sust. Consump.
Goal 8: Employment	Goal 13: Climate
Goal 16: Justice	Goal 14: Oceans
Goal 17: Partnership	Goal 15: Forests

For a detailed description of the methods regarding calculating the SDG scores, refer to the first research chapter of this dissertation. Goal 10 is removed from this analysis as it was removed from other research chapters because of its focus on government actors and policy makers rather than corporations.

4.3.3. Analytic Strategy

Previous studies on institutional logics have used various methods, from fixed effects models to event history analysis, to measure the logics. This study uses structural equation modeling, which is an appropriate choice because it allows the measurement of latent variables (defined as logics), and it enables control for the covariances that exist among the goals. In regression analysis, controlling for covariances would not have been possible due to multicollinearity. Additionally, by using structural equation modeling, I can run regression analysis between the latent variables, which uses the same methodological logic as linear regression analysis and facilitates the interpretation of the results.

Figures 4.1 and 4.2 show the SEM that I am using for this study. Goals 6 (water), 7 (energy), 9 (infra. innov.), 11 (cities), 12 (sust. consumption), 13 (climate), 14 (oceans), and 15 (forests) construct the latent variable, environmental and social responsibility logics, and the aforementioned four variables are used to measure the profit logic. I am taking the covariance between Goal 7 and Goal 12, and Goal 9 and Goal 13 into the account, as shown in Figure 1. The social and profit logics model shown in Figure 2 follows the same strategy but uses different goals: Goals 1 (poverty), 2 (hunger), 3 (health), 4 (education), 5 (gender), 8 (employment), 16 (justice), and 17 (partnership)—and it accounts for more covariances between the goals.

Figure 4.1. Structural Equation Modeling Measuring the Coexistence of the Environmental Logic and Profit Logic

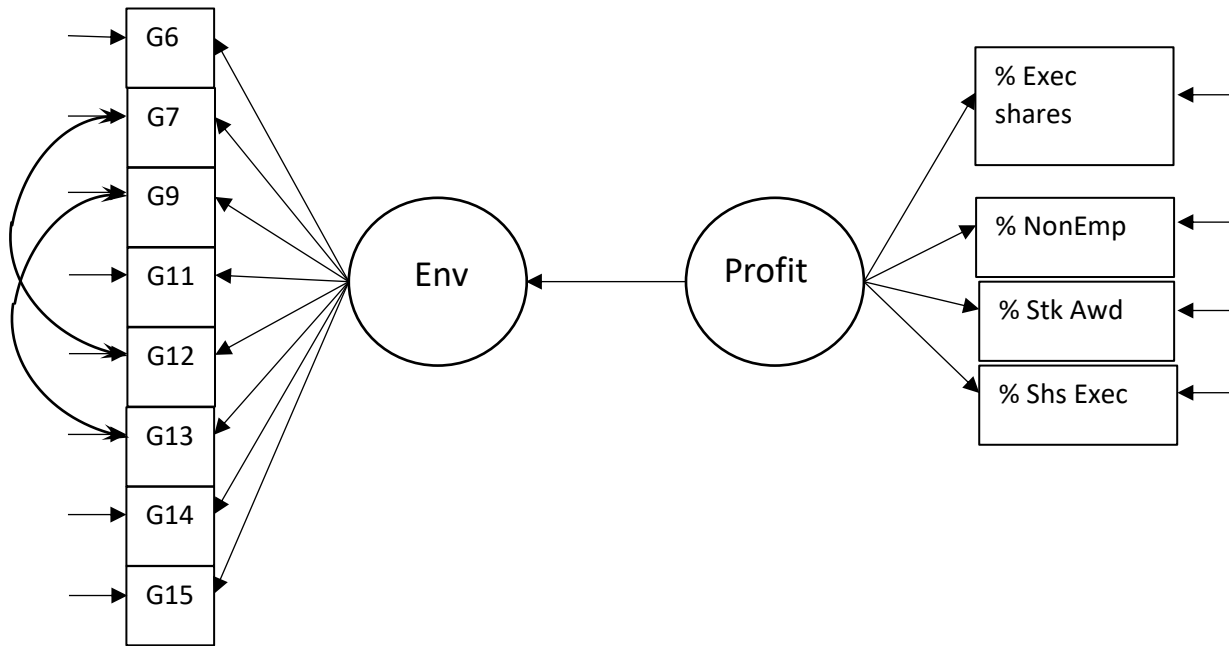
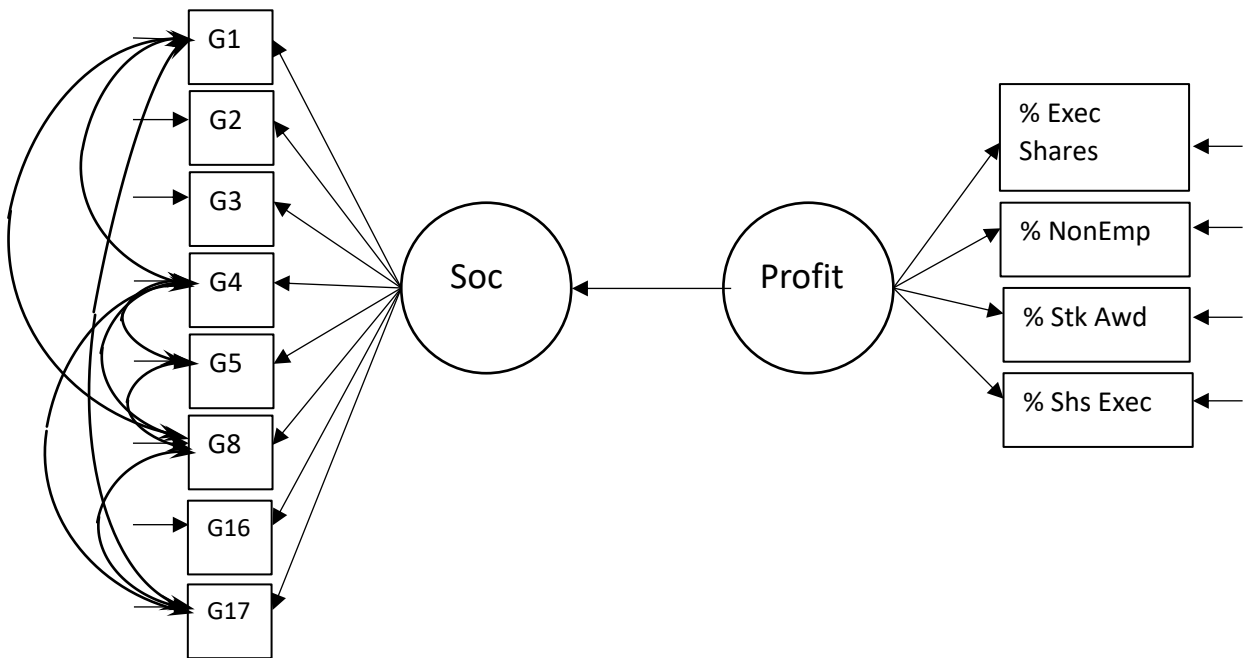


Figure 4.2. Structural Equation Modeling Measuring the Coexistence of the Social Logic and Profit Logic



In conducting SEM, Goal 6 of the environmental responsibility logic, Goal 1 of the social responsibility logic, and percent executives holding shares of the profit logic were used as the reference group. The percent executives holding shares is the most important indicator in understanding the profit logic because the larger the percent, the more likely it is that the company will strive to pursue profit than sustainability. Similarly, Goal 1 (reduce poverty) was chosen as the reference variable for the social responsibility logic because poverty is at least partially embedded in all other social SDGs. For example, poverty can lead to poor health, poor educational attainment, and a higher likelihood of unemployment. For the environmental responsibility logic, choosing a reference group was more difficult because each goal was distinctively different from the other. Consequently, I tried to several models using different reference goals for the environmental responsibility logic, but it made little difference to the overall outcome. Therefore, Goal 6 was chosen because it was the first Goal of the environmental SDG group.

To calculate the causal factors, namely company size and consumer facing, I divided the 468 companies into two groups accordingly. To elaborate, the 468 companies were initially used to analyze whether there was coexistence between the responsibility and profit logics, and between the social responsibility and profit logics. Then, the said 468 companies were divided into groups. First, they were divided into two groups according to the company size. The first group consisted of the largest 234 companies and the second group consisted of the smallest 234. Then the same analysis was conducted to examine whether the company size led to different effect sizes or statistical significance regarding the coexistences of logics. Second, the 468 companies were again divided into two groups, consumer facing and non-consumer facing.

There were 267 consumer-facing companies and 201 non-consumer-facing companies. Then the same analysis was again run to investigate the differences in the coexistence of the logics.

Consequently, I ran 10 different structural equation models to show (1) evidence of coexistence of the logics of corporate responsibility and of profit, and (2) the effect of company size and consumer facing/non-consumer facing on different outcomes on coexistence of the logics of responsibility and profit. These variables, namely company size and consumer facing/non-consumer facing, cannot be added onto the models because they are dichotomous variables and SEM only accommodates continuous variables. Therefore, dividing the models into ten different models was the simplest way to accommodate dichotomous variables in SEM.

Table 4.3.3. shows the model specifications. The sample has five different groups. First, “All” refers to all 468 companies that are included in this study. “Larger” refers to the largest 234 companies of the 468 companies and “smaller” refers to the smallest 234 companies. Consumer facing refers to the companies that only serve consumers or business and consumers. Non-consumer facing refers to the companies that do not deal with consumers at all and only sell their goods or services to other businesses. The dependent variable is either the environmental or social responsibility logics. The independent variable remains the same throughout all models, the profit logic. There are 267 consumer-facing companies and 201 non-consumer facing companies.

Table 4.3.4. Model Specifications

Model	Sample	Dependent Variable	Independent Variable
Model 1	All	Environmental	Profit
Model 2	All	Social	Profit
Model 3	Larger	Environmental	Profit
Model 4	Smaller	Environmental	Profit
Model 5	Consumer Facing	Environmental	Profit

Model 6	Non-Consumer Facing	Environmental	Profit
Model 7	Larger	Social	Profit
Model 8	Smaller	Social	Profit
Model 9	Consumer Facing	Social	Profit
Model 10	Non-Consumer Facing	Social	Profit

The coexistence between the latent variables is operationalized using linear regression analysis. This is the simplest quantitative analysis to show coexistence between the two logics. If the coefficients between the latent variables are positive, then the analysis infers that both logics exist and that there is a positive relationship between the latent variables. If the coefficients between the latent variables are negative, this indicates that the relationship between the logics is inversely correlated. Consequently, this would show that the latent variables do not coexist and that one logic's existence leads to a reduced value in the other logic.

4.3.4. Missing Data

As with most large datasets, there is an issue of missing data. Missing metrics mean the company is not publishing data because either it is doing badly or because it does not care about the issue deeply enough to invest in measuring it. Because missing data have behavioral implications, they cannot be considered as missing completely at random (MCAR) or missing at random (MAR). Instead, data are considered as missing not at random (MNAR). Companies with missing data show an important corporate characteristic, which is the lack of transparency. Many previous studies in the past have accounted for transparency as a part of CSER (Graafland and Eijffinger 2004; Guenther et al. 2007). Furthermore, many studies suggest that untransparent firms tend to perform worse in CSER (Nazari et al. 2017; Wu et al. 2018). Consequently, companies with missing data were penalized and were given the lowest z-score within the same variable. For example, Berkshire Hathaway did not publish data on total greenhouse-gas

emissions. Therefore, for this variable the company was given the lowest z-score (-7.27) within the variable.

Because this method assigns missing data the lowest value for a variable, missing data may affect the overall SDG z-score for a company. Most studies in CSER tend to use the listwise deletion method, which deletes observations that carry any missing data (Giannarakis 2014; Tang et al. 2012). However, for the construction of this index, listwise deletion was not a feasible method because this study uses 87 variables from three different datasets. All companies had at least 1 missing observation, and the mean number of missing observations per company was 17.2. The high number of missing observations meant that the listwise deletion would have deleted all companies. Therefore, the most appropriate way to deal with missing data was to assign the lowest score for a variable to companies that did not provide data.

Additionally, the missing data for the profit logic were regarded as missing at random. Not providing profit logics variables would not have had much impact on the company's standing or brand image. With the assumption that they are missing at random, Bayesian multiple imputation could be conducted. The alternative, listwise deletion, was not used because Harrell (2015) argued that listwise deletion "results in regression coefficient estimates that can be terribly biased, imprecise or both" (2015, p. 47) and that it has little advantage except saving the analyst time.

4.3.5. Model Fit

Table 3.5 shows the model fit. Here, the model fit refers to how well the data represent the model specifications. In this study, ten SEM models are specified to measure the coexistence of the profit logic and the responsibility logics. Table 3.3.5. shows the values of comparative fit

index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean squared residual (SRMR) for each model. The CFI and TLI should ideally be above .9 and RMSEA and SRMR should be below .08 (Hooper et al. 2008). Overall, all ten models ran indicate good to excellent model fit.

Table 4.3.5. Model Fit

Model	CFI	TLI	RMSEA	SRMR
Model 1	0.927	0.905	0.085	0.061
Model 2	0.923	0.887	0.090	0.069
Model 3	0.942	0.925	0.073	0.067
Model 4	0.894	0.862	0.106	0.069
Model 5	0.919	0.896	0.091	0.081
Model 6	0.909	0.882	0.095	0.062
Model 7	0.907	0.864	0.097	0.078
Model 8	0.911	0.870	0.099	0.083
Model 9	0.914	0.874	0.097	0.081
Model 10	0.934	0.903	0.082	0.070

4.3.6. Descriptive Statistics

Table 4.3.6. shows the descriptive statistics of the variables used in running the analyses. For the variables that had missing data and had been imputed, the table shows both the original and imputed means and standard deviations. The values between the original and the imputed are similar, which is caused the small number of missing values. Nevertheless, as discussed above, using Bayesian imputation improves the robustness of the study instead of doing listwise deletion. Bayesian imputation was used only for the profit logic variables because other variables did not have missing data.

The SDG goals' means are negative numbers because the companies are generally doing quite badly in most of the goals. The mean has a value of 0 z-score. Negative z-scores mean that the companies are performing worse than the mean. In this case, the negative z-scores can also

be attributed to the rate of missingness because for missing variables, the companies were given the lowest z-score possible for that variable. The mean scores tend to be slightly worse in environmental goals than social goals.

Table 4.3.6. Descriptive Statistics

Variable	Original Mean	Original SD	Imputed Mean	Imputed SD
Percent Executives Holding Shares	60.391	26.592	59.163	27.597
Percent Shares Held by Executives	1.569	5.232	1.535	5.180
Percent non employed directors holding shares	83.123	28.380	81.356	30.520
Percent Stock Award	53.212	22.689	52.556	22.925
Goal 1	-0.134	0.392		
Goal 2	-0.012	0.519		
Goal 3	-0.039	0.471		
Goal 4	-0.083	0.579		
Goal 5	-0.263	0.562		
Goal 6	-1.369	0.905		
Goal 7	-1.577	1.258		
Goal 8	-0.469	0.542		
Goal 9	-1.669	1.410		
Goal 11	-0.020	0.465		
Goal 12	-1.159	0.862		
Goal 13	-1.015	1.030		
Goal 14	-0.022	0.553		
Goal 15	-0.006	0.558		
Goal 16	-0.075	0.545		
Goal 17	-0.076	0.466		

4.4. Results

Table 4.1 shows the factor loadings for each of the models. Factor loadings refer to the paths that together, create the latent variable. For example, in Figure 1, the paths from the

environmental responsibility logic to each of the SDGs would be a factor loading. Overall, the models all indicate a similar pattern. In measuring the profit logic, the variable “percent shares owned by executives” is not statistically significant. The reason as to why this variable is statistically insignificant is likely due to the differences of the unit of measurement. Although all the variables used to measure the profit logic are in percentages, the values of the other three variables tended to be significantly bigger than the values of the variable “percent shares owned by executives,” which consisted mostly of values below 1. I could have taken out this variable and re-run the analyses, but the presence of percent shares owned by executives served an important theoretical purpose because it shows the influence that executives may have on the company and to what extent they can pursue the profit logic. When I ran models without the “percent shares owned by executives,” the values for other variables stayed the same. Because the models had enough degrees of freedom to allow an additional variable to be accounted for in the profit logic, I decided that the analysis would be most complete if the variable were retained in the model.

For the environmental logic, Goal 11 (sustainable cities) is also not a statistically significant variable. This finding may be caused by the fact that Goal 11 includes public health controversies and product impact controversies, which are largely deemed as social variables, and environmental resource controversies, land and environmental impact reduction, which are considered more environmental than social. Goal 11 becomes statistically significant when it is included in the social logic’s models, but the coefficient becomes negative, which means the variable is negatively correlated with the other variables that are measuring the social logic. Because Goal 11 included more environmental variables than social variables, it was retained in the environmental logic. However, it does not contribute much to the understanding of the

environmental logic. Considering that corporations play an important role in achieving the objectives of Goal 11, removing the goal was not a theoretically sound decision. Therefore, Goal 11 was kept in the analysis even though it was statistically insignificant.

Overall, Table 4.4.1 shows that the four variables used for the profit logic construct a good understanding of the logic, which is evident because two of the four variables are statistically significant with the variable “percent executives holding shares” as the reference group. Similarly, the environmental SDGs identified in Table 4.3.1 construct a good understanding of the environmental responsibility logic in corporate settings, except for Goal 11. Finally, for the social responsibility logic, all SDGs are statistically significant in reference to Goal 1, which shows that there is a coherent and consistent understanding of the social responsibility logic using the SDGs.

Although the factor loadings are important outputs of the SEM models that construct the latent variables, this study is more interested in the regression analysis between the latent variables. The regression analyses between the latent variables, namely the profit and responsibility logics, will show whether or not the logics can coexist in corporations.

Table 4.4.1. Factor Loading Estimates

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Sample	All	All	Larger	Smaller	CF	Non-CF	Larger	Smaller	CF	Non-CF
Profit										
%Exec	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%ShsExec	0.006 (0.016)	0.003 (0.016)	-0.003 (0.025)	0.012 (0.021)	0.001 (0.030)	0.007 (0.012)	-0.007 (0.025)	0.013 (0.021)	-0.005 (0.030)	0.009 (0.013)
%NonEmp	1.231*** (0.294)	1.254*** (0.220)	1.418*** (0.334)	1.188* (0.538)	1.473*** (0.424)	0.987*** (0.343)	1.496*** (0.336)	1.237*** (0.276)	1.526*** (0.356)	1.113*** (0.286)
%StkAwd	0.269*** (0.074)	0.280*** (0.072)	0.313*** (0.084)	0.246* (0.119)	0.273** (0.088)	0.292** (0.119)	0.302*** (0.083)	0.280** (0.115)	0.274*** (0.087)	0.310*** (0.117)
Env										
Goal6	1.000		1.000	1.000	1.000	1.000				
Goal7	1.411*** (0.126)		1.501*** (0.211)	1.039*** (0.133)	1.696*** (0.198)	1.070*** (0.152)				
Goal9	1.875*** (0.153)		1.822*** (0.249)	1.696*** (0.155)	2.296*** (0.255)	1.472*** (0.172)				
Goal11	0.008 (0.041)		0.045 (0.078)	0.040 (0.028)	-0.043 (0.068)	0.032 (0.038)				
Goal12	1.029*** (0.087)		1.059*** (0.145)	0.962*** (0.102)	1.126*** (0.130)	0.909*** (0.111)				
Goal13	1.419*** (0.113)		1.4669*** (0.190)	1.232*** (0.118)	1.788*** (0.192)	1.090*** (0.124)				
Goal14	0.4889*** (0.052)		0.5559*** (0.089)	0.412*** (0.061)	0.534*** (0.078)	0.412*** (0.066)				
Goal15	0.2889*** (0.050)		0.3789*** (0.089)	0.249*** (0.055)	0.298*** (0.072)	0.247*** (0.247)				
Social										
Goal1		1.000					1.000	1.000	1.000	1.000
Goal2		0.791*** (0.103)					0.927*** (0.164)	0.598*** (0.144)	0.839*** (0.134)	0.705*** (0.160)
Goal3		0.665*** (0.093)					0.604*** (0.141)	0.914*** (0.140)	0.553*** (0.110)	0.923*** (0.164)
Goal4		1.285*** (0.113)					1.177*** (0.164)	1.553*** (0.162)	1.179*** (0.140)	1.620*** (0.200)
Goal5		1.377***					1.277***	1.576***	1.398***	1.438***

Goal8	(0.132) 1.234***	(0.183) 1.115***	(0.208) 1.380***	(0.165) 1.140***	(0.223) 1.508***
Goal16	(0.100) 0.983***	(0.143) 0.899***	(0.144) 1.520***	(0.119) 1.078***	(0.187) 0.813***
Goal17	(0.113) 1.545***	(0.157) 1.601***	(0.203) 1.574***	(0.147) 1.549***	(0.173) 1.539***
	(0.100)	(0.153)	(0.155)	(0.128)	(0.160)

Note: *p<0.05; **p<0.01; ***p<0.001

Table 4.4.2. Structural equation modeling regression estimates (All companies)

		Dependent Variable: Responsibility Logic	
		Environmental	Social
		Model 1	Model 2
Sample	Independent Variable		
All (n=468)	Profit	0.006*** (0.002)	0.005*** (0.001)

Note: *p<0.05; **p<0.01; ***p<0.001

Table 4.4.2 shows the regression coefficients between (1) the environmental responsibility logic and the profit logic and (2) the social responsibility logic and the profit logic. Table 4.4.2. shows the outputs of the path between the two latent variables. Table 4.4.2. indicates that the logics of profit and environmental responsibility and the logics of profit and social responsibility covary together. The covariance indicates the coexistence of logics.

The findings show that as the profit logic increases, the environmental and social logics also increase. This finding supports the first hypothesis, which stated: *The logic of profitability and the logics of environmental and social responsibility coexist in the Fortune 500.*

Table 4.3 shows the models that tested the second and third hypotheses, which respectively test for the effect of the large companies and consumer-facing companies. Model 3 suggests that larger companies of the Fortune 500 are capable of having both the environmental responsibility logic and the profit logic. However, such is not the case for the smaller companies, which have a statistically insignificant coefficient between the profit and the environmental responsibility logics (Model 4). Model 5 shows that consumer-facing companies can have both environmental and profit logics, but this coexistence is not evident for non-consumer facing companies (Model 6). For social logics, all types of companies—that is, larger, smaller,

consumer facing, and non-consumer facing—are capable of having both social and profit logics. However, there is slight difference in coefficients of the social responsibility logic in Models 7 to 10. For larger companies, as a unit of profit logic increases, the score of the social logic also increases by .007, but the coefficient is smaller for smaller companies at .004. The same can be said for the consumer-facing and non-consumer facing companies, with the consumer-facing companies having a larger coefficient. This implies that there is a stronger coexistence of the logics of profitability and social responsibility among larger and consumer-facing companies compared to smaller and non-consumer facing companies.

Table 4.4.3. Structural equation modeling regression estimates (companies in groups)

		Dependent Variable: Responsibility Logic				Independent Variable: Profitability Logic			
		Environmental				Social			
		M 3	M 4	M 5	M 6	M7	M8	M9	M10
Larger (n=234)	0.011*** (0.003)					0.007** * (0.002)			
Smaller (n=234)			0.002 (0.002)				0.004** * (0.001)		
CF (n=267)				0.009* * (0.003)				0.007*** (0.002)	
Non-CF (n=201)					0.003 (0.003)				0.003** (0.001)

Note: * p<0.05; ** p<0.01; *** p<0.001

The findings are partially consistent with the second and third hypotheses. Larger companies and consumer-facing companies are more likely to show evidence of coexistence of

the environmental and profit logic. However, for the social responsibility and profit logic, all companies showed evidence of coexistence.

4.5. Discussion

This study responds to three main questions in the economic sociology literature: (1) can logics coexist in organizations? (2) can companies be profitable and sustainable at the same time? and (3) which types of companies are more likely to show evidence of coexistence of logics? In response to the first two questions, this study shows that the logics of environmental and social responsibility and profit can coexist in organizations. In response to the third question, the study shows that larger companies and consumer facing companies are more likely to show coexistence of environmental and profit logics. It also shows that there is little difference regarding the coexistence of social and profit logics.

Following from these findings, this chapter provides support for studies that have suggested that the coexistence of logics is possible. Moreover, by bringing in two variables, namely company size and consumer facing, this chapter contributes to the corporate responsibility literature. Company size has been a long-debated variable in determining corporate sustainability, and this study shows that even among the largest companies in the United States, company size has an effect on corporate responsibility. Moreover, the consumer-facing variable is found to be also an important determinant in coexistence of logics among the Fortune 500.

Despite the value of the findings, the study is limited to Fortune 500 companies, and its findings cannot be generalized to small- and medium- sized enterprises (SMEs). Several studies have indicated that the corporate responsibility practices among the SMEs tend to be different from transnational corporations (Jenkins 2006; Sarbutts 2003). Furthermore, because this study

only includes the companies in the United States, it cannot be generalized to companies that are headquartered outside the United States. This is because national market logic can alter corporate behavior and governance (Fossati 2018; Kang and Moon 2012). Therefore, although this study shows that the profit and responsibility logics coexist and that company size and consumer facing are significant variables in determining the coexistence of environmental and profit logics, the same cannot be said for smaller and non-U.S. based companies. They may not have the same resources or even have the same perspective (e.g., corporate brand can be tarnished) as transnational corporations.

4.6. Conclusion

This study suggests that the logics of profit and corporate responsibility (both environmental and social) can coexist in organizations. Moreover, it argues that for Fortune 500 companies, larger companies and consumer-facing companies have a higher likelihood of coexistence of profit and environmental logics, but there is little difference for company size and relationship to the consumer for the coexistence of profit and social logics. In short, the results provide further support for the literature on the coexistence of logics rather than the idea that one logic dominates the other.

The findings of this study also contribute to the theoretical debates in sociology between Marxist structuralist political economy and the Weberian institutional modernization. The former argues that corporations are incapable of having more than the logic of profit. However, the latter claims that corporations can have coexisting logics, such as the logic of profit and the logic of environmental and social responsibility. The findings support the second perspective, namely the Weberian institutional modernization and that corporations can have more than one logic

regarding corporate social and environmental responsibility. Furthermore, in order to further analyze the causes of the coexistence of logics, this study uses structural variables, namely company size and consumer facing (Schurman 2004). In this sense, this study merges the two perspectives, Marxist and Weberian, in order to fully understand corporate social and environmental responsibility. The empirical findings of this study show that although the two theories have been in conflict, they complement each other in explaining corporate social and environmental responsibility.

This study generates some new research questions and problems. One problem is explaining why some types of companies tend to show a higher likelihood of having the social and profit logics compared to the environmental and profit logics. This corporate behavior may be due to the financial cost of reporting and pursuing environmental goals. For example, it is much easier and cheaper to measure how much money a company has donated to the community compared to the company's greenhouse-gas emissions. Similarly, pursuing the social logic may be perceived as easier because reducing greenhouse-gas emissions or contributing to climate-change mitigation may require restructuring factories and other expensive changes. Nevertheless, a study that focuses on why companies show a higher propensity for the coexistence of social and profit logic would be interesting and would contribute to the literature on institutional logics and corporate responsibility.

Another research question that emerges is the generalizability of the findings to other countries. Companies in the U.S. are frequently scrutinized by civil society groups. The presence of similar social and political pressure is often not found in Asia, such as Korea and Japan. Although Asia is a home to some of the largest corporations in the world, the companies headquartered in Asia may not face the same social pressure or structural challenges that the

companies in the U.S. face. Therefore, a further study on the generalizability of the findings of this study would be beneficial.

The study also has policy implications. First, more specific government regulations on environmental actions are needed to support and encourage smaller and non-consumer facing companies to pursue both environmental and profit goals. Second, companies may respond to financial incentives when pursuing responsibility goals. The coefficients between the profit and social and environmental logics are positive, which means when there is a financial incentive, companies may become more likely to invest in environmental or social responsibility logics. Thus, the study clarifies possible points of intervention where policy signals could be most effective.

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5. Conclusion

5.1. Summary

This dissertation is an attempt to merge the two pillars of sociology, namely the Marxist approach to social structures and the Weberian approach to institutional values and rationalization processes that are closely aligned with social structures. It accomplishes the goal by exploring structural and institutional factors that affect corporate social and environmental responsibility (CSER). The first research chapter identified the weaknesses of the existing indices and constructed a new index based on the United Nations Sustainable Development Goals (SDGs). The construction of a new and more granular index allowed the identification of the leaders and laggards not only in the overall CSER performance but also for each SDG. Furthermore, this chapter empirically tests the disproportionality perspective by showing graphical representations of the leaders and laggards. Furthermore, it introduces a new concept of “social disproportionality,” which explains the social disparities that corporations can cause. This new concept is informed by a number of environmental sociologists in the Marxist tradition. Overall, this chapter supported the Marxist tradition of the disproportionality thesis, which argues that differences in company size and total assets lead to hierarchies and disproportionate environmental pollution and social inequality. Additionally, it draws on the Weberian tradition by examining in more detail how one of the leading examples of global modernization policy, the United Nations’ Sustainable Development Goals, can be analyzed from a structural perspective rather than merely rejected as resting on an inadequate analysis of the growth logic of capitalism.

The second research chapter focused on whether being the most powerful and highly networked corporation was a characteristic that led to higher CSER scores. This chapter was

based on Sklair's idea of the transnational capitalist class (TCC), which referred to the most powerful organizations and individuals in the business community. The findings of this paper align with the existing literature on corporate centrality – that corporate centrality, which is an operationalizing variable for the TCC, is an important predicting variable in corporate behavior. Thus, this chapter begins with a central concept in the structuralist tradition, the TCC, but it uses an approach that is consistent with the modernization perspective, the universal owner perspective, to explore the limits of the TCC perspective on CSER. The study uses the literature on the universal owner to examine the extent to which global corporate citizenship may be changing. In doing so, the results indicate that the TCC does not have a particular preference over environmental or social goals, as Sklair initially suggested. Instead, they are equally concerned with the social and environmental challenges that corporations face.

On the one hand, the TCC theory specifically discusses the corporate structures that derives from the Marxist tradition. On the other hand, the universal owner perspective focuses more on values and meanings of CSER to directors and corporate leaders. CSER is perceived as a tool to stabilize the market for the large market owners (i.e., universal owners). Following from this argument, this research chapter brings together the two fundamental approaches of social theory, which is a contribution to the environmental sociology and economic sociology literatures.

The third research chapter directly examines a fundamental point of disagreement between structuralist and modernization approaches: whether the profit logic of capitalism subsumes and displaces other institutional logics or whether a separate institutional logic can also be identified. The analysis found that the logics of profit and social responsibility and environmental responsibility can coexist, but it also shows the conditions under which

coexistence is likely to be more or less evident. The chapter showed that for the Fortune 500 companies, larger companies and consumer-facing companies have a higher likelihood of coexistence of profit and environmental logics, but there is little difference for company size and relationship to the consumer for the coexistence of profit and social logics. This finding also contributes to the theory of institutional logics, which tends to view logics as singular or successive rather than coexisting. It informs the CSER literature and environmental sociology literature because it is based on the Weberian understanding of social change. In other words, the chapter's findings explain that although values and meanings (logics) are closely linked to structural characteristics of companies (company size and consumer facing), they sometimes become independent of existing structures, as indicated by the findings on the coexistence of the logic of social responsibility and the logic of profit. If the structural characteristics of companies were the only explanation, the logic of social responsibility and the logic of profit would have not coexisted in smaller firms and non-consumer facing firms.

Overall, the findings of this dissertation have two important implications. First, they show that corporations, given the right structures and conditions, can behave in an environmentally and socially responsible way. Although corporations are responsible for environmental destruction at an unfathomable scale (e.g., BP oil spill in 2010), it is evident that some corporations are trying to be more responsible for their actions. Furthermore, the findings show that under specifiable conditions (i.e., location at the center of the business community, larger corporations, and consumer-facing corporations), corporations are more likely to invest in CSER. These findings imply that once government actors and policy makers change the structure of rules and incentives (or once consumers and civil society generate similar institutional

pressure for change), corporations will be more likely to implement sustainable and socially responsible behavior.

Second, the findings of this dissertation show that sociological theories are useful in understanding CSER behavior. Many studies still rely on management theories, such as stakeholder theory, human relations, and administrative management theories that derive from psychology. Sociological theories complement the existing theories in understanding organizational behavior, and some management studies have already started incorporating sociological concepts such as institutional logics. However, other sociological theories that stress the importance of social structures such as Marxist approaches and the TCC remain neglected by the management discipline. I argue that interdisciplinary understanding of corporations is essential because it captures the complex structures of corporations that one single discipline would fail to fully appreciate.

5.2. Future Research

This dissertation focused on quantifying CSER behavior and identifying the structures that potentially lead to better CSER performance. Although this dissertation provides a novel and important approach to the analysis of CSER, it only grapples with a partial picture of CSER. Corporations are involved in artificial intelligent technologies and cyber-physical systems, and these innovations are changing the definitions and practices of CSER. For example, in the energy industry, the introduction of smart meters and grids are changing the energy pricing techniques, which is predicted to result in reduced energy bills and more sustainable energy consumption. Similarly, in the transportation industry, corporations are racing to see who will perfect the connected and automated vehicles (CAVs). CAVs are predicted to promote mobility justice and

reduce approximately 94% of accidents and lead to more efficient driving (European Commission 2018; Singh 2015; Young et al. 2007), which will result in less fuel consumption and reduced gas emissions. I argue that in order to capture a more holistic perspective of CSER, technological innovation and responsible research and development must be discussed.

I plan to focus my future studies on three aspects of technological innovation and organizations. First, I plan to examine theoretically and empirically how technological innovation is changing the discourses of CSER. Because many artificial intelligence technologies and cyber-physical systems are not yet widely deployed or used, the discourses of CSER are only applicable to the companies that are designing, developing, and manufacturing the technologies. However, once these technologies deploy, the overall discourse of CSER will change. One of my future research goals is to theoretically and empirically investigate how the theories and practices of CSER change because of technological innovations.

Second, I plan to identify the areas of innovation that lead to better CSER outcomes. The consequences of technological innovations are still unknown. For most technologies that are currently being developed but not yet widely used, scholars predict both negative and positive outcomes with respect to sustainability and social responsibility. I envision focusing my studies on identifying the impacts of specific technological innovations and its impacts on industry, organizations, sustainability, and equity.

Third, I plan to research how corporations can contribute to responsible research and innovation. Corporations are intimately involved in the development of artificial intelligence technologies and cyber-physical systems. In many cases, corporations are responsible for funding, designing, developing, and manufacturing the new and emerging technologies. In other cases, corporations are considered as target consumers for these technologies. (For example,

CAVs are expected to be extremely expensive, which means many scholars are predicting that corporations will purchase CAVs and will sell rides, instead of selling vehicles.) In this sense, understanding how corporations contribute to responsible research and innovation within new and emerging technologies is crucial in better understanding CSER.

In conclusion, I hope this dissertation functions as foundational work for further developing interdisciplinary discourses on CSER. As extremely powerful economic and political actors, corporations will remain as one of the main leaders for our environmental and social progress and advancement or deterioration.

5.3. Policy Recommendations

The findings of this dissertation can be used to inform policy designed to enhance CSER performance. The first research chapter's findings show that there are clear leaders and laggards in CSER and that corporations' practices of CSER tends to vary depending on the SDGs. From this finding, I recommend that policy makers reward and praise the leaders as well as penalize the laggards. Furthermore, more policy directives can be developed to discern the motivations and causes of high performance and how their practices can be adopted for other corporations. Identifying the leaders is beneficial because their motivations and practices can be easily analyzed and adopted by other corporations. In this sense, targeting corporations that are particularly lagging also becomes easier. These policy recommendations should be applied to both environmental and social issues.

The second research paper found that corporate centrality enhances CSER behavior. An implication of this study is that policy makers organize and host events that allow not only within-sector workshops and conferences but also across sector workshops. The goal of these

events would be to encourage a sense of mutual bond and tight network among corporations. Additionally, the events could enable information sharing and provide diverse perspectives on corporation management, which are considered as one of the essential elements of CSER.

An implication of the third chapter is that policy makers need to be engaging more with non-consumer facing companies and smaller companies regarding environmental issues. Because non-consumer facing companies and smaller companies have a lower likelihood of having the coexistence of the logic of profit and the logic of environmental responsibility, they may also respond to financial incentives for pursuing environmental responsibility goals.

In summary, this dissertation makes theoretical and methodological contributions, and it also develops empirical research that can be directly implemented to develop policies to strengthen the adoption of and support for CSER.

5.4. References

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