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The Impact of ESG Performance on Corporate Value of Chinese Companies

[1]Heonyong Jung

[1]Prof., Dept. of Business Administration, Namseoul Univ., Korea

E-mail gotoyong@nsu.co.kr

Abstract

This study examined the influence of ESG performance on the firm value of Chinese equipment manufacturing companies over the period from 2011 to 2020. The analysis indicated that while ESG performance exerted a negative influence on firm value, this impact was not statistically significant. These findings substantiate the Institutional Difference Hypothesis (IDH), which posits that country-specfic institutional variations sifnificantly shape the strategic decision-making of organizations. When disaggregating the three components of ESG, variations in the results were observed both for overall ESG performance and for each individual dimension. Of the three dimension elements, the environmental (E) and governance (G) facets had a negative bearing, whereas the social (S) facet had a positive influence. Notably, only the governance dimension (G) demonstrated a statistically significant influence. These outcomes affirm the institutional difference hypothesis, illustrating divergent results across distint ESG dimensions.

Keywords: *ESG Performance, Corporate Value, Chinese Company, Stakeholder Theory, Sustainability*

1. INTRODUCTION

By incorporating Environmental, Social, and Governance (ESG) into key decision-making processes, companies communicate their social responsibility to stakeholders, and ESG becomes a major indicator of a company's social respossibility. As a result, over the past decades, companies have adopted sustainability initiatives for various reasons [1~2]. The presence of sustainability criteria can influence a company's value and performance. Since the ultimate goal of a company is to generate high profits, the critical question is how ESG is reflected in the company's financial and value. However, while sustainability investments may incur costs for companies, they can establish a long-term foundations for survival and success [3]. Consequently, scholars have actively attempted to investigated the impact of sustainability efforts on firm performance and value [4]. sustainability is discussed in three dimensions: environmental, social, and governance, collectively referred to as ESG [5]. ESG is a framework system for companies and investors to systematically examine environmental protection, social responsibility, and corporate governance. It promotes the integrated development concept of environmentl value, ecinomic value, and social value by conveying green production methods, responsible corporate social image, and effective corporate governance mechanisms [6~7]. ESG has become the most widely used measurement methods for companies to take responsibility for sustainability [8]. However, the literature has yet to provide consistent research findings on whether sustainability efforts effectively enhance a firm's value [9]. Therfore, more empirical studies utilizing diverse methodologies and

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Corresponding Author: gotoyong@ansu.ac.kr
Tel:+*** - **** - **** Fax: +82-41-581-4001
Professor, Dept. of Business Administration, Namseoul Univ., Korea

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samples are needed to investigate the economic implications of sustainability. The objective of this study is to analyze the impact of ESG activities on firm value. Thus, this research can provide insights to help companies allocate their available resources more efficiently and robustly to sustainability activities.

The balance of the paper is laid out as follows. Section 2 presents the literature review. Section 3 presents the empirical methodology and section 4 offers empirical findings. And section 5 presents some conclusions.

2. LITERATURE REVIEW

ESG can be considered the most widely used measurement method for assessing the sustainability criteria that companies can be held accountable for [8]. As the ultimate goal of companies is to generate high profits and increase corporate value, understanding the impact of ESG on corporate value is crucial. Stakeholder theory is one of the various theoretical frameworks that explain different aspects of ESG and its influence on corporate operations. This theory links the company's sustainability initiatives to interactions with stakeholders [10]. Building on this, ESG performance has been developed as an indicator representing the extent to which companies integrate sustainability issues [11]. Previous studies have yielded mixed results regarding the relationship between ESG and corporate value. Most studies report a positive relationship between ESG and corporate value [12~15]. However, some studies suggest a negative relationship between ESG and corporate value [16~19]. Finally, some studies present mixed findings regarding the relationship between ESG and corporate value [20~23]. The Institutional Difference Hypothesis (IDH) argues that institutional differences between developed and emerging economies have a significant impact on decision-making within organizations.

Recent academic focus on evaluating the impact of ESG scores on corporate value and financial performance. For example, there are studies that provide evidence on the choices of voluntary corporate social responsibility strategies for enhancing corporate sustainability. They presented results showing that the majority of ESG initiatives have a quantitative association with financial performance [24]. In a study investigating the impact of environmental, social, and governance (ESG) activities on firm performance of 4,887 global companies, it was found that firms with a high level of ESG activities differ from those with low ESG activities. The results of the two-stage least square estimation indicate that ESG activities, such as welfare for internal stakeholders and best corporate governance practices, have a positive influence on firm performance. Additionally, the adoption of antitakeover mechanisms (e.g., pollution control) by firms is perceived negatively (positively) by market participants. This study provides insights into the effects od ESG on both market-based and accounting-based performance of global firms. In recent years, there has been an increased interest in ESG within corporate activities in China, primarily due to environmental pollution resulting from industrialization. Since the amendment of the Corporate Law in 2006, the Chinese government has issued regulations aimed at protecting the interests of stakeholders, including shareholders, bondholders, employees, local communities, and other stakeholders. Consequently, Chinese companies have been strengthening their social responsibility initiatives, improving corporate governance, and enhancing activities to garner support from stakeholders.

3. EMPIRICAL METHODOLOGY

3.1 Data

The data for this study were collected from three sources: Bloomberg database, Guotaian database, and Hutchison investment consulting platform. The analysis covers the period from 2012 to 2021, and the research sample consists of A-share listed companies in China. Data for companies without ESG scores from the Bloomberg database were excluded, and the data for companies with ST, *ST, and PT statuses in the current year were removed. Data for companies that conducted an IPO in the current year were also excluded. To mitigate the influence of outliers on the sample data, the tails of continuous variables were trimmed to the top 99% and bottom 1%. Through these procedures, a final dataset comprising 2,583 observations from 297 companies was obtained.

3.2 Variables

The grouping of dependent and independent variables was based on previous relevant studies [25~27]. Specifically, Tobin's q is widely used as a prominent indicator of firm value. In this study, following the approach of [28], Tobin's q was defined as the ratio of total market value to total assets. ESG scores were considered as measure of sustainability performance. Currently, there are numerous ESG rating agencies worldwide, and Bloomberg, as the world's largest financial information company, is one of the most reputable institutions that publicly disclose ESG scores. Therefore, in this paper, ESG scores published by Bloomberg were selected as explanatory variables in this model. The three dimensions of environmental responsibility (E) score, social responsibility (S) score, and corporate governance (G) score were used as sub-explanatory variables. Control variables included business growth (BG), capital structure (CS), ratio of fixed assets (FA), firm size(SZ), and firm age (AG).

3.3 Models

It is widely known that time series data generally exhibit unit roots, indicating they are characterized by unstable nonstationary processes. In such case, using commonly known econometric methods like regression analysis can lead to problems such as spurious regression. First-differenced variable can generally become stable series without unit roots, but differencing can cause the loss of information reflecting the unique characteristics of time series. In other words, there may be a problem of losing information about the long-run equilibrium relationship existing in the original level variables. In this case, cointegrating regression models have the advantage of utilizing the information about the long-run equilibrium relationship among variables using the level variables without differencing. Accordingly, this study examines the long-run equilibrium relationship between ESG performance and firm value using the dynamic ordinary least squares (DOLS) model. In this paper, the estimation equation of the DOLS model is as follows.

$$TQ_{i,t} = a_0 + b_1\, ESG_{i,t} + b_2\, Control_t + \sum_{j=-q}^{p} c_{1j} \triangle ESG_{i,t+j} + \sum_{j=-q}^{p} c_{1j} \triangle Control_{t+j} + \varepsilon_t \qquad (1)$$

Where, $TQ_{i,t}$ represents the Tobin's q of company i at time t, and $ESG_{i,t}$ represents the ESG score of company i at time t. $Control_t$ denotes the control variables. b_1 represents the coefficient of ESG variable, and b_2 represents the vector of coefficients for control variables. In equation (1), 1 and p represent the lead and lag order, respectively, where j≠0.

4. EMPIRICAL FINDINGS

Table 1. Summary of Descriptive Statistics

Variable	Mean	Std. de.	Maximum	Minimum
TQ	1.9997	4.4480	28.6838	0.7429
ESG	20.5580	6.9408	64.1148	1.2397
BG	51.5106	320.9711	7206.7350	160.5846
CS	47.6908	18.1045	110.1940	4.1467
FA	18.4915	10.7540	62.5873	0.1464
SZ	22.9547	1.2705	27.5470	19.5411
AG	19.5505	5.6885	46.0000	2.0000

Before conducting panel regression analysis, outliers were removed, and the correlation matrix and variance inflation factor (VIF) were obtained to access potential endogeneity among variables. The correlation coefficients indicated that mo0st variables had absolute values less than 0.5, indicating no significant correlation. Regarding VIF, all values were below 10, suggesting the absence of multicollinearity issues.

Summary statistics for the research variables are presented in Table 1.

In Table 2, there is no statistically significant relationship between ESG performance (b1 -0.019; p>0.1) and firm value, but negative results are observed. These findings support the notion that there is no impact between ESG and financial indicators, as previously suggested in other studies focusing on emerging market companies [29~32]. The institutional development hypothesis (IDH) argues that institutional differences in countries have a significant influence on the strategic decision-making of organizations. In the case of emerging companies, there is a tendency to prioritize capital accumulation over potential strategic benefits of CSR investments. Moreover, these companies face relatively lower pressures from government agencies compared to developed country firms, resulting in less pressure to undertake CSR initiatives. The findings of this study align with the research results of [33] that examines the dominance of institutional environments concerning firm financial and ESG performance through regression analysis using panel data consisting of 2,165 companies from developing and emerging economies during the period from 2007 to 2014. By differentiating the three dimensions of ESG, the analysis revealed that environmental responsibility (E) and governance responsibility (G) had a negative impact on firm value, while social responsibility (S) had a positive impact. However, only governance responsibility (G) showed statistical significance. These results align with previous research and demonstrate the mixed influence of ESG performance on firm value.

Table 2. Regression Results of Model 1~4

Variable	Model 1	Model 2	Model 3	Model 4
ESG	-0.019(-01.571)			
E		-0.015(-1.563)		
S			0.001(1.267)	
G				-0.026(-2.190)***
BG	0.001(1.142)	0.001(1.193)	0.001(1.267)	0.001(1.224)
CS	-0018(-4.266)***	-0.019(-4.353)***	-0.018(-4.211)***	-0.016(-3.510)***
FA	-0.001(-0.069)	-0.001(-0.045)	-0.001(-0.016)	-0.002(-0.298)
SZ	-0.195(-2.982)***	-0.193(-2.894)***	-0.243(-3.956)***	-0.223(-3.834)***
AG	0.010(0975)	0.009(0.886)	0.006(0.542)	0010(1.017)
R^2	0.163	0.162	0.164	0.164

Note: ***, ** and * are significant at the level of 1%, 5% and 10% respectively, and the T value in brackets (based on the clustering robust standard error at the company level).

5. CONCLUSION

The fundamental motivation of this research is to analyze the impact of ESG on firm value in the Chinese equipment manufacturing industry. While it has been widely investigated across industries in recent academic literature, its contribution in the equipment manufacturing sector has been limited. Additionally, analyzing the impact of ESG on firm value in Chinese companies, which are transitioning from emerging to advanced economies, would contribute to filling an academic gap. To address this, the study analyzed the influence of ESG on firm value in Chinese manufacturing companies from 2011 to 2020. The main analysis results are as follows. First, ESG performance had a negative impact on firm value, but it was not statistically significant. These results support the institutional difference hypothesis, which suggests that emerging market companies tend to prioritize capital accumulation over the potential strategic benefits of CSR investments. Second, when analyzing the three dimensions of ESG, it was found that environmental responsibility (E) and governance responsibility (G) had a negative impact on firm value, while social responsibility (S) had a positive impact. However, only governance responsibility (G) showed statistical significance. Therefore, these results align with previous studies that indicate a mixed impact of ESG performance on firm value.

This study has still some limitations. It only focuses on companies in certain industries in China, and it does not consider mediating or moderating effects. Therefore, future research should address these points and

conduct studies that overcome these limitations.

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