

The Effect of ESG Disclosure on Firm Value: An Empirical Evidence from Chinese Listed Companies

Li Li¹, Maisarah Mohamed Saat² and Wu Jiayi³

¹Azman Hashim International Business School, Universiti Teknologi Malaysia Kuala Lumpur, Malaysia, ²Faculty of Management, Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor, Malaysia, ³Graduate School of Business, SEGI University, Petaling Jaya, Selangor, Malaysia

Corresponding Author Email: lili@graduate.utm.my

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Abstract

The purpose of this paper is to investigate the effect of environmental, social, and governance (ESG) disclosure on the firm value of Chinese listed companies. The sample consists of 6,575 firm-year observations from the years 2011 to 2021, representing 1,024 firms listed in China. Using a large panel dataset, this study reveals a positive effect of ESG disclosure on firm value (Tobin's Q), while no significant effect is observed on firm value (ROE). It highlights the need for companies to embrace ESG trends, incorporate ESG concepts into strategic decision-making, practice sustainable development, and prioritize stakeholder interests, ultimately contributing to China's pursuit of high-quality and high-speed economic development. This paper makes two significant contributions to the ESG literature: firstly, it provides a detailed explanation of the relationship between ESG disclosure and firm value using agency theory and stakeholder theory, and secondly, it offers essential implications for the government to establish a more comprehensive ESG information disclosure system and implement standardized reporting guidelines.

Keywords: ESG Disclosure, Agency Theory, Stakeholder Theory, Firm Value

Introduction

In recent years, the world has faced various environmental and social problems, such as global population growth, economic development and escalating risk of climate change (Naeem et al., 2022), and China is no exception. As the process of global integration accelerates and the market economy continues to develop, there is an unprecedented global interest in sustainable development. Companies are facing increasing pressure from stakeholders to adopt sustainable practices and provide comprehensive representations of their sustainable development initiatives. Financial disclosures alone are insufficient to meet the information

needs of stakeholders, policymakers, and investors. As a result, non-financial disclosures, primarily in the form of environmental, social, governance, and integrated reports, are gaining significance (Giannopoulos et al., 2022).

Non-financial disclosures pertain to a range of topics such as pollution, emissions, waste management, human rights, gender policy, labour standards, and corporate governance. These aspects are not addressed within the scope of financial disclosures. These disclosures are intended for a broader range of audiences, including governments, investors, customers, suppliers, employees, and lenders. These circumstances make non-financial information disclosure a tool capable of satisfying the information needs of stakeholders and investors, reducing the cost of financing (Eliwa et al., 2021) and thus securing several financial interests. Furthermore, there is a growing trend among investors to prioritize non-financial dimensions of sustainability performance as a means to ensure long-term profitability in light of diverse environmental and social concerns (Capelle-Blancard & Petit, 2019), as ESG disclosure is seen as a way to increase company value and improve financial performance (Albitar et al., 2020; Giannopoulos et al., 2022). Finally, ESG disclosure can signal stakeholders that a company is trustworthy, builds a competitive advantage, and adds value.

In the past, investors could only understand a company's current operations and predict its future prospects through the financial reports disclosed by the company. However, this understanding could be one-sided. Now, under the ESG disclosure system, investors can comprehensively understand a company from environmental, social, and governance aspects, alleviating the information asymmetry between investors and companies. Therefore, through ESG information disclosure, investors can learn more, create a more accurate opinion of the firm, help the company obtain capital at a lower cost, reduce the company's agency costs (Elili, 2020), and thereby enhance the value of the enterprise.

Finally, there are two justifications for selecting China as the focal point of this study endeavour: Firstly, China, being the largest developing nation globally, has demonstrated a steadfast dedication to enhancing the global environment and actively contributing to climate change mitigation efforts in recent times. China has established strategic objectives, namely attaining the peak of its greenhouse gas emissions by 2030 and accomplishing carbon neutrality by 2060 (Huang & Zhai, 2021), practising the concept of sustainable development with practical actions, and ESG disclosure is formally developed based on the concept of sustainable development, and there are similarities between the two. Secondly, China's rapid economic development in recent decades is closely related to enterprises, and studying the relationship between ESG disclosure and the firm value of listed companies can guide Chinese enterprises to practice the concept of sustainable development and pay attention to the interests of stakeholders (Abdi et al., 2022; Chen & Xie, 2022). Based on this, this study takes the relationship between ESG disclosure and firm value as the main research objective.

Literature Review

ESG disclosure, as an important factor affecting firm value, has received increasing attention in recent years. This section will first explain the logical relationship between ESG disclosure affecting firm value based on agency theory and stakeholder theory. Subsequently, an examination and synthesis of the scholarly literature pertaining to the correlation between ESG disclosure and firm value in recent times is conducted, followed by the formulation of the hypothesis for this research.

The first key issue in agency theory is the problem of information asymmetry. Therefore, this paper first uses agency theory to explain the relationship between ESG disclosure and

firm value. Firstly, ESG disclosure happens to supplement the information of non-financial data, which helps investors to better understand the company's business and can strengthen the relationship between the company and its important stakeholders. This leads to improved business performance through consumption, investment and favourable hiring practices, which in turn increases firm value (Khandelwal et al., 2023; Li et al., 2018). Secondly, due to the reduction of information asymmetry, firms that disclose more ESG information are more likely to be recognized by lenders and receive support and preferences from them, resulting in a reduction in the cost of financing (Raimo et al., 2021; Wang, 2022). This, in turn, helps to lower risk Buallay (2019), improves firm competitiveness Mohammad & Wasiuzzaman (2021) and gain a competitive advantage (Qureshi et al., 2019), ultimately increasing firm value. Thirdly, as the community is increasingly concerned about sustainable development, timely disclosure of ESG information by firms can gain higher attention to enhance social influence Aboud & Diab (2018), ultimately improving corporate reputation (Wang, 2022). Simultaneously, ESG disclosure can attract more investors and provide long-term corporate value by increasing transparency (Chen & Xie, 2022). Investors can also better monitor firms, promote diligence, and foster responsibility among company executives Gjergji et al (2021), ultimately ensuring good business performance.

In addition to agency theory, stakeholder theory can also be used to explain the relationship between ESG disclosure and firm value. Firstly, ESG disclosure can serve as a tool for stakeholder communication, gaining trust and support from stakeholders (Kim et al., 2022), which in turn leads to necessary resources (Velte, 2017). For example, when customers recognize and appreciate a company's commitment to sustainable values, they are more inclined to purchase and consume its products, resulting in increased sales and EBITDA (Pulino et al., 2022). Secondly, companies with better ESG disclosure will have higher credibility and can attract talented people to join them, thus increasing the value of the firm value (Henisz, 2019). This is because human resources, as the core competitiveness of enterprises, can effectively mitigate external shocks, improve business performance, and promote sustainable growth. Thirdly, the disclosure of ESG factors can potentially foster business innovation by mitigating corporate finance limitations (Chen et al., 2023) thereby winning government support and subsidies.

Although agency theory and stakeholder theory provide explanations for ESG disclosure enhancing corporate value, past studies have shown that the impact of ESG disclosure on corporate value remains controversial. While most scholars believe that ESG disclosure can lead to an increase in corporate value, a small number of scholars have reached the opposite conclusion. They argue that ESG disclosure may not only fail to increase corporate value but also potentially lead to a decrease in firm value. This scepticism arises from the concern that firms may use ESG information disclosure to conceal wrongdoings and highlight positive aspects of their operations. These ESG disclosures might not be independently verified, causing investors to doubt the authenticity of such information (Sreepriya et al., 2023). In a recent study Sun et al (2023), based on the Chinese context, it was found that the level of integration of ESG disclosures is negatively associated with firm value. Next, this section will review and summarize the literature examining the relationship between ESG disclosure and firm value in recent years.

The study conducted by Velte (2017) indicate that Environmental, Social, and Governance Performance (ESGP) has a favourable influence on Return on Assets (ROA), whereas it does not have a significant effect on Tobin's Q. The reason for this could be attributed to the stakeholders' inclination towards a company's sustainability plan. ESG

disclosure has proven to be a valuable instrument for stakeholder engagement and meeting their demands.

In a different geographical context, Li et al (2018) conducted a positive correlation among ESG disclosure and firm value by examining the link between them for 350 FTSE companies. Four arguments in particular support the authors' findings. Firstly, because ESG practices are very different from accounting practices, disclosure of ESG practices provides additional information to financial data. As an important part of non-financial information, ESG disclosure contributes to a better understanding of a company's business. Secondly, ESG disclosure can further enhance managers' motivation to enhance internal control mechanisms, comply with regulations, and serve the interests of the company's stakeholders by increasing the transparency of the company's ESG issues. Thirdly, with improved ESG disclosure, relationships between important corporate stakeholders can be strengthened, leading to improved business performance, and hence firm value, and thus company value, through consumption, investment, and favourable employment practices. For example, if customers/communities perceive a firm as a good citizen based on its disclosed ESG information, they may want to buy more products from the firm, thereby improving profitability. The resulting improvements in internal management practices can strengthen the relationships of multiple stakeholders that do business with these companies. Finally, through promoting stakeholder participation and being transparent, ESG disclosure lowers agency costs.

In another study, Azmi et al (2021) used the systematic generalized method of moments (GMM) to study the relationship between ESG disclosure and firm value for 251 banks from 44 countries. The results of the study indicate that there is a critical mass of positive impact of ESG disclosure on firm value. This may be due to the fact that stakeholders will bear a portion of ESG expenditures, and this positive effect may trend down when ESG expenditures exceed a certain limit.

In a broad global context, Wen et al (2022) found that ESG disclosure has a moderating effect on ESG performance and market value in the context of 49 countries around the world. Because, ESG disclosure can gain trust and favour from stakeholders and reduce the problem of information asymmetry.

Moving on to India's manufacturing landscape, Sreepriya et al (2023) conducted a survey with a sample of 223 manufacturing firms in India from 2010 to 2019 across 11 industries in India. The study incorporates the consideration of GRI compliance while examining the influence of ESG disclosure on business value. The findings of the research indicate a positive correlation between these two factors.

Recently in their study, Sun et al (2023) conducted an analysis on the intricate nature of the Chinese market. They employed a sample of 7168 observations, which were carefully selected from 1169 firms listed in China over the period of 2006 to 2019. The objective of their research was to investigate the correlation between the amount of integration of ESG disclosures and the value of enterprises. The findings provide compelling empirical evidence that the degree of integration of ESG disclosure is negatively associated with firm value. Institutional characteristics (especially Chinese cultural resistance to transparency that affects investors' perception of cost-benefit) are the main reason for the negative association with firm value.

Table 1

The Literature on the Relationship between ESG Disclosure and Firm Value

No	Author	Country	Relationship	Theory
1	Velte (2017)	German	mixed	Stakeholder theory; agency theory.
2	Li et al. (2018)	UK	positive	Stakeholder theory, agency theory
3	Azmi et al. (2021)	44 emerging economies	Non-linear	Stakeholder theory; trade-off theory; Agency theory; Resource-based theory
4	Wen et al. (2022)	49 countries	mixed	Signaling theory; stakeholder theory
5	Sreepriya et al. (2023)	Indian	Positive	Signaling theory
6	Sun et al. (2023)	China	Negative	Institutional theory

Table 1 summarises the literature on the relationship between ESG disclosure and firm value. Based on the results of most of the previous studies, which show a positive effect on firm value, it is hypothesised that:

H1 : ESG disclosure has a positive effect on firm value (Tobin's Q).

H2 : ESG disclosure has a positive effect on firm value (ROE).

Research Methodology

To investigate whether the firm value of Chinese listed companies is affected by ESG disclosure on firm value, this study used a sample of companies on the Shanghai Stock Exchange and Shenzhen Stock Exchange from 2011-2021. Companies with incomplete data and those in the financial sector (Chen and Xie, 2022). In addition to that, the S-share, ST-share, *ST-share and other abnormal enterprises in the observation period are excluded and used to ensure the accuracy of data analysis. Finally, the collected secondary data will be quantitatively analysed using Stata 16.0 software. Stata was chosen for its strong statistical analysis, graphing functions, and programming capabilities, making it suitable for the data analysis needs of this study.

The variables represent the concept of the study to examine the results of the study; there are three categories of research variables in this study which are independent variables (ESG disclosure), dependent variables (firm value) and control variables (firm size, board size, Leverage, Return on Assets, year, growth). Table 2 lists the variables based on the overall research framework.

Dependent Variable: Firm Value

in our present study, we first use Tobin's Q to measure the value of the firm. Tobin's Q is a market-based performance measure that tends to be a forward-looking measure of investors' financial performance of the firm (Aboud & Diab, 2022).

Independent Variable: ESG Disclosure

This study will use Bloomberg's platform database to extract ESG disclosure scores. Bloomberg's disclosures are detailed: the environmental indicators include 28 sub-items, social indicators contain 17 sub-items, and corporate governance comprises 29 sub-items.

Table 2

Measurement of Variables

Variables	Formulation	Past Studies
Firm value (DV)		
Tobin's Q	Tobin's Q =The market value of equity + Book value of liabilities/ Book value of total assets	(Sreepriya et al., 2023; Velte, 2017)
ROE	Net Profit/ net assets	(Khan, Khan, Khan, Suleman, & Ali, 2023; Naeem et al., 2022)
ESG Disclosure (IV)		
ESG disclosure	Total Bloomberg ESG Rating Score	(Chen& Xie, 2022; Sreepriya et al., 2023)
Control Variables (CV)		
Firm size (LnAS)	Ln Total Assets	(Meng-tao, Da-peng, Wei-qi, & Qi-jun, 2023)
Board size (BN)	The number of directors on a company's board of directors	Khan et al., (2023)
Leverage (LE)	Take the logarithm of the total assets of the enterprise	Khan, (2022)
Return on Assets (ROA)	Enterprise net profit/enterprise total assets	(Grishunin,Naumova, Burova,Suloeva,& Nekrasova, 2022)
Year (Y)	Control by year of sample	Lee, (2023)
Growth (NPGA)	Increase in net profit/previous year's net profit	Wang, Lin, Fu, & Chen, (2023)

To examine the hypotheses suggested earlier, this study initially formulates models that depict the relationship between ESG disclosure and business value. The models are as follow:

$$Tobin's Q_{it} = \alpha_0 + \beta_1 ESG_{it} + \sum CV_{it} + \mu_{it} + \varepsilon_{it} \quad (1)$$

$$ROE_{it} = \alpha_0 + \beta_1 ESG_{it} + \sum CV_{it} + \mu_{it} + \varepsilon_{it} \quad (2)$$

Where *Tobin's Q_{it}* and ROE is the value of firm *i* at time *t*. *ESG_{it}* is one of the three measures of disclosure (Environmental, Social, and Governance) of a firm *i* at time *t*. The firms-fixed effect μ_{it} controls for the time characteristics and ε_{it} is the error term for firm *i* at time *t*. $\sum CV_{it}$ is firm size (LnAS), board size (BN), Leverage (LEV), Return on Assets (ROA), year and growth (ATRGA).

A Proposed Conceptual Model/Framework

Figure 1 shows the research framework for this study, which is based on the study objectives and literature review.

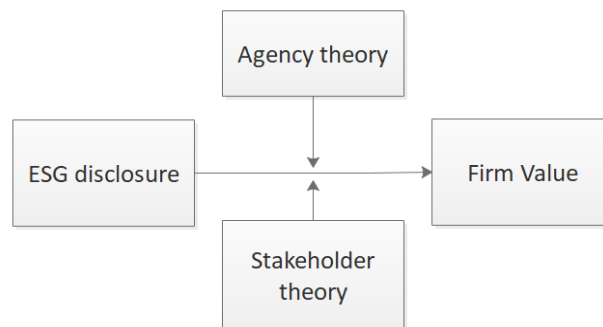


Figure 1. Conceptual Framework

Results and Discussions

Descriptive Analysis

The final panel dataset of this study contains ESG and financial data of Chinese firms over an 11-year period, with a total of 6,575 observations. Table 3 displays the descriptive statistics, which encompass the mean and standard deviation. The upper bound of Tobin's Q is 29.17, while the lower bound is 0.688. Similarly, the upper limit of ROE is 0.874, but the lower limit is -12.91. These values suggest a substantial disparity in the valuation of various enterprises within the capital market. The ESG disclosure scores across Chinese listed businesses exhibit a considerable range, with the maximum value recorded at 68.92 and the minimum value at 9.91. The mean ESG disclosure score is calculated to be 28.71, with a standard deviation of 8.80. These statistics suggest a significant disparity in corporate governance disclosure practices across the aforementioned organizations.

Table 3

Descriptive Statistics

Variable	N	Mean	p50	SD	Min	Max
Tobin's Q	6575	2.088	1.535	1.772	0.688	29.17
ESG	6575	28.71	27.61	8.803	9.909	68.92
ROE	6575	0.098	0.095	0.217	-12.91	0.874
LnAS	6575	23.19	23.08	1.284	19.56	28.64
LEV	6575	0.459	0.465	0.194	0.008	0.984
ATRG	6575	0.191	0.113	0.425	-0.707	11.36
ROA	6575	0.057	0.047	0.059	-0.872	0.604
BN	6575	9.079	9	1.902	4	18

Regression Results

Before conducting the baseline regression analysis, it was imperative to choose the suitable model from a selection of mixed Ordinary Least Square (OLS), random, and fixed effects models. Upon doing a comparative analysis between the mixed OLS model and the fixed effects model, it was seen that the F-test result of 4.92, at a significance level of 0.000, provided evidence in favour of selecting the fixed effects model. Upon doing a comparative analysis between the mixed ordinary least squares (OLS) model and the random effects model, it was seen that the p-value (P) was found to be 0.000, which is less than the predetermined significance level of 0.05. This outcome suggests that the random effects model exhibits superiority over the mixed OLS model. The Hausman test results indicate that

the fixed effects model is statistically superior to the random effects model, as seen by the significance level of 0.000. Hence, the fixed-effects model was employed as the fundamental regression model in this research. In addition to this, before the regression analysis, multicollinearity was also detected for each independent variable, and the results showed that the VIF was between 1.03 and 1.9, which is less than 10, proving that there is no multicollinearity problem.

Following the completion of descriptive analyses on the variables and hypothesis testing using regression analyses, we proceeded to employ regression analysis in order to investigate the impact of ESG disclosure on company value. company value was assessed using two metrics, namely Return on Equity (ROE) and Tobin's Q. Table 4 (1) and (2) present the results of the multiple regression analysis for Models 1-2, controlling for time effects. The regression results demonstrate that ESG disclosure is significantly and positively related to firm value, as measured by Tobin's Q, which supports our first hypothesis which is H1: ESG disclosure has a positive effect on firm value (Tobin's Q). This finding aligns with the views of previous scholars (Aboud & Diab, 2018; Mohammad & Wasiuzzaman, 2021; Sreepriya et al., 2023) who also supported this hypothesis. And there is no relationship between ESG disclosure and firm value (ROE), contrary to our second hypothesis. This may be due to the fact that TQ value is usually more appropriate to indicate the value of the firm, while ROE is used to indicate the short-term performance of the firm and thus H2: ESG disclosure has a positive effect on firm value (ROE) is not supported.

Table 4

Regression Results and Robustness Test Results about ESG Disclosure and Firm Value

	(1) Tobin's Q	(2) ROE	(3) Tobin's Q	(4) ROE
ESG	0.023*** (0.004)	-0.000 (0.001)		
L.ESG			0.028*** (0.005)	-0.000 (0.000)
LnAS	-0.406*** (0.049)	0.052*** (0.008)	-0.155** (0.064)	0.021*** (0.006)
LEV	1.748*** (0.210)	-0.113*** (0.033)	1.392*** (0.260)	0.057** (0.023)
NPGA	-0.000 (0.000)	0.000*** (0.000)	-0.000 (0.000)	0.000*** (0.000)
ROA	5.652*** (0.385)	2.303*** (0.061)	5.532*** (0.436)	2.133*** (0.039)
BN	0.004 (0.018)	0.005* (0.003)	-0.019 (0.021)	-0.001 (0.002)
_cons	9.440*** (1.052)	-1.206*** (0.166)	4.089*** (1.402)	-0.521*** (0.126)
N	6575.000	6575.000	4835.000	4835.000
r2	0.137	0.257	0.132	0.478

Standard errors in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Robustness Check

In order to examine the robustness of the results, this study tests for possible endogeneity between ESG disclosure and firm value by using one lagged period values. Considering the time delay in the process of transferring information from ESG disclosure to feedback on firm value, the explanatory ESG disclosure variables are lagged by one period. The results are presented in Table 4 (3) and (4). Comparison of Table 4 (1) and (2) reveals that the results are generally consistent with the results before replacement, i.e., there is a significant positive correlation between ESG disclosure and firm value (Tobin's Q) and no correlation with firm value (ROE). This is consistent with the previous results. It can be seen that the findings of this paper are robust and not subject to serious endogeneity.

Discussion

Despite the potential of ESG disclosure to enhance corporate value, its development in China is still in its early stages. Currently, most of the ESG data used in China's mainstream ESG rating system relies on corporate disclosures, which presents several challenges. Firstly, China's ESG disclosure policy system has not yet been fully established; existing ESG policies primarily target enterprises, and the broader concept of ESG has not been widely embraced by asset owners and asset managers. Additionally, there is a lack of regulatory bodies to oversee the implementation of ESG policies by companies (Sun et al., 2023). Secondly, ESG information disclosure lacks specialized regulatory services and non-profit organizations (Huang et al., 2022; Sun et al., 2023). While some third-party organizations assist companies in disclosing information, there is a scarcity of investment in ESG disclosure research, and specialized regulatory and assurance bodies are lacking. As China is still promoting the development of the ESG system from the top down, non-profit organizations that support ESG theory research and implementation are also limited. Therefore, it is crucial to address the major issue of establishing a set of ESG disclosure standards that consider China's national conditions and corporate circumstances. These ESG standards should align with China's level of economic and social development, foster environmental sustainability, and gain recognition from international investors.

Conclusion

The aim of this study is to investigate the effect of ESG disclosure on firm value, driven by the increasing interest in sustainable development. To conduct this research, 6575 observations were collected from 1024 listed companies in China's Shanghai and Shenzhen markets. The study reveals that ESG disclosure has a significant positive impact on firm value using Tobin's Q, while it shows no impact on firm value when measuring using ROE. These findings align with agency theory and stakeholder theory, as ESG disclosure serves as an effective tool for stakeholder communication and meets stakeholders' expectations. Additionally, ESG disclosure supplements non-financial information and reduces information asymmetry in the capital market. The greater transparency of a company attracts more investors and can contribute to increasing firm value in the long run (Chen & Xie, 2022).

This article contributes to the wealth of information on ESG in two different dimensions: Firstly, the theories of agency and the theory of stakeholder are used to provide a thorough explanation of the connection between ESG disclosure and business value. Secondly, the outcomes of this research have the potential to aid the government in establishing a more comprehensive data disclosure system. This includes the formulation of a standardized framework for disclosure and the promotion of authentication of

environmental, social, and governance (ESG) reports. Additionally, implementing penalties for companies that engage in irregular disclosure practices can serve as a preventive measure to foster the sound development of ESG information disclosure in China. Establishing either a mandatory or semi-compulsory disclosure system should clarify the important ESG information that must be disclosed to provide institutional protection for developing ESG information disclosure.

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