

# Does ESG performance have an impact on firm value? Evidence from the Chinese textile and garment industry

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## ABSTRACT – REZUMAT

### Does ESG performance have an impact on firm value? Evidence from the Chinese textile and garment industry

*The effect of ESG performance has recently become a challenge, attracting controversy. This study investigates the relationship between ESG performance and firm value in textile and garment companies; moreover, it examines the role of green innovation in the relationship between ESG performance and firm value. We used 673 annual samples of Chinese Shanghai and Shenzhen A-share textile and garment listed companies from 2012 to 2022. Correlation and panel regression analyses were carried out to evaluate possible links between ESG performance as determined by the ESG rating data published by the Sino-Securities Index Information Service (Shanghai) Co., Ltd and market-based measures of firm value. Our main finding reveals that the ESG performance has a significant positive relationship with textile and garment company value; ESG performance can promote firm value by increasing green innovation, and green innovation has a partial intermediary role between ESG performance and firm value. We conducted multiple sensitivity analyses, and our findings are robust, which can provide useful recommendations for firms, investors, and policymakers.*

**Keywords:** environmental, social responsibility and corporate governance (ESG), circular economy, sustainability, textile industry, garment industry

### Performanța ESG are un impact asupra valorii întreprinderii? Dovezi din industria textilă și de îmbrăcăminte din China

*Efectul performanței ESG a devenit recent o provocare care atrage controverse. Acest studiu investighează relația dintre performanța ESG și valoarea întreprinderii în companiile textile și cele de îmbrăcăminte, în plus, examinează rolul inovării ecologice în relația dintre performanța ESG și valoarea întreprinderii. Au fost utilizate 673 de eșantioane anuale de companii chineze de textile și de îmbrăcăminte cotate în Shanghai și Shenzhen A-share din 2012 până în 2022. Au fost efectuate analize de corelație și de regresie în panel pentru a evalua posibilele legături dintre performanța ESG, determinată de datele de rating ESG publicate de Sino-Securities Index Information Service (Shanghai) Co. Ltd și măsurile bazate pe piață ale valorii întreprinderii. Principala noastră constatare arată că performanța ESG are o relație pozitivă semnificativă cu valoarea întreprinderilor din sectorul de textile și de îmbrăcăminte; performanța ESG poate promova valoarea întreprinderii prin creșterea inovării ecologice, iar inovarea ecologică are un rol parțial de intermediar între performanța ESG și valoarea întreprinderii. Am efectuat mai multe analize de sensibilitate, iar constatările noastre sunt solide, ceea ce poate oferi recomandări utile pentru întreprinderi, investitori și factorii de decizie politică.*

**Cuvinte-cheie:** mediu, responsabilitate socială și guvernanță corporativă (ESG), economie circulară, durabilitate, industria textilă, industria de îmbrăcăminte

## INTRODUCTION

ESG refers to the combination of environmental, social, and governance factors, which expands and enhances the concept of responsible investment. Three constituent elements of ESG have gradually become the most important dimensions the international community considers when measuring enterprises' sustainability. A report published by the Global Alliance for Sustainable Investment in 2023 disclosed that the global ESG investment reached \$30 trillion by the end of 2022, representing over a quarter of the global total asset management scale. The rapid growth of ESG investment has prompted the capital market to focus on a company's ESG performance.

ESG performance is an assessment tool that urges investors to concentrate on the environmental, social, and corporate governance performance [1]. This means that if historically investors were willing to pay mainly for physical assets such as property, equipment, and machinery, then nowadays the value of the company consists largely of intangible values such as reputation, corporate culture, and customer loyalty. Thus, to gain the favour from the capital market, an increasing number of listed companies disclose their ESG performance by releasing ESG reports. However, from the firm's perspective, one of the key questions is whether the ESG performance makes financial sense or may have an impact on firm value.

Scholars who support the notion contend that ESG performance can offer stakeholders comprehensive and comparable data to address information asymmetries, provide access to resources, and reduce regulatory and reputational risks. On the other hand, other scholars hold the view that ESG performance is ineffective, believing that companies adopt ESG performance to comply with external requirements and gain various benefits, which may not necessarily result in meaningful improvements to their value; instead, it represents institutional retrogression and can mislead stakeholders. These heterogeneous results can be mainly explained by different data, sample, timing, and methodology. Furthermore, the findings of the previous studies lack agreement as they mostly focused on investigating the direct association between ESG performance and firm value rather than exploring some other latent factors influencing their relationship. The mechanism of the relationship between ESG performance and firm value has not been studied in depth.

The textile and garment industry plays a significant role in the economies of some developing countries by providing employment opportunities, contributing to foreign reserves, and empowering women.

However, the textile and garment industry is resource-intensive, especially, a growing demand for fast fashion products relying on cheap textile production, frequent cloth consumption, and short-lived garment usage exacerbate environmental pollution. According to a range of estimations, the textile and garment industry produces up to 10% of CO<sub>2</sub> emissions, which is the second largest polluter in the world. Regarding the social aspect, outsourcing production raises people's awareness of safety issues and labour exploitation in textile and garment factories. These situations have brought the textile and garment industry under pressure to adopt sustainable practices for reducing the depletion of finite natural resources. To this end, many textile and garment enterprises are introducing sustainability into their developmental strategies to promote the harmonization of corporate and social values with high-quality economic development. The textile and garment industry is one of the key sectors in the Chinese economy. China's 15<sup>th</sup> national congress targets a commitment of "strive to peak China's carbon dioxide emissions by 2030, achieving carbon neutrality by 2060", later in 2021, "carbon peak and neutrality" was also written into the government work report.

To achieve the industry's carbon reduction goals, China's textile and garment industry is continuously exploring models and paths of sustainable production. The impact of the ESG performance in the textile and garment industry on sustainable development draws scholarly attention. Li [2] proposed that the ESG cost-sharing contract significantly improves the textile and garment supply chain's ESG performance, with customers' sustainable awareness

increasing. Furthermore, such contracts are instrumental in enhancing the aggregate ESG environmental performance of the textile and garment supply chain, elevating profits for both manufacturers and retailers and alleviating the impact of fluctuating demand on supply chain participants. Liu [3] introduces a data-driven ESG assessment approach using blockchain technology and quantitatively compares the ESG performance of 71 textiles and garment listed companies in Hong Kong.

In the context of sustainable development, green innovation has attracted increasing attention owing to its contributions to the conservation of resources, environmental protection, and financial performance creation. As the core of enabling corporate green transformation, green innovation is generally considered to be an innovation model consisting of improved products, processes or management to achieve environmental sustainability.

In light of this, we will empirically investigate whether and how ESG performance affects textile and garment firm value in China. Our study attempts to answer the following questions: (1) Can ESG performance effectively promote textile and garment firm value? (2) Can ESG performance promote green innovation in textile and garment firms? (3) What is the role of green innovation in the relationship between ESG performance and firm value?

Our study makes a clear contribution to the existing literature in two ways. Firstly, we examine ESG performance on firm value in the Chinese textile and garment industry, which provides the most recent evidence for the role of ESG performance in improving firm value, expanding and enriching the literature on the ESG economic consequences and factors affecting firm value. Secondly, we uncover how ESG performance influences textile and garment firms' value. We introduce green innovation as a mediating variable of the relationship between ESG performance and firm value, which provides a new foothold for relevant research. We find that ESG performance can improve firm value by promoting green innovation. Further, the green innovation has a partial intermediary role in the association between ESG performance and firm value.

The remainder of the paper is organized as follows. The 2<sup>nd</sup> section provides a review of the related literature and develops the hypothesis. The 3<sup>rd</sup> section describes the data and modelling framework. The 4<sup>th</sup> section analyses the results and discusses. The last section provides concluding remarks, practical implications and the limitations of this research.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### ESG performance and firm value

Stakeholder theory puts forward the idea that successful companies can align the interests of all stakeholders and build trust relationships with diverse stakeholders, which is important to the financial

success of a firm [4, 5]. Engaging in socially and environmentally responsible activities, textile and garment companies can convey to their stakeholders that they are not focused solely on their self-interest. This can result in the building of a positive social reputation, attraction and retention of high-quality employees, increasing employee morale and productivity, and enhancement of goodwill and trust with key stakeholders. Additionally, the legitimacy theory requires firms to voluntarily extend and report their efforts for the welfare of society, as these have positive implications for their financial performance through increasing positive image or getting legitimacy in the eyes of stakeholders. Such practices can help build a positive social reputation, increase product demand and profitability. Based on these arguments, it is reasonable to expect that high ESG performance may have better firm value.

*Hypothesis 1: ESG performance has a positive and significant impact on the value of textile and garment firms.*

### **ESG performance and green innovation**

Green innovation, characterized by technological innovation through environmental protection, bridges the gap between environmental improvement and economic development. ESG performance might impose a positive influence on corporate green innovation activities by alleviating information asymmetries and reducing financial constraints while simultaneously conveying the manager's attitudes towards green investment to external stakeholders [6]. First, according to agency theory, in the absence of effective supervision and incentives, managers tend to show a strong preference for enjoying a quiet life since their efforts are difficult to observe, which will lead to a low willingness among managers to engage in green innovation. ESG performance contributes to increased corporate information transparency, which can help shareholders monitor corporate green innovation more effectively [7–9]. Comprehensive and varied information used in ESG performance can effectively mitigate the misleading effect of corporate strategic disclosure. Thus, ESG performance information can help investors enhance their ability to monitor the managers and promote corporate green innovation. Second, owing to the long investment cycle, high risk of failure, low comparability and low innovation predictability. Green innovation must be supplemented with sufficient financial support to address market failure problems. The availability of funds plays a vital role in green innovation. ESG performance is an important means of redressing information asymmetry between stakeholders and companies. Under the premise of agency theory in the capital market, companies can distinguish themselves from competitors by disclosing high-quality ESG performance information to access stakeholder resource support. Therefore, we expect high ESG performance to have a positive impact on green innovation.

*Hypothesis 2: ESG performance has a positive and significant impact on textile and garment firms' green innovation.*

### **Green innovation and firm value**

Failure to opt for and implement the green innovation strategy may have adverse consequences for firms, which may lead to the loss of affluent resources, competitive advantage, potential customers and eventually a decrease in firm value. First, green Innovation helps firms to reduce the use of raw materials, emission of greenhouse gases and adverse effects on the environment through sustainable industrial processes [10]. Firms apply green innovation not only to reduce environmental pollution, but also to increase the efficiency of other aspects of the firm, such as production methods and energy utilization, which eventually increases firm value [11]. Consequently, greater firm value is considered the output of green innovation [12]. Second, green innovation implementation in firms through the development of green technology and low-cost eco-products may also create a sustainable, positive image and good reputation in society. Social responsibility-sensitive consumers' satisfaction with low-cost and eco-friendly products also increases the market share of products and improves the firm value [13]. Therefore, we propose the following hypothesis.

*Hypothesis 3: Green innovation has a positive and significant impact on textile and garment firm value.*

### **ESG performance and firm value: The mediating role of green innovation**

Porter's hypothesis suggests that appropriate environmental regulation can generate external pressure to induce firms to pay attention to resource efficiency and technological innovation. Intense pressure from the regulators and increasing awareness of consumers lead firms to change their conventional production methods to sustainable and innovative processes, also known as green innovation. In line with the resource-based view, we argue that green innovation is an important missing variable, which may help resolve the issue of inconclusive findings regarding the association between ESG performance and firm value. We propose the following hypotheses for the mediating models.

*Hypothesis 4: ESG performance promotes textile and garment firm value by increasing green innovation.*

## **RESEARCH METHODOLOGY**

### **Sample selection and data sources**

We utilized a panel dataset consisting of 673 annual samples from China's Shanghai and Shenzhen A-share textile and garment listed companies from 2012 to 2022. The financial data were collected from the China Stock Market and Accounting Research (CSMAR) database, which provides the fundamental characteristics of assets, debt, IPO time, and industry information. To ensure the reliability of the research samples, we performed the following data



processing principles: (1) Exclude Special Treatment (ST) and Particular Transfer (PT) samples during the research period. (2) Exclude samples with missing values. A common practice in financial studies is to minorize the extreme values of all variables of interest before estimating a regression model to deal with outlier observations. Therefore, all the variables were minorized at the 1 and 99 % levels to avoid the influence of extreme observations.

## Variable

### *Explanatory variable*

Evaluating the ESG performance of listed companies has become an important aspect of assessing their sustainable competitiveness. However, corporate social responsibility (CSR) reports may be limited and misleading due to factors such as greenwashing behaviour. Voluntary disclosure of ESG information may also result in selective reporting by companies. In contrast, ESG rating agencies, such as Bloomberg, can provide more comprehensive and reliable ESG-related information for measuring a company's ESG performance. In this study, we utilized the ESG rating data published by the Sino-Securities Index Information Service (Shanghai) Co. Ltd. The Sino-Securities Index ESG rating system is based on the core connotation and development experience of ESG, taking into account the specific circumstances of the Chinese capital market. The system uses data from various sources, including firms' public disclosure data, periodic reports, firms' social responsibility reports and sustainable development reports, government and relevant regulatory authorities' websites, and media reports, to construct a three-tier indicator system. The system assigns a nine-level C-AAA rating based on a company's total ESG score, with higher scores representing better ESG performance. For empirical analysis, we assign the nine grades of C-AAA as 1-9, respectively.

### *Explained variable*

The primary purpose of this research is to investigate the influence of ESG performance on firm value. To achieve this objective, we employed Tobin's Q as a proxy for firm value, as it has been widely used in prior studies in this area. Tobin's Q is a metric that encompasses both short-term and long-term financial performance, and it is defined as the ratio of a company's market value to its replacement value. Firms with high Tobin's Q, or a ratio greater than 1, are typically considered to have favourable investment opportunities or strong management performance. Additionally, Tobin's Q reflects the economic sources of future cash flows, which serve as the foundation for a company's value.

### *Mediating variable*

We utilized green innovation as a mediating variable to further explore the causal path through which ESG performance affects firm value. Prior research has employed the questionnaire methodology or R&D expenditures to quantify green innovation. However, these methods may suffer from biases and subjectiv-

ity owing to the personal beliefs of respondents. Recent literature suggests that patent-based variables are a more reliable measure of innovation output. Therefore, we use the number of green patents granted to a firm each year as a proxy for corporate green innovation. Considering the significant variation in patent counts among firms, we apply natural logarithm processing to the patent indicator.

### *Control variables*

After reviewing the current literature, we incorporated various control variables that could potentially influence textile and garment firm value. First, we use firm size (SIZE) as a control variable, as larger firms typically possess better market conditions and more resources to enhance firm value. Second, we included firm profitability (ROA) as a control variable, as high profitability signals favourable corporate prospects and investors tend to attribute more value to firms with high profitability. Third, we controlled for the sales growth rate (SG), as a firm with strong growth potential is an attractive target for investors. Additionally, we also controlled for firm financial leverage (LEV) and the age of the firm (AGE). Furthermore, we incorporated time fixed effects into the model to control for any macroeconomic environment and other unaccounted for time-varying factors that may affect firm value. A summary of the variables is provided in table 1.

## Mathematical modelling

### *Benchmark model*

To evaluate the influence of ESG performance on textile and garment firm value, the following fixed-effect panel econometric model has been developed based on theoretical analysis and research hypotheses presented in the previous section:

$$TQ_{i,t} = a_0 + a_1 ESG_{i,t} + \sum control_{i,t} + \delta_t + e_{i,t} \quad (1)$$

In the metrological model (1), the subscripts  $i$  and  $t$  represent a textile and garment company  $i$  and annual  $t$ , respectively.  $ESG_{i,t}$  represents the ESG performance of the  $i^{th}$  sample firm in the  $t$  year.  $TQ_{i,t}$  represents the  $t$  year firm value of the  $i^{th}$  sample company, and  $control_{i,t}$  are the variables used to control for other factors that may affect the value of the firm. Model (1) also includes year fixed effects to eliminate the effects of the macroeconomic environment,  $\delta_t$  is the time fixed effect, and  $e_{i,t}$  is the residual term with a normal distribution,  $a_0$  denotes the constant term. Coefficient  $a_1$  is used to measure the effect of ESG performance on firm value, and if it is significantly positive, it indicates that ESG performance can significantly improve the firm value.

### *Mediating effect model*

We adopt green innovation as the mediating variable to further explore the path mechanism of ESG performance influencing firms' value. By employing the mediation effect model proposed by Baron and Kenny, we establish the recursive equation formulas 2 and 3, where  $GI_{i,t}$  is the mediating variable: green innovation, and the meanings of  $\delta_t$ ,  $e_{i,t}$  are consistent

Table 1

THE SUMMARY OF THE VARIABLES		
Variable	Definition	Description/Formula
TQ	Tobin's Q	(Equity Market Value + Liabilities Market Value)/(Equity Book Value + Liabilities Book Value)
ESG	ESG performance	ESG rating data published by Sino-Securities Index Information Service (Shanghai) Co.Ltd.
GI	Green innovation	The green patent application count plus 1, followed by the logarithm
SIZE	Firm size	Book value of total assets by logarithm
ROA	Return on assets	The ratio of current net profit to total assets
LEV	Leverage	The ratio of total liabilities to total assets
SG	Sales growth	The ratio of sales in year (t) to sales in year (t – 1)
AGE	Age	Natural log of the number of days since the first listing
Year FE		The year fixed effect

in Model 1. If the coefficient  $\beta$  of ESG in model 2 is significant, and the coefficient  $\gamma$  of the mediator in the model (3) is significant, the mediating effect exists.

$$GI_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \sum control_{i,t} + \delta_t + e_{i,t} \quad (2)$$

$$TQ_{i,t} = \gamma_0 + \gamma_1 ESG_{i,t} + \gamma_2 GI_{i,t} + \sum control_{i,t} + \delta_t + e_{i,t} \quad (3)$$

## MAIN ANALYSES

### Descriptive statistics

Table 2 reports descriptive statistical results for the main variables. As seen from the table, Tobin's Q has a mean of 2.43 and a median of 2.53. SIZE has a mean of 21.53 and ranges from 25.53 to 19.27, indicating that our sample includes large as well as small firms in terms of sales and assets. SG varies from 77.07 to -2.53, with a median of 4.05. The average ROA for the year is 0.17, with a maximum of 0.25 and a minimum of 0.10, indicating significant variation. The mean and median of ESG are 3.90 and 4, respectively, indicating that the ESG performance of the sample firms is generally between CCC-B; the minimum ESG rating is 1, indicating that some textile and garment listed companies have poor ESG performance. GI is a dependent variable used in this paper. Its mean is 0.41, with a standard deviation of 0.65, indicating great variations in green innovation among our observations.

### Correlation result

Checking multicollinearity is important as its existence undermines the statistical significance of a predictor or increases the variance of the coefficient estimates, which reduces the reliability. Table 3 reports Pearson's correlation matrix for checking whether two variables are associated or vary with each other. None of the statistics has a higher value than 0.3, and the correlation coefficient between ESG and each control variable is small, indicating that the regression model is less susceptible to multicollinearity. Multicollinearity is further endorsed by the Variance Inflation Factor (VIF) test. If the VIF is higher than 10, severe multicollinearity problems might occur. However, in our data, no VIF exceeds 2.22, so multicollinearity should not affect our results. Moreover, the correlation between firm value (TQ) and ESG performance (ESG) is positive and statistically significant. Hence, providing some initial support to our hypotheses.

### Empirical result

We present the regression result in table 4, column (1) shows a univariate regression without any control variables, and the coefficient estimate of ESG is positive and significant. Column (2) adds other control variables. In column (1), benchmark regression shows

Table 2

VARIABLES DESCRIPTIVE STATISTICS						
Variable	Observations	Mean	Median	St.Dev	Min	Max
TQ	673	2.43	2.53	1.86	0.76	8.03
ESG	673	3.90	4.00	3.93	1.00	7.00
GI	673	0.41	0.11	0.65	0.00	4.89
SIZE	673	21.53	21.17	1.05	19.27	25.53
ROA	673	0.17	0.19	0.32	0.10	0.25
LEV	673	0.61	0.60	0.31	0.02	0.91
AGE	673	2.99	3.05	0.29	1.60	3.40
SG	673	8.48	4.05	18.67	-2.53	77.07

Table 3

CORRELATION MATRIX						
Variable	TQ	ESG	SIZE	ROA	LEV	AGE
TQ	1	0.27**	0.11*	−0.13***	0.51***	0.12**
ESG	0.27**	1	0.18***	0.31***	0.16**	0.07***
GI	0.11*	0.18***	1	0.08***	−0.11***	0.13**
SIZE	−0.13***	0.30***	0.08***	1	−0.27***	0.28*
ROA	0.51***	0.16**	−0.11***	−0.27***	1	−0.22**
LEV	0.12**	0.07***	0.13**	0.28*	−0.22**	1
AGE	0.18***	0.11**	0.16**	0.27*	0.14**	0.06*
SG	0.22***	0.08*	0.01***	0.12***	0.24***	0.11**
VIF	—	1.77	1.05	1.95	2.13	1.79

that the coefficient on ESG is 0.29 with  $t = 6.05$ , significantly positive at the 1% level, indicating that the improvement of the ESG performance significantly promotes the value of the textile and garment firm. Column (2) shows that the coefficient of ESG is still significantly positively correlated at the 5% level after adding control variables such as ROA and LEV to the regression, indicating that firm value has been significantly improved with the deepening of ESG performance; thus, hypothesis 1 was tested.

### Mechanism analysis

This study wants to explore the underlying mechanisms of ESG performance on firm value and determine whether there is a causal chain of “corporate ESG performance – enhancement of green innovation – improvement of firm value”. We use a stepwise method to test the mediating effect, and the results are presented in table 4, columns (3) and (4) examine the mediating effect of green innovation. Column (3) shows the regression results, where the green innovation is the dependent variable. The coefficient of ESG is significantly positive, indicating that the higher the ESG level of the company, the greater the green innovation of the firm. This further proves the effectiveness of ESG performance: better-performing companies are more willing to increase the quantity of green innovation, and hypothesis 2 is tested. Column (4) shows the regression results of including the mediating variable in the model. The coefficient of GI is significantly positive at the 5% level and the coefficient of ESG is significantly positive at the 1% level as well. This implies that ESG performance can effectively enhance green innovation, thus improving the firm value. Therefore, hypotheses 3 and 4 are supported.

### Robustness checks

#### Endogeneity test

Benchmark regression shows that ESG performance is positively correlated with firm value, but this may be the result of companies with higher value being more willing and able to improve their ESG performance, which brings about a reverse causality problem. The reverse causality problem is alleviated by

lagging explanatory variables. Since the ESG performance in the lag period is not easily affected by the negative impact of the current firm value, we use the ESG performance with a lag of one period and two periods as the explanatory variables to re-regress the model. Columns (1) – (2) of table 5 report the corresponding regression results, which show that the conclusions of this paper remain robust.

#### Measure the replacement test

It is necessary to test whether the results of the benchmark regression will have different results owing to the definition of the dependent variable. In addition to Tobin's Q, we use alternative measures of firm value to examine the robustness of the results. The measure is the market-to-book ratio, which is frequently used as a proxy of Tobin's Q [14, 15]. Market-to-book ratio is the total market value of equity divided by the total book value of equity. We re-examine the relationship between ESG performance and firm value, and regression results are listed in table 5, column (3). It can be seen from the results that the ESG coefficient is significantly positive, indicating that the benchmark regression results have not fundamentally changed even if the dependent variable is changed, supporting hypothesis 1.

#### Placebo test

To verify that the empirical results of this study are caused by ESG performance as opposed to other factors, we construct a random value of ESG performance to conduct placebo tests. If the true performance of ESG does affect firm value, then the randomly rated ESG performance will not affect firm value similarly. The regression results are presented in table 5. In column (4), showing that the coefficient of random ESG is insignificantly different from zero. This result is in contrast to those shown in table 4, indicating that our main results pass the placebo test.

## CONCLUSIONS AND POLICY IMPLICATIONS

The primary findings of our analysis can be succinctly summarized as follows: (1) ESG performance plays a critical role in augmenting the value of textile and garment firms. (2) The essential mechanism through which ESG performance exerts a positive

Table 4

EMPIRICAL ANALYSIS RESULTS				
Variable	Firm value	Firm value	Green innovation	Firm value
	(1)	(2)	(3)	(4)
ESG	0.29*** (6.05)	0.30** (3.67)	0.10* (3.18)	0.13*** (7.38)
GI				0.13** (5.93)
SIZE		-0.47*** (-9.73)	0.66*** (11.23)	0.05*** (7.02)
ROA		0.51*** (7.93)	-0.12 (-1.68)	0.10** (3.98)
LEV		0.03* (2.78)	-0.10* (-3.01)	-0.21 (-0.89)
SG		0.22* (3.39)	0.36*** (5.37)	0.27*** (6.19)
AGE		0.05 (1.08)	0.02 (1.67)	0.12* (2.01)
Constant	3.43*** (13.56)	3.82*** (25.29)	0.80*** (7.90)	4.04*** (16.87)
Year FE	Yes	Yes	Yes	Yes
Observations	673	673	673	673
R2	0.48	0.51	0.42	0.53

Table 5

RESULT OF ROBUSTNESS CHECKS				
Variable	Firm value		Measure replacement	Placebo test
	Lagged explanatory variable			
	(1)	(2)	(3)	(4)
ESG	0.31*** (4.77)	0.25*** (6.18)	0.43*** (6.27)	
Random ESG				0.05 (0.63)
Constant	1.89*** (5.38)	2.12** (1.76)	3.02*** (16.21)	2.65** (2.08)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	601	538	673	673
R <sup>2</sup>	0.53	0.51	0.45	0.31

impact is by promoting green innovation. Results demonstrate that ESG performance is positively correlated with green innovation, implying that increased green innovation may serve as the medium through which ESG performance influences firm value. The data suggest that higher firm value is attributable to the enhancement of the firm's green innovation, specifically through a causal chain of events: "better corporate ESG performance-enhancement of textile and garment firm's green innovation-improvement of firm value".

Based on the empirical findings presented, several significant inferences and policy implications can be drawn. Firstly, textile and garment enterprises must heighten their awareness of ESG and proactively improve their ESG performance to enhance their competitiveness in the market and gain favour from investors. Secondly, ESG performance can be utilized to address the issue of information asymmetry, and financial resources should be allocated to support initiatives that promote energy efficiency, emissions reduction, and social responsibility. Lastly, government regulators must actively promote the improvement of ESG information disclosure and accelerate the standardization of ESG evaluation

criteria, while also encouraging textile and garment enterprises to engage in green technology innovation.

This study has certain limitations that warrant further investigation in the future. Firstly, the sample employed in this research is from the Chinese market, which restricts the generalizability of the findings. While robustness tests have been carried out to mitigate this limitation, the study may still be susceptible to selection bias. Therefore, future research must utilize more advanced econometric techniques to address this issue. Secondly, the ESG performance examined in this study is at the aggregate level, which limits the ability to assess its impact on firm value or green innovation at a more granular level. Subsequent studies could attempt to obtain separate performance for environmental, social, and governance factors to explore these effects in greater detail.

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