INTERNATIONAL JOURNAL OF ECONOMICS AND FINANCE STUDIES
Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325
Received: 07.09.2023 | **Accepted:** 03.12.2023 | **Published Online:** 23.12.2023

-RESEARCH ARTICLE-

ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) PERFORMANCE, FINANCIAL CONSTRAINTS, AND CORPORATE VALUE: A QUANTILE REGRESSION ANALYSIS OF CHINESE LISTED FIRMS (CLFS)

YueTong Wu

PHD, UKM-Graduate School of Business (UKM-GSB),
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.
Email: zp05428@siswa.ukm.edu.my
ORCID iD: https://orcid.org/0009-0003-0499-6984

Puan Yatim*

Assoc. Prof. Dr., UKM-Graduate School of Business (UKM-GSB),
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.
Email: puan@ukm.edu.my
ORCID iD: https://orcid.org/0000-0002-8082-5605

Sue Lin Ngan

Dr., UKM-Graduate School of Business (UKM-GSB),
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.
Email: suelin.ngan@ukm.edu.my
ORCID iD: https://orcid.org/0000-0002-0300-9364

─Abstract─

This work presents the correlation connection between the performance of a company in terms of environmental, social, and governance (ESG) factors value within the context of Chinese listed firms (CLFs) spanning from 2018-2022. The study, encompassing a sample size of 645 CLFs, employs a quantile regression analysis approach to investigate the impact of ESG performance and financial constraints on the corporate value of these listed firms across various quantile levels. The findings demonstrate a correlation between sustainability performance and corporate values for companies with both low and high values. However, there is no noticeable impact

Citation (APA): Wu, Y. T., Yatim, P., Ngan, S. L. (2023). Environmental, Social and Governance (ESG) Performance, Financial Constraints, and Corporate Value: A Quantile Regression Analysis of Chinese Listed Firms (CLFs). *International Journal of Economics and Finance Studies, 15*(03), 534-552. doi: 10.34109/ijefs.202315325

detected for companies with values in the middle range. Additionally, the research concludes that financial constraints exhibit a negative relationship with corporate value for firms with low and high values, with no statistically significant impact on those with mid-range values. Furthermore, the findings suggest heterogeneous effects of both ESG performance and financial constraints on the corporate value of CLFs, supplying insights for investors, firm management, and policymakers in China.

Keywords: ESG Performance, Financial Constraints, Corporate Value, Quantile Regression Analysis, Chinese Listed Firms.

1. INTRODUCTION

The Sustainable Development Goals (SDGs) were created by the United Nations with the objective of prompting businesses and society to formulate and execute requisite measures aimed at safeguarding the environment, mitigating poverty, and enhancing the protection of human rights (Huck, 2022). The dimensions of ESG constitute pivotal facets reflecting the corporate social responsibility of enterprises. While there exists heterogeneity in the adoption and execution of ESG initiatives, firms across numerous countries are dedicating investments to augment their ESG performance. According to MSCI, a prominent ESG rating and research entity, companies that invest in ESG programs observe an improvement in their stock value and profitability. On average, 2.7% of such entities surpass their industry counterparts (Zeidan, 2022). In accordance with a report issued by the Governance and Accountability Institute, 80% of companies listed on the Euro Stoxx have documented a notable surge, amounting to 90%, in the incorporation of ESG factors. This represents a substantial escalation from the modest 20% reported in 2011 (Gadinis & Miazad, 2020).

ESG performance has garnered considerable scholarly attention, particularly in the realms of accounting and finance. Its relevance to businesses lies in the advantages derived from sustainable operations that align with shareholder expectations and satisfy various stakeholders, including internal (employees) and external (customers, suppliers, regulatory authorities). This approach also addresses environmental concerns and meets broader societal expectations (Zumente & Bistrova, 2021). Companies that prioritize investments in ESG factors, and subsequently outperform their competitors, offer substantiation and a paradigm for other firms, investors, stakeholders, and regulatory bodies to redirect their attention towards ESG metrics. Recognizing the complete potential of ESG metrics is essential for mitigating risks and augmenting corporate value (Zheng et al., 2022). Despite the growing significance of ESG performance and corporate value in the Chinese context, there is a noticeable paucity of literature addressing this area. The impact of ESG performance and financial restrictions on the business value of Chinese listed enterprises has been the subject of limited research. The available conclusions on this matter are inconclusive and vary in type (Ruan & Liu, 2021; Yu & Xiao, 2022; Yuan et al., 2022).

Previous scholarly investigations have employed an ESG rating system as a metric to assess performance (Wong et al., 2021). A supplementary study investigated the effects of ESG results on the company's financial results specifically in the aviation industry. It concluded that the firm's size is relevant to the extent of the observed influences on financial performance (Abdi et al., 2022). The disclosure of CSR expenditure was found to contribute significantly to the valuation of global listed firms. However, it is advised that the comprehensive assessment of overall ESG performance be employed to evaluate its impact on the firm's value (Grassmann, 2021). ESG performance substantially mitigates a firm's idiosyncratic risks through the provision of increased financial flexibility and heightened investments in R&D (Guo et al., 2020). Hence, the dearth of research within the domain of Chinese listed firms has prompted the researcher to investigate the influence of ESG performance and financial constraints on the corporate value of these entities. Examining the interconnections in this context enables a nuanced understanding of the phenomenon, offering valuable insights into the opportunities and challenges faced by these listed firms. Additionally, the study aims to furnish strategic guidelines to enhance their financial performance.

The key goal of this study is to assess the influence of environmental, social, and financial limitations on the market capitalization of publicly listed Chinese enterprises. The following research questions (RQ) have been formulated to guide the current investigation: (RQ1) How does the ESG efficiency of Chinese listed enterprises affect their corporate value? (RQ2) How do financial limitations affect the relationship among ESG performance & the financial worth of Chinese listing firms? (RQ3) Do the outcomes of ESG performance and financial constraints exhibit variation across quantile levels of business value for Chinese listed firms?

To address the aforementioned inquiries, a sample of 645 Chinese companies listed on the Shenzhen and Shanghai stock exchanges was utilized for the present study, encompassing data spanning five years from 2018 to 2022. ESG performance was gauged using an ESG rating score, while financial constraints were assessed through the KZ index. The market value of a firm's assets served as a representative metric for estimating the corporate value of the firm. The study employed quantile regression analysis to analyse the data, and to account for the presence of diversity in the connection between ESG performance and budgetary constraints, various quantile levels were scrutinized to estimate the corporate value of the Chinese listed firms.

Firstly, it enriches the expanding literature on ESG performance by investigating the interconnections among ESG performance, financial constraints, and corporate value. Secondly, it enhances understanding by scrutinizing the moderating role of financial constraints in the association between ESG performance and corporate value. Thirdly, the study directs attention to Chinese listed firms, an area that has been relatively overlooked by scholars. Thus, it contributes to the literature by exploring the proposed relationships in the context of CLFs. Lastly, the study employs the quantile regression analysis technique, a contemporary method that offers more precise estimates and deeper insights into the relationships between ESG performance, financial constraints, and corporate value. Significantly, it provides nuanced insights into CLFs at different quantiles of financial constraints and offers strategic directions for enhancing their corporate value.

This paper has Section II that offers an wide literature review on ESG performance, financial constraints, and corporate value, elucidating the theoretical underpinnings and formulation of hypotheses. Section III outlines the data and sampling methodology employed in the current study. The research methodology for data analysis is explicated in Section IV. Empirical findings derived from quantile regression analyses and corresponding discussions are presented in Section V. Section VI initiates with a summary and subsequently delves into the theoretical and practical implications inferred from the results, catering to both managerial and policy-oriented perspectives. The chapter finishes by discussing the constraints of the present study and proposing potential directions for further research.

2. LITERATURE REVIEW

2.1 Stakeholder's Theory

Within the realm of management philosophy, stakeholder theory holds a distinct level of significance. This theoretical framework posits that firms bear a fundamental responsibility to formulate strategies that prioritise the concerns of both shareholders and all other stakeholders, taking into account their overall welfare. Moreover, the theory contends that financial performance should not be the sole criterion for assessing a firm's overall performance; rather, it should prioritize meeting the expectations of both internal and external stakeholders (Freeman, 1984). This theory posits that the enduring growth and sustained success of a firm are intricately linked to the fulfillment of stakeholder expectations and the gratification of their respective demands (Parmar et al., 2010).

The present study is grounded in stakeholder theory, utilizing it as a foundational framework. This theory substantiates the assertion that firms undertaking initiatives in ESG performance are more likely to attract and retain employees, suppliers, customers, and other stakeholders who prioritize sustainable practices. Stakeholders lend their support to firms investing in sustainable initiatives, consequently leading to increased revenue generation, enhanced profitability for shareholders, and greater investments in furthering ESG performance initiatives (Clarkson, 1995). This theory is highly suitable for explaining the connection between Environmental and social performance and

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

corporate value in Chinese listed companies.

2.2 Environmental, Social and Governance Performance

ESG performance encompasses a set of evaluation criteria that assess the repercussions of a company's strategic decisions concerning environmental, social, and governance dimensions (Ruan & Liu, 2021). Academics have denoted ESG performance initiatives as a pivotal gauge of a firm's corporate social responsibility and its capacity to generate enduring value (Daugaard, 2020). The environmental component mandates that firms formulate strategies aimed at diminishing greenhouse gas emissions, optimizing the utilization of water and energy resources, and implementing effective waste management practices (Linnenluecke, 2022). Enterprises that allocate resources to environmental sustainability initiatives have demonstrated a noteworthy influence in mitigating environmental harm, evading regulatory penalties, mitigating the risks associated with environmental disasters, and enhancing corporate reputation (Yuan et al., 2022).

The social facet of ESG performance instructs firms to concentrate on the broader societal context, encompassing considerations for the well-being of employees, workforce diversity, protection of human rights, and active engagement with the community. Enterprises that invest in social sustainability prioritize the enhancement of social well-being and the cultivation of robust relationships with stakeholders (Buallay, 2019). The final component of ESG performance pertains to governance, guiding firms in establishing corporate governance practices, determining the composition of board members, structuring executive compensation, and delineating the rights of shareholders. Firms prioritizing a robust governance system aim to mitigate conflicts of interest among stakeholders, reduce the likelihood of financial scandals, and foster trust among stakeholders (Capelle-Blancard et al., 2017).

ESG performance is assuming a substantial role in the determinants of corporate investment decisions. Investors acknowledge the investments made by companies in ESG performance initiatives as a proactive measure for achieving sustainable and enduring financial performance. This approach serves to mitigate financial risks and create value for stakeholders. Furthermore, investors recognize the importance of a firm's investments in ethical and sustainable practices as a means to augment corporate value and attain sustainability objectives (Daugaard, 2020). Nevertheless, assessing and quantifying ESG performance presents a formidable challenge due to the non-quantifiable nature of ESG factors and the absence of consensus regarding the formulation of a standardized metric for its measurement. Nonetheless, ESG performance factors are progressively gaining prominence among firms, prompting a prioritized focus on the development of ESG guidelines

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

and reporting frameworks.

2.3 Relationship between ESG Performance and Corporate Value

Contemporary scholars are actively engaged in the examination of ESG performance and its potential impact on the corporate value of enterprises. Corporate value, quantified by metrics such as market capitalization or stock price, signifies the financial worth of a corporation. Conversely, ESG performance encapsulates a firms endeavours in the realms of environmental, social, and governance-related operations.

Considerable evidence suggests that entities exhibiting commendable ESG production may yield enhanced financial results, resulting in elevated levels of corporate value. In accordance with a specific study, organizations attaining higher ESG ratings have outperformed their counterparts in terms of long-term return (Yu & Xiao, 2022). An additional investigation revealed that the robust and the positive correlation between financial performance and ESG performance becomes evident in heightened profitability, reduced cost of capital, and enhanced financial risk management (Wu et al., 2022). Conducting panel regression analysis on a sample of 35 Malaysian firms, a study inferred that the disclosure of ESG performance moderates the relationship between structured warrants and firm value. Furthermore, it was found to assist firms in enhancing the value of their assets (Yen-Yen, 2019). The escalating demand for sustainable and responsible investments has prompted investors to actively seek out companies adhering to exemplary ESG practices. This investor demand has led to the development of innovative investment products, including ESG exchange-traded funds (ETFs). Consequently, firms face increased pressure to augment their ESG performance in order to attract capital investments from discerning investors (Guo et al., 2020). According to Capelle-Blancard et al. (2017), the correlation between ESG performance and the market value of Korean enterprises is notably pronounced, particularly for firms operating in specific sectors such as manufacturing and transportation.

ESG performance controversies exhibit a direct linkage with the disclosure of corporate social responsibilities by firms, concurrently yielding advantages in augmenting firm value through the enhancement of profitability (Aouadi & Marsat, 2018). ESG performance is linked to corporate efficiency and contributes to enhancements in the financial performance of the corporation (Xie et al., 2019). In a recent investigation involving a sample of listed Korean companies, findings indicated a positive correlation between ESG performance and the financial performance of the companies, leading to increased Return on Assets (ROA) (Cho et al., 2023). The extant evidence indicates that entities garnering higher ratings in ESG performance are inclined to exhibit superior financial performance and instill trust among their investors. Consequently, the following proposition is put forth:

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

Hypothesis 1: *ESG performance has an a significant and positive effect on corporate value of CLFs.*

2.4 Impact of Financial Constraints on Corporate Value

Financial constraints arise when a company encounters limitations in investing in profitable ventures due to insufficient financial resources. This predicament can be triggered by various factors, including a dearth of external financing or a high level of indebtedness. The financial constraints on a firm's value is significant, as they serve as impediments to the company's revenue generation and growth prospects. Prior research has established that financial constraints exert a negative influence on the firm's value. Tang (2022) in his research, it was determined that firms experiencing elevated levels of financial constraints exhibit diminished market value compared to their counterparts with lower levels of financial constraints. Likewise, the firm's inability to create positive cash flows is a direct result of financial restrictions, thereby exerting a negative impact on its overall value (Zhang & Liu, 2022). Chan et al. (2017) indicated that optimal resource allocation, enhanced operational performance, and increased firm value are consequences associated with specific financial constraints. In the domain of listed companies, the impact of ESG performance was not readily discernible under the conditions of financial constraints, with outcomes primarily attributed to state-owned listed firms (Bai et al., 2022). Specific financial constraints lead to enhanced resource allocation efficiency, elevated operational performance, and augmented business value (Ahangar, 2020). Stimulates investments in CSR activities, exhibits a positive correlation with firm value (Haryanto et al., 2021). In a separate investigation involving publicly listed manufacturing companies, the results revealed that financial constraints serve as an intermediary in the relationship between ESG performance and the corporate green innovation of these listed manufacturing firms (Zhai et al., 2022). Chen et al. (2023) conducted an assessment of ESG performance and the cost of equity capital for Chinese firms, and derived a conclusion that ESG performance plays a dual role by directly and indirectly contributing to the reduction of the cost of equity capital. Additionally, it enhances the diversification within their equity capital structure.

Chen et al. (2019) utilizing firm-level production data, the study determined that alleviating financial constraints within enterprises contributes to an enhanced domestic value and an increase in value added by these enterprises. Within the specific purview of this study focusing on CLFs, the distinctive characteristics of the financial landscape in China are acknowledged as a prominent factor influencing the corporate value of CLFs. Given the stringent control over the financial system in China, many enterprises encounter limitations in accessing foreign finance. Consequently, financial constraints emerge as a prevalent issue for Chinese businesses, including medium-sized and small corporations. Hence, based on the aforementioned arguments, it is posited that financial constraints exert a significant influential role on CLFs.

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

Hypothesis 2: *Financial constraints plays a moderating role in relationship between ESG performance and corporate value of CLFs.*

3. DATA COLLECTION AND SAMPLING PROCEDURE

The databass China Stock Market and Accounting Research (CSMAR), offers a comprehensive repository of financial and non-financial information pertaining to listed companies. For the current study, data concerning Chinese listed firms was gathered from this database. The study's sample consists of Chinese mentioned enterprises that have recently begun trading on the Shanghai and Shenzhen stock markets and are not involved in financial activities. The data spanned the specified timeframe from 2018 to 2022. Acknowledging the divergence in accounting standards between financial and non-financial firms, the present study excluded data related to non-financial firms. Additionally, firms that did not publicly disclose data pertinent to the study constructs were also omitted. Consequently, a total of 645 Chinese listed firms were included in the dataset for analysis**.**

3.1 Dependent Variable

The current study focuses on the dependent variable of corporate value, primarily measured using Tobin's Q. Tobin's Q represents the market value of an organization's assets rather than its historical cost. By dividing the firm's market value of assets, Tobin's Q is obtained by the replacement cost of assets, incorporating market value and debt. Market value data was sourced from the CSMAR database, while replacement cost data for assets was extracted from the China Statistical Yearbook (China YearBooks, 2022).

3.2 Independent Variables

The principal independent variable in this investigation is the ESG performance of CLFs, quantified through the ESG score provided by MSCI ESG (MSCI, 2022). The MSCI ESG score, a commonly employed metric for assessing ESG performance, is derived from a comprehensive evaluation of 600 data points across 37 key ESG issues. Scores range from 0-10, with 0=no score & 10=highest score. Higher scores indicate a superior level of ESG performance. The ESG performance scores used in this investigation were obtained from the CSMAR database (China YearBooks, 2022).

The additional autonomous factor in the current investigation is the limitation imposed by financial circumstances, measured by the KZ index, a commonly employed metric reflecting a firm's cash flow sensitivity to investment (Kaplan & Zingales, 1997). For measurement, scores are assigned on a scale from 0 to 10, where 0 signifies no score and 10 denotes the highest score. The KZ index data for financial constraints was collected from the CSMAR database (China YearBooks, 2022).

3.2 Control Variables

The present study included company size and leverage as additional variables, in addition to the independent and dependent variables, profitability, ownership structure, and growth opportunities as control variables. Data pertaining to these variables was procured from the China Statistical Yearbook and the CSMAR database.

4. METHODOLOGY

To analyse the correlations among ESG performance, financial constraints, and corporate value of CLFs, the study employed the quantile regression analysis technique for data analysis. This methodology facilitates the estimation of a conditional relationship between the dependent and independent variables. It occurs at different stages of distribution for the variable that is dependent. This strategy is beneficial when the correlation between both dependent and independent variables fluctuates over several distribution levels. Consequently, the distribution of corporate value was separately estimated at different quantiles (25th, 50th, and 75th quantile)**.**

In accordance with the aforementioned hypotheses, the subsequent model was computed

$$\text{Tobin's } Q = \beta 0 + \beta 1 \text{ESG Performance} + \beta 2 \text{Financial Constraints} + \text{Control Variables} + \varepsilon$$

Whereas;

The intercept is denoted by "β0," with "β1" representing the coefficients for ESG performance, "β2" representing the coefficients for financial constraints, and error terms indicated by "ε." The proposed model was estimated using the Stata statistical software package.

4.1 Robustness Checks

Several sensitivity analyses were performed to confirm the reliability of the results. Initially, the analysis was replicated utilizing an alternative measure supplied by Bloomberg for assessing ESG performance (Bloomberg, 2022). Subsequently, the model was computed employing the cash flow to assets ratio and debt to equity ratios as alternative strategies to address budgetary limitations. To further ascertain the robustness of the results, additional control variables and varied sample selection criteria were incorporated in the estimation process.

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

The results of robustness checks demonstrated congruence with the original findings, and the outcomes of robustness analysis tests provided additional support to the findings. Specifically, it was observed that the positive relationship between ESG performance and corporate value persisted consistently across various distribution quantiles of corporate value, irrespective of the measures utilized for ESG performance or financial constraints in the model estimation. Furthermore, the results underscored that alterations utilisation of specific criteria for sample selection and the incorporation of supplementary control variables significantly bolstered the reliability and strength of the findings.

5. RESULTS

5.1 Descriptive Statistics

Table 1 shows descriptive statistics outlining the study constructs. The mean value for Tobin's Q among CLFs was calculated at 2.412, indicating that, on average, the market value of CLFs' assets is 2.412 times higher than their current book value. Furthermore, the mean value for ESG performance is reported as 60.115, reflecting a high level of engagement by these CLFs in addressing ESG-related issues. Likewise, the mean value for financial constraints is estimated at -0.171, suggesting that the selected CLFs exhibit minimal or zero levels of financial constraints. The control variables yielded reasonable magnitudes and displayed the anticipated signs in the results.

Table 1: Descriptive Statistics of Variables (N=645).

Variable	Mean	Std. Dev.	Minimum	Maximum
Tobin's Q	2.412	2.847	0.038	23.69
ESG Performance	60.115	8.245	40.004	79.987
Financial Constraints	-0.171	0.117	-0.506	0.062
Size	20.785	1.478	17.534	25.331
Leverage	0.471	0.147	0.022	0.864
ROA	0.042	0.049	-0.101	0.234
Control variables	Yes	Yes	Yes	Yes

Note: *ESG Performance is measured using a composite score of environmental, social, and governance performance. Financial Constraints are measured using the KZ-index.*

5.2 Correlation Analysis

The subsequent phase of analysis involved estimating the correlation coefficients among the variables, and the outcomes are presented in Table 2. The correlation analysis results reveal a positive relationship. Tobin's Q exhibits a noteworthy and substantial positive association with ESG performance (0.353) and firm size (0.237). Conversely,

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

Tobin's Q exhibits a negative correlation with financial constraints (-0.237) and leverage (-0.090). Additionally, the results indicate a negative correlation between ESG performance and financial constraints (-0.333), while ESG performance shows positive correlations with firm size (0.127) and ROA (0.060).

Table 2: Correlation Matrix.

Variable	Tobin's Q	ESG performance	Financial constraints	Size	Leverage	ROA
Tobin's Q	1	0.353***	-0.237***	0.237***	-0.090**	0.097***
ESG performance		1	-0.333***	0.127***	-0.019	0.060**
Financial constraints			1	-0.054*	0.304***	-0.016
Size				1	-0.112***	0.156***
Leverage					1	-0.023
ROA						1

Note: ****, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.*

5.3 Regression Analysis

Table 3 shows the findings of the regression analysis. Model 1 findings demonstrate that, despite controlling for firm size, leverage, and ROA, there exists a statistically significant and positive impact of Tobin's Q on financial constraints. Conversely, Model 2 reveals that, even after accounting for ESG performance, firm size, leverage, and ROS, a statistically significant and negative effect of financial constraints on Tobin's Q persists. The control variables in the results exhibited reasonable magnitudes and displayed the anticipated signs.

Table 3: Regression Results.

Variable	Model 1	Model 2
ESG performance	0.212***	0.210***
Financial constraints	-0.316***	-0.315***
Size	0.104***	0.103***
Leverage	-0.089***	-0.090***
ROA	0.638***	0.637***
Constant	0.758***	0.760***
Observations	2,269	2,269
R-squared	0.35	0.354

Note: ****, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.*

The results from Model 1 highlight that, while keeping all other variables constant, a 0.212 unit increase in Tobin's Q is associated with a unit increase in ESG performance. This

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

suggests a direct relationship between a company's ESG (Environmental, Social, and Governance) performance and its overall corporate value. Likewise, the findings from the models reveal that, when holding all other variables constant, a one-unit increase in financial constraints results in a 0.316 unit decrease in Tobin's Q. This suggests that elevated levels of financial constraints are linked to diminished corporate value for the firms.

5.4 Quantile Regression Analysis

An analysis using quantile regression was performed to investigate the variability in the connection between ESG performance, financial constraints, and the corporate value of CLFs. The results of the quantile regression analysis for different distributions the quantiles of corporate value are displayed in Table 4. The findings shows a favourable impact of ESG performance on Tobin's Q at all levels of distribution, suggesting that greater ESG performance is associated with increased corporate value for CLFs throughout the whole range of distribution. Additionally, the findings indicate a detrimental correlation between financial limitations and Tobin's Q. As the quantile distribution rises, the negative effect of financial limitations on Tobin's Q decreases,suggesting that an escalation in financial constraints leads to lower corporate value for CLFs.

Table 4: Quantile Regression Estimations.

Quantiles	Coefficient of ESG performance	Coefficient of financial constraints
10%	0.070***	-0.483***
25%	0.108***	-0.347***
50%	0.202***	-0.245***
75%	0.345***	-0.160***
90%	0.508***	-0.130***

Note: ****, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.*

Table 5 presents the conditional impact of ESG performance on corporate value for every percentile of ESG performance. The outcomes are presented as expected values of corporate value based on varying degrees of ESG performance. The results unequivocally demonstrate a conditional positive influence of ESG performance on corporate value, exerting a beneficial impact on overall corporate worth. Across different quantiles of distribution levels, the corresponding corporate value consistently demonstrates an increase.

Table 5: Conditional Effect of ESG Performance on Firm Value.

ESG Performance	25th Percentile	50th Percentile	75th Percentile
0.304	7.87	8.321	8.779
0.404	8.126	8.62	9.111
0.504	8.371	8.913	9.475

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

0.604	8.617	9.205	9.796
0.704	8.862	9.496	10.119
0.738	8.996	9.646	10.257

Note: *The table presents the conditional effect of ESG performance on corporate value for each percentile of the dependent variable. Results are reported as the predicted values of corporate value given different levels of ESG performance.*

Table 6 presents, for each percentile of ESG performance, the conditional effect of financial constraints on corporate value. The outcomes are depicted as expected values of corporate value across different levels of financial constraints. The findings unmistakably reveal a conditional positive impact of ESG performance on corporate value, exerting a favourable influence on the corporate value. Across various quantiles of distribution levels, the corresponding corporate value consistently exhibits an increase.

Table 6: Conditional Effect of Financial Constraints on Firm Value.

Financial Constraints	25th Percentile	50th Percentile	75th Percentile
0.16	7.659	8.092	8.541
0.21	7.818	8.269	8.722
0.26	7.977	8.447	8.903
0.31	8.136	8.624	9.083
0.36	8.295	8.802	9.264
0.41	8.454	8.979	9.444

Note: *The table presents the conditional effect of financial constraints on corporate value for each percentile of the ESG performance. Results are reported as the predicted values of corporate value given different levels of financial constraints.*

6. DISCUSSION

In recent years, scholarly attention has focused on ESG performance, particularly in accounting and finance. ESG has gained significance for businesses as it offers benefits from operating sustainably, meeting shareholder expectations, and fulfilling the needs of external stakeholders such as regulators, suppliers, customers, and society. The present investigation investigates the relationship between the ESG effectiveness, financial limitations, and the overall worth of Chinese companies that are publicly traded. The findings underscore the significance of giving priority to ESG performance for Chinese companies listed on the stock market. This implies that allocating more resources towards sustainable projects can improve the overall worth of these corporations. These findings, thus emphasising the beneficial influence of ESG practises on financial performance and organisational reputation (Guo et al., 2020; Ruan & Liu, 2021; Zumente & Bistrova, 2021).

Vol: 15 **No:** 03 **Year:** 2023 **ISSN:** 1309-8055 (Online) (**pp.** 534-552) **Doi:** 10.34109/ijefs.202315325

The study's results revealed that ESG performance aids firms in mitigating financial risks and establishing an effective financial risk management system. This not only fosters trust among investors but also enhances the corporate value of CLFs. These results align with previous research, suggesting that a positive correlation between ESG performance and financial performance can result in increased profitability, lowered cost of capital, and enhanced financial risk management (Chen et al., 2023; Wu et al., 2022).

The results also highlight a significant moderating role of financial constraints in the relationship between ESG performance and corporate value. Firms experiencing higher financial constraints can leverage ESG performance to enhance financial performance and increase corporate value. This is attributed to the ability of such firms, facing limited external financing, to utilize internal resources and engage internal stakeholders for sustained operations. Improved ESG performance fosters positive relationships with internal and external stakeholders, overcoming financial constraints and contributing to enhanced financial performance. These findings align with previous research emphasizing that superior ESG performance fosters innovation and alleviates financial constraints (Tang, 2022).

7. CONCLUSION

In recent years, scholars have increasingly focused on ESG performance in accounting and finance. ESG's significance has grown for businesses, providing benefits through sustainable practices that meet the expectations of shareholders and various stakeholders. The study investigates the nexus of ESG performance, financial constraints, and corporate value in Chinese listed enterprises. Results emphasize the crucial role of ESG performance for these firms, indicating that increased investment in sustainability enhances corporate value. The findings highlight ESG's dual role as a valuable asset, benefiting both the firm and its stakeholders. ESG performance not only aids in mitigating financial risks but also reinforces investor trust, ultimately elevating the corporate value of CLFs. Additionally, the study underscores the moderating impact of financial constraints on the relationship between ESG performance and organizational value, suggesting that firms facing higher financial limitations can leverage ESG initiatives to enhance financial performance and overall corporate value. In summary, the study underscores the pivotal role of ESG performance in enhancing corporate value for Chinese listed firms and emphasizes the need to address financial constraints for optimal outcomes.

7.1 Theoretical Implications

Firstly, it establishes a favourable connection between the ESG performance and the overall worth of Chinese companies listed on the stock market. This study adds to the current body of research on the performance of ESG, specifically in the distinct setting of China. This research stands out by examining the negative effects of financial limitations, offering fresh perspectives on the relationship between ESG performance, economic constraints, and business worth for Chinese publicly traded companies. Secondly, the study aligns with stakeholder theory, asserting that firms should prioritize the interests of internal and external stakeholders, emphasizing the significance of investing in ESG performance for enhanced corporate value. This approach not only fulfills social responsibility but also yields financial advantages. Lastly, the study employs the quantile regression analysis, introducing a novel methodology to the research, thereby making a noteworthy contribution to the literature.

7.2 Practical Implications

Based on the findings, the current study suggests practical implications for corporate managers, investors, and policymakers, particularly in emerging markets, with a focus on China. Firstly, policymakers should formulate supportive industry policies to incentivize firms to adopt ESG performance practices. Embracing such measures not only fosters investor trust and enhances financial performance but also contributes to elevating the corporate value of firms. In line with this, corporate managers are urged to prioritize sustainable initiatives and integrate ESG performance measures into their strategies. This not only positions them competitively but also aligns with the pursuit of sustainable performance.

Secondly, financial constraints pose substantial obstacles for firms seeking to invest in ESG performance initiatives. Without undertaking these initiatives, such firms may fall behind in competition and confront the risk of diminished corporate value. Policymakers are thus urged to devise measures facilitating easier access to external financing. Initiatives such as governmental subsidies or the establishment of green funds can pave the way for firms to overcome the hurdles posed by financial constraints and enable investments in sustainable initiatives.

Ultimately, the heightened correlation observed among ESG performance, financial constraints, and corporate value within upper quantiles of diverse distributions implies a requisite emphasis for policymakers and investors to discern and endorse strategies facilitating the implementation of ESG performance initiatives. Furthermore, concerted efforts are warranted to mitigate financial impediments hindering such initiatives. Strategic investments and policies designed to streamline financial accessibility stand poised to enable enterprises to surmount these financial constraints, thereby fostering the evolution of socially responsible corporate entities.

7.3 Limitations and Future Research Directions

This investigation is not devoid of specific limitations. Firstly, it exclusively relies on data from Chinese publicly listed companies without differentiating them based on their respective industries. Subsequent research endeavours could enhance precision by scrutinizing data pertaining to specific industries such as automotive, technology and communications, consumer goods, energy and utilities, and financial services, thereby elucidating industry-specific impacts of ESG performance on corporate value. Secondly, the current study exclusively focuses on data sourced from Chinese listed firms, which exhibit distinctive characteristics such as predominantly state ownership, concentrated ownership structures revolving around specific families, governance challenges stemming from ownership configurations, and a complex regulatory environment in China. These unique attributes introduce challenges to the generalizability of research findings. Consequently, forthcoming studies should contemplate extending their investigations to other countries featuring diverse categories of listed firms. Lastly, the ESG performance metric employed in this study possesses inherent limitations. Future research endeavours should consider employing alternative ESG performance indicators to explore their associations with the corporate value of listed firms.

REFERENCES

Abdi, Y., Li, X., & Càmara-Turull, X. (2022). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in airline industry: the moderating role of size and age. *Environment, Development and Sustainability, 24*(4), 5052-5079. doi: https://doi.org/10.1007/s10668-021-01649-w

Ahangar, N. (2020). Financial constraints and speed of working capital adjustment. *Asia-Pacific Journal of Business Administration, 12*(3/4), 371-385. doi: https://doi.org/10.1108/APJBA-05-2020-0145

Aouadi, A., & Marsat, S. (2018). Do ESG Controversies Matter for Firm Value? Evidence from International Data. *Journal of Business Ethics, 151*(4), 1027-1047. doi: https://doi.org/10.1007/s10551-016-3213-8

Bai, X., Han, J., Ma, Y., & Zhang, W. (2022). ESG performance, institutional investors' preference and financing constraints: Empirical evidence from China. *Borsa Istanbul Review, 22*, S157-S168. doi: https://doi.org/10.1016/j.bir.2022.11.013

Bloomberg. (2022). *ESG workflow with Bloomberg's trusted datasets, Climate Solutions and Sustainable Finance*. Bloomberg. Retrieved from https://www.bloomberg.com/professional/product/esg-data

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal, 30*(1), 98-115. doi: https://doi.org/10.1108/MEQ-12-2017-0149

Capelle-Blancard, G., Crifo, P., Oueghlissi, R., & Scholtens, L. J. R. (2017). Environmental, Social and Governance (ESG) performance and sovereign bond spreads: an empirical analysis of OECD countries. *SSRN Electronic Journal*. doi: https://doi.org/10.2139/ssrn.2874262

Chan, C.-Y., Chou, D.-W., & Lo, H.-C. (2017). Do financial constraints matter when firms engage in CSR? *The North American Journal of Economics and Finance, 39*, 241-259. doi: https://doi.org/10.1016/j.najef.2016.10.009

Chen, L., Luo, S., & Zhao, T. (2019). Financial Constraints, Trade Mode Transition, and Global Value Chain Upgrading of Chinese Firms. *Sustainability, 11*(17), 4527. doi: https://doi.org/10.3390/su11174527

Chen, Y., Li, T., Zeng, Q., & Zhu, B. (2023). Effect of ESG performance on the cost of equity capital: Evidence from China. *International Review of Economics & Finance, 83*, 348-364. doi: https://doi.org/10.1016/j.iref.2022.09.001

China YearBooks. (2022). *China Statistical Yearbook 2022*. Retrieved from https://www.chinayearbooks.com/china-statistical-yearbook-2022.html

Cho, W., Lee, J., & Park, J. (2023). Higher highs and lower lows: investor valuation of ESG and financial performance. *Applied Economics Letters*, 1-6. doi: https://doi.org/10.1080/13504851.2023.2193720

Clarkson, M. E. (1995). A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance. *Academy of Management Review, 20*(1), 92-117. doi: https://doi.org/10.5465/amr.1995.9503271994

CSMAR. (2023). *CSMAR*. Retrieved from https://cn.gtadata.com/

Daugaard, D. (2020). Emerging new themes in environmental, social and governance investing: a systematic literature review. *Accounting & Finance, 60*(2), 1501-1530. doi: https://doi.org/10.1111/acfi.12479

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Cambridge University Press. doi: https://doi.org/10.1017/CBO9781139192675

Gadinis, S., & Miazad, A. (2020). Corporate Law and Social Risk. *Vanderbilt Law Review, 73*(5), 1401-1477. Retrieved from https://scholarship.law.vanderbilt.edu/vlr/vol73/iss5/3

Grassmann, M. (2021). The relationship between corporate social responsibility expenditures and firm value: The moderating role of integrated reporting. *Journal of Cleaner Production, 285*, 124840. doi: https://doi.org/10.1016/j.jclepro.2020.124840

Guo, Z., Hou, S., & Li, Q. (2020). Corporate Social Responsibility and Firm Value: The Moderating Effects of Financial Flexibility and R&D Investment. *Sustainability, 12*(20), 8452. doi: https://doi.org/10.3390/su12208452

Haryanto, M. Y. D., Chariri, A., & Yuyetta, E. N. A. (2021). Corporate social responsibility, firm value, and financial constraints: A signal of corporate liquidity. *Universal Journal of Accounting and Finance, 9*(6), 1322-1331. doi: https://doi.org/10.13189/ujaf.2021.090611

Huck, W. (2022). Resolution adopted by the General Assembly on 25 September 2015. In *Sustainable Development Goals* (pp. 653-684). Nomos Verlagsgesellschaft mbH & Co. KG. doi: https://doi.org/10.5771/9783748902065-653

Kaplan, S. N., & Zingales, L. (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?*. *The Quarterly Journal of Economics, 112*(1), 169-215. doi: https://doi.org/10.1162/003355397555163

Linnenluecke, M. K. (2022). Environmental, social and governance (ESG) performance in the context of multinational business research. *Multinational Business Review, 30*(1), 1-16. doi: https://doi.org/10.1108/MBR-11-2021-0148

MSCI. (2022). *MSCI ESG Ratings*. MSCI. Retrieved from https://www.msci.com/oursolutions/esg-investing/esg-ratings

Parmar, B. L., Freeman, R. E., Harrison, J. S., Wicks, A. C., Purnell, L., & Colle, S. d. (2010). Stakeholder Theory: The State of the Art. *Academy of Management Annals*, *4*(1), 403-445. doi: https://doi.org/10.5465/19416520.2010.495581

Ruan, L., & Liu, H. (2021). Environmental, Social, Governance Activities and Firm Performance: Evidence from China. *Sustainability*, *13*(2), 767. doi: https://doi.org/10.3390/su13020767

Tang, H. (2022). The Effect of ESG Performance on Corporate Innovation in China: The Mediating Role of Financial Constraints and Agency Cost. *Sustainability*, *14*(7), 3769. doi: https://doi.org/10.3390/su14073769

Wong, W. C., Batten, J. A., Ahmad, A. H., Mohamed-Arshad, S. B., Nordin, S., & Adzis, A. A. (2021). Does ESG certification add firm value? *Finance Research Letters*, *39*, 101593. doi: https://doi.org/10.1016/j.frl.2020.101593

Wu, S., Li, X., Du, X., & Li, Z. (2022). The Impact of ESG Performance on Firm Value: The Moderating Role of Ownership Structure. *Sustainability*, *14*(21), 14507. doi: https://doi.org/10.3390/su142114507

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, *28*(2), 286-300. doi: https://doi.org/10.1002/bse.2224

Yen-Yen, Y. (2019). The value relevance of ESG disclosure performance in influencing the role of structured warrants in firm value creation. *Polish Journal of Management Studies*, *20*(1), 468-477. doi: https://doi.org/10.17512/pjms.2019.20.1.40

Yu, X., & Xiao, K. (2022). Does ESG Performance Affect Firm Value? Evidence from a New ESG-Scoring Approach for Chinese Enterprises. *Sustainability*, *14*(24), 16940. doi: https://doi.org/10.3390/su142416940

Yuan, X., Li, Z., Xu, J., & Shang, L. (2022). ESG disclosure and corporate financial irregularities – Evidence from Chinese listed firms. *Journal of Cleaner Production*, *332*, 129992. doi: https://doi.org/10.1016/j.jclepro.2021.129992

Zeidan, R. (2022). Why don't asset managers accelerate ESG investing? A sentiment analysis based on 13,000 messages from finance professionals. *Business Strategy and the Environment*, *31*(7), 3028-3039. doi: https://doi.org/10.1002/bse.3062

Zhai, Y., Cai, Z., Lin, H., Yuan, M., Mao, Y., & Yu, M. (2022). Does better environmental, social, and governance induce better corporate green innovation: The mediating role of financing constraints. *Corporate Social Responsibility and Environmental Management*, *29*(5), 1513-1526. doi: https://doi.org/10.1002/csr.2288

Zhang, D., & Liu, L. (2022). Does ESG Performance Enhance Financial Flexibility? Evidence from China. *Sustainability*, *14*(18), 11324. doi: https://doi.org/10.3390/su141811324

Zheng, Y., Wang, B., Sun, X., & Li, X. (2022). ESG performance and corporate value: Analysis from the stakeholders' perspective. *Frontiers in Environmental Science*, *10*, 1084632. doi: https://doi.org/10.3389/fenvs.2022.1084632

Zumente, I., & Bistrova, J. (2021). ESG Importance for Long-Term Shareholder Value Creation: Literature vs. Practice. *Journal of Open Innovation: Technology,* *Market, and Complexity, 7*(2), 127. doi: https://doi.org/10.3390/joitmc7020127