Original Research

Effect of Environmental Information Disclosure on the Development Capability of China's Tourism-Listed Enterprises

Yitong Guo[1], Yi Li[2]*, Yongliang Yang[3], Jing Wen[4]

[1]International United Faculty between Ningbo University and University of Angers/School of Geography and Tourism Culture, Ningbo University, Ningbo, China
[2]East China Sea Institute/Collaborative Innovation Center of Port Economy, Ningbo University, Ningbo, China
[3]School of Economics and Management/Ecological Civilization Institute of Zhejiang Province, Zhejiang Sci-Tech University, Hangzhou, China
[4]School of Urban and Regional Science, East China Normal University, Shanghai, China

Abstract

The environmental information disclosure of tourism-listed enterprises is a channel for stakeholders to understand corporate information. It serves as the driving force for improving corporate ecological innovation capabilities and a guarantee for strengthening the development capabilities of tourism enterprises. Based on the 38 tourism-listed enterprises in China, this paper uses a two-way fixed effect model to empirically examine the effects of environmental information disclosure levels on enterprises' development capabilities. The results show that environmental information disclosure has a significant negative correlation to enterprise development capabilities. This effect between them has a time lag and will decrease yearly. The degree of the effect differs because of firm size, region, and nature of equity. The government should formulate scientific and proper environmental information disclosure systems according to the characteristics of different industries and encourage non-environmentally sensitive firms to disclose environmental information to reduce the negative effects. Tourism enterprises should develop green supply chains, strengthen their ecological innovation capabilities, and reduce the increased costs due to environmental protection inputs.

Keywords: environmental information disclosure, enterprise development capabilities, tourism listed enterprises, total assets growth rate

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*e-mail: liyi1@nbu.edu.cn

Introduction

Background

With the increasingly serious environmental problems, stakeholders are paying more attention to the environmental responsibility of firms [1]. In response, international community and governments take a series of measures, such as establishing environmental information disclosure regulations to deal with environmental threats. For government departments, these regulations provide evidence to supervise firm activities, to ensure that government work has laws to follow. For firms, these regulations guide firm's ecological innovation activities, and stakeholders can clarify the environmental responsibilities of firms [2]. It can moderately reduce the risk of investors [3] and help firms establish a more stable relationship with outstanding employees, investors, and customers [4]. For the public, it is convenient to understand the firm's environmental information, which could influence consumption or decision-making behavior based on the information. Environmental information disclosure (EID), as a tool to describe activities and information related to the environment [5], can be divided into mandatory information disclosure and voluntary information disclosure [6]. Studies on mandatory disclosure have focused on its role as an environmental regulatory tool in pollution control [7], while voluntary disclosure research has focused on environmental behaviors actively taken by firms [8]. A comparison of firms' investment in the pollution control under mandatory environmental disclosure and voluntary environmental disclosure has shown that firms made more environmental investments under mandatory disclosure, and environmental investment will directly affect the firm's economic profits [9]. Firms consciously improve their ecological innovation capabilities and ease the conflict of interest between environmental protection and economic development [10], which is conducive to improving social reputation [11], and promoting the sustainable development of firms [12].

Stakeholders value environmental information disclosure in heavily polluting industries such as petroleum and chemical industries. In contrast, as a "smoke-free industry", the issue of environmental information disclosure is often overlooked in the tourism industry. Tourism, as a rapidly developing sunrise industry in the national economy [13], is also one of the most polluting industries in the world [14]. The rapid growth of the tourism economy has brought many negative effects on the ecological environment [15]. From the perspective of resource consumption, tourism has a high consumption of water resources. On average, each tourist needs to consume 300 liters of water each night, which is nearly twice the average daily water consumption of a household [16]. From the perspective of environmental pollution, tourism is responsible for 8% of global greenhouse gas emissions [17], contributing as much as 12.5% to global warming [18]. As users and beneficiaries of natural resources, tourism enterprises are also the main body for environmental pollution and thus should take social responsibility for environmental governance. Focusing on the research on environmental information disclosure of tourism enterprises can not only raise the enterprise's attention to environmental issues but also improve the regional ecological environment, which is conducive to the realization of the sustainable development of enterprises [19]. However, the current situation of environmental information disclosure by tourism enterprises is not optimistic and the overall level of investment in environmental practices is not high enough [20]. Economic and environmental issues are closely related and inseparable. Thus, in the context of prominent environmental issues, the economic development capabilities of firms are bound to be affected. As the power of firm survival and profit, enterprise development capabilities reflect the economic development trend of future production activities.

The research sample selected is the tourism-listed enterprises in Chinese Stock "A" markets (Shanghai and Shenzhen Stock Exchanges) to construct an environmental information disclosure indicator system. This paper uses a two-way fixed effects model in which the individual and time effects are fixed and conducts an empirical study on the relationship between environmental information disclosure and tourism enterprises' development capabilities. By reviewing the existing literature, the unique contributions of this paper are shown as follows: (1) The current research on environmental information disclosure of listed tourism enterprises is still in its infancy, the study selects tourism-listed enterprises as the research object. Previous scholars paid more attention to environmental information disclosure of environmentally sensitive enterprises, but environmental information disclosure of non-environmentally sensitive enterprises, such as tourism enterprises, is usually neglected. (2) The total assets growth rate [21] is selected as the main indicator to measure enterprise development capabilities, and net profit growth rate, capital accumulation rate, capital preservation and appreciation rate are used to test its robustness. Based on the results, explorations of the topic should be in-depth and innovative. (3) The debt financing cost is chosen as a mediating variable to explore the transmission mechanism between it and environmental information disclosure and enterprise development capability to enrich the existing research results.

The remaining sections of this paper are arranged as follows. Section 2 provides a literature review and theoretical hypotheses. Section 3 discusses the data and model. The empirical data analyses were presented in Section 4. Section 5 concludes and makes policy recommendations.

Literature Review and Theoretical Hypothesis

Influencing Factors of Environmental Information Disclosure

Enterprise environmental information disclosure refers to the disclosure of information on the natural environment, environmental protection, and resource usage [22], and is an essential component of corporate social responsibility. Since the 1970s, corporate environmental-related activities and information have been required to be disclosed to the public in developed countries [23]. Belkaoui. [24] explored the relationship between environmental information disclosure and market response and found that the disclosure of pollution control cost information has a beneficial effect on the stock market. The pioneering research of Richardson et al. [25] revealed the mechanisms by which environmental information disclosure affected corporate value, include the market process effect, cash flow effect, and discount rate effect, thereby providing theoretical support for related research. Environmental information disclosure will be affected by external and internal factors. External factors include legal and regulatory pressure, stakeholder needs, and competitive market pressure requirements. Internal factors include managers, corporate governance characteristics, and firm performance [26]. The government supervises the economic activities of firms and requires them to improve the level of environmental information disclosure [27]. Stakeholders require firms to disclose more detailed environmental information [28]. The level of environmental disclosure will be affected by the industry membership based on the pressures from the market competition [29]. The personal characteristics of managers play an important role in explaining the diversity of environmental practices [30]. Among the characteristics of firm governance, risk, ownership, age of fixed assets, firm size and routine conditions determine the level of enterprise environmental information disclosure [31]. Firms also consider environmental and economic performances [32] when disclosing environmental information. There is heterogeneity in enterprise environmental information disclosure. From the perspective of firm size, large firms attach more importance to environmental information disclosure than small and medium-sized firms, and thus will voluntarily disclose more environmental information [33]. From the perspective of industry characteristics, firms can be divided into environmentally and non-environmentally sensitive firms. According to the China Securities Regulatory Commission's industry classification guidelines for listed firms, environmentally sensitive listed firms can be classified into heavy pollution, waste resource multiple utilization, and ecological protection and treatment industries. Environmentally sensitive firms will disclose more environmental information than other firms [29]. From the perspective of the nature of disclosure, environmental information disclosure is divided into hard and soft disclosure [34]. Hard disclosures are considered more informative and credible than soft disclosures because they are objective and thus provide more accurate data [35].

Effects of Environmental Information Disclosure on Corporate Profitability

Environmental information disclosure affects profitability by guiding the internal governance of firms and the external environment. Three viewpoints on this effect can be found in academic research. First, they are negatively correlated. Before the "Porter Hypothesis" is put forward, most scholars believe a conflict between corporate social responsibility and financial performance exists. Hence, to achieve high environmental performance, it is necessary to reduce pollution emission through pollution prevention, clean production, and other measures [36]. While these environmental protection actions are bound to increase the operating costs of firms [37] and reduce competitive advantages, they will also affect the firm financial performance. According to the theory of neoclassical economics, environmental tax has a negative impact on total factor productivity. Because environmental tax may increase the environmental costs of firms; thus, squeezing the funds originally used for R&D investment and reducing the market competitiveness of products [38]. In China, stakeholders ignore the pollution behavior of tourism-listed enterprises, resulting in insufficient environmental protection pressure and green innovation motivation, and thus, the innovation capacity of companies is weak [39]. The cost increase caused by reducing pollution is often difficult to make up for through innovation, which may reduce financial performance [40]. He et al. [41] found that the "Porter Hypothesis" is not supported in China's manufacturing industry and that environmental regulations tend to reduce the firm financial performance. Xia et al. [42] selected coal-listed firms, Yang et al. [43] selected heavy polluting industries, while Li et al. [44] selected Chinese listed firms, to verify the negative relationship between environmental information disclosure and financial performance. Ren et al. [45] found that mandatory environmental information disclosure will increase the cost of environmental management, and that firm economic performance will be negatively affected.

Second, they are positively correlated. The "Porter Hypothesis" examines the relationship between environmental goals and competitive advantages from a dynamic perspective. It posits that environmental protection behaviors of firms will increase their operating costs through the rational design of innovative development policies, environmental protection costs can be partially or even completely offset, and the productivity and profitability of enterprises can be improved [46]. Later, many foreign scholars verified

this hypothesis through empirical studies [47]. Firms emphasize that disclosure of environmental information can meet the requirements of stakeholders, which can help firms establish a good social image [48] while improving financial performance [49]. Gerged et al. [50] focused on choosing a non-financial firm and Wang et al. [51] chose manufacturing listed firms to independently build an environmental information disclosure system. They studied the relationship between environmental information disclosure and firm financial performance and believed that a significant positive correlation can be found between them. Feng et al. [52] proved that environmental information disclosure plays an important role in promoting economic development, and green technology innovation plays an intermediary role. Yang et al. [53] employed the difference-in-differences model and the propensity score matching method and determined that environmental information disclosure has a positive effect on the firm value of manufacturing-listed firms. Third, they are not relevant. Deswanto et al. [54] selected firms listed in the Indonesia Stock Exchange in agriculture, mining, basic industries and chemicals, and other industries and the consumable industry as research samples, and found that environmental information disclosure does not affect the firm's market value nor does it adjust the firm's financial performance and environmental performance.

Effects of Environmental Information Disclosure on Enterprise Development Capabilities

Enterprise development capabilities are the development trend and development potential of a firm's future production activities, and can also be called growth capability. It will be affected by the combined effect of a firm's internal growth mechanism and external environmental factors [55], affecting the dynamic development and firm financial performance [56]. EID is an integral part of CSR and ESG [23], it's a prerequisite for environmental governance and sustainable development of listed companies [57]. Rahdari et al. [58] attempted to explain the measures of corporate sustainability by examining corporate governance, corporate social responsibility, sustainability normative frameworks, management systems, guidelines, and rating systems to identify the most common indicators for the assessment of environmental, social, and governance aspects of business performance. According to the sustainable development theory, when firms disclose environmental information, they should conform to the basic principles of fairness, sustainability and commonality. Different levels of disclosure have different effects on enterprise development capabilities. Many scholars have explored the relationship between the environmental information disclosure index and enterprise development capabilities but the results are still inconclusive. There are two main viewpoints. First, they are positively correlated.

From the perspective of information effects, the purpose of companies participating in environmental, social, and governance activities is to reduce corporate risks, improve the market performance, and enhance corporate sustainable development capabilities [59]. Jiang et al. [49] selected Chinese listed firms and used the comprehensive indicators of economic performance, environmental performance, and social performance to measure the firm's high-quality development capabilities. It verified that environmental information disclosure could promote a firm's high-quality development capabilities. Huang et al. [60] believed that firms can provide transparent environmental information disclosure, which will meet the needs of different stakeholders and generate added value, thereby improving the corporate image and achieving sustainable development. Second, they are negatively correlated. Zhang. [61] uses the fixed-effect and random-effect models to conduct empirical research on the relationship between industry regulatory systems, industry attributes, and firm environmental investment. The results show the development capacity of non-heavy polluting firms is negatively correlated with environmental investment. This paper selects total asset growth rate, net profit growth rate, capital accumulation ratio, and capital preservation and appreciation rate to measure enterprise development capabilities. Total assets growth rate is as an explained variable, which reflects the growing situation of firm assets scale; the larger the ratio, the faster the scale expansion of firms. It reflects enterprise development capabilities. At the same time, the total assets growth rate should not be too large, and pursuing the growth of quantity alone while ignoring the growth of quality is discouraged.

Environmental performance and financial performance have a conflicting relationship. Mandatory environmental information disclosure will increase the environmental management activities of firms and improve environmental performance. However, the increase in compliance costs will often damage the firm's financial-economic performance [45]. From the perspective of cost-effectiveness, the resources of enterprises are limited, and the information disclosure of enterprises consumes resources that should be used to increase economic benefits, resulting in increased costs and reduced profits, and weakening the company's position in competition [62]. As an emerging market, China is facing the problem of the level of maturity of its capital market and external supervision system. At this time, the necessary cost input of firms will affect the economic performance, especially short-term performance [63]. As a non-environmentally sensitive industry, tourism differs from environmentally sensitive industries, such as steel and chemical industries [64]. It has always been regarded as a "smoke-free industry" because, in the entire supply chain, people are mostly exposed to the terminal service part, directly obtaining the processed products or services. Knowledge on the front-end information of the supply chain

that may cause pollution is limited and a large number of resources used for production are indirectly consumed, making it difficult for the public to understand the actual pollution discharge situation. Therefore, compared with environmentally sensitive industries, the disclosure of environmental information by non-environmentally sensitive enterprises will bring a greater cost burden and have a greater negative effect on financial performance [65]. Combined with the actual situation of the tourism industry, it can be seen that the environmental infrastructure is still incomplete. As the level of environmental information disclosure increases, the operating costs and financial burdens of companies will also increase, and the future development potential and growth capabilities of companies will inevitably be affected. Thus, the following is hypothesized:

Environmental information disclosure is negatively correlated with enterprise development capabilities in tourism, that is, the development speed of firms will slow down with the improvement of environmental information disclosure.

Material and Methods

Sampling and Data Source

The research sample selected is the tourism-listed enterprises in Chinese Stock "A" markets (Shanghai and Shenzhen Stock Exchanges) from 1993 to 2019. After eliminating ST loss-making firms, firms with missing financial data, and extreme outliers, a total of 676 observations from 38 sample firms was obtained. The sample firms are divided into three categories according to their main businesses and include 13 hotels and catering firms, 17 scenic spots firms, and 8 comprehensive service firms (See Appendix Table A1 for the list of specific firms) [66]. The firm's environmental information disclosure data is collected from corporate annual reports, social responsibility reports, sustainable development reports, environmental reports, firm websites, and other channels. The financial data of listed firms is from the CSMAR database. STATA 15.0 software was used for data analysis.

Variable Setting

Explained Variables

This study selects total assets growth rate as the main indicator of enterprise development capabilities [21]. Total assets growth rate (TAGR) refers to the ratio of the growth of total assets in the current year to the total assets at the beginning of the year. It reflects the growth of the firm's asset scale in the current period. Generally speaking, the increase in total assets growth rate indicates that the firm's asset management scale has expanded at a faster rate in a certain period. On the contrary, the decline in total assets growth rate indicates

that the expansion of a firm's asset management scale in a certain period has slowed down, which can reflect enterprise development capabilities.

Explanatory Variables

Environmental information disclosure quality, which is used to measure the level of environmental information disclosure. This article adopts the information disclosure scoring method based on the content analysis [67] to collect as many as possible independent reports, such as social responsibility reports and sustainability reports of listed tourism enterprises from 1993 to 2019, read and sorted them manually collected reports one by one. Drawing on the research results of previous scholars, Zeng et al. [68] developed a 10-item list of environmental disclosure items as identified by SEPA's 2007 rules and those of the Shanghai Stock Exchange in 2008. The MEC further published a new policy in 2010, Environmental Information Disclosure Guidelines for Listed Companies in China, which specifies the outline and detailed contents of annual environmental reports for all Chinese listed companies. In practice, more and more listed firms have begun to disclose environmental information according to the requirements of these national regulations. Meng et al. [69] designed the disclosure indicators, a total of 43 indicators in 8 aspects including corporate environmental policies, environmental organizations, and environmental management systems. This paper innovates on the basis of Meng's research results, we will build an objective and reliable environmental information disclosure indicator system. According to the characteristics of the tourism industry, the eight classification indicators are integrated into five categories, the content related to environmental regulations and environmental public welfare activities is deleted, and the specific classification indicators under each category are redesigned. It is divided into five aspects, namely, environmental management system, resource consumption improvement, environmental performance, environmental protection investment, and environmental issues, with a total of 11 secondary indicators. The disclosure index is developed based on the equal weight who assigns a one to each item with a maximum score of 11. This method is simple and objective, so we use it to avoid controversies and subjectivity [70]. Some other scholars use the unequal weighted index method to construct the disclosure index system because of the large differences in the importance of the information they convey. Since environmental information disclosure in the tourism industry is still in its infancy, the disclosure content is less, the level is lower and the differences are smaller, so this paper does not use the unequal weighted index method. Next, the indicator system is scored item by item, using the 0–1 assignment method [71, 72]. When the index is disclosed in the report, it is assigned a value of 1, and the content is not disclosed,

Table 1. Environmental information disclosure index system.

Type	Index set	Score
Environmental Management System	Whether to pass the environmental certification	0 point for failure to disclose; 1 point for disclosure; the maximum is 11 points
	Whether to receive environmental recognition	
	Whether to implement green office	
Resource consumption improvement	Pollutant discharge	
Environmental performance	Measures to reduce three wastes	
	Whether to develop a circular economy	
	Whether to pay attention to energy conservation	
	Whether there are other advantages	
Environmental investment	Input and expenditure of environmental protection	
	Research and development of environmentally friendly products	
Environmental issue	Whether environmental penalties are involved	

it is assigned a value of 0. The scores of each index item are summarized to obtain the final result. The specific contents are shown in Table 1.

Mediating Variable

Debt financing costs are selected as the mediating variable, and to measure it, researchers in other countries use the bond yield at the time of bond issuance [73] or loan spread [74]. The calculation method in this study is as follows: the company's interest expense for the year is divided by its current and non-current liabilities for the year [75].

Control Variables

It is extremely necessary to control other factors affecting firm value to better explain the endogenous relationship between research objects. The control variables of this article are selected according to the current results as shown in Table 2 [42, 43, 76], and include firm size, financial leverage, asset structure, total asset turnover, capital intensity, cash assets ratio, asset-liability ratio, receivable assets ratio, ownership concentration, number of employees, and working capital ratio.

Empirical Model Construction

Based on the selection of the above key indicators, constructing a multiple regression model (1) for empirical testing to study environmental information disclosure on development capabilities of tourism enterprises, we estimated the model as follows:

$$TAGR_{i,t} = \alpha_0 + \alpha_1 EID_{i,t} + \sum \alpha_2 X_{j,i,t-1} + \mu_i + \varphi_t + \varepsilon_{i,t} \quad (1)$$

where TAGR represents the total assets growth rate of firms, EID represents the environmental information disclosure quality, i and t respectively represent the i-th listed firm and the t-th year, α_0 in constant terms, α_i (i = 1, 2) is the coefficient of each index variable that affects the increase rate of total assets, $X_{j,i,t}$ represents all the control variables, μ_i and φ_t respectively represent the individual fixed effect and the time fixed effect, and $\varepsilon_{i,t}$ represents the random error term. Because the samples selected in this study are all listed firms in the tourism industry, the influence of industry effects are not considered in the model. According to the hypothesis proposed in this study, α_1 is expected to be significantly negative.

Results and Discussion

Descriptive Results

Table 3 shows that the minimum value of environmental information disclosure is 0, and the maximum value is 8, which indicates that firms have great differences in the quality of environmental information disclosure. The average value is 0.333, indicating that most tourism- listed enterprises ignore the important role of environmental information disclosure and that the overall disclosure level is low. Compared with the study of Fan et al. [77] on listed firms in high-polluting industries, the environmental information disclosure quality of tourism-listed enterprises is also uneven, with a maximum of 52

Table 2. Variable description.

Variable nature	Variable name	Variable symbol	Variable definitions
Explained variable	Total assets growth rate	TAGR	Growth of total assets this year/ total assets at the beginning of the year
Explanatory variable	Environmental Information Disclosure	EID	According to the environmental information disclosure index system, all scores are added up
Mediating variable	Debt financing cost	COD	100* (Interest payable/(current liabilities + non-current liabilities))
Control variables	Firm size	SIZE	Natural log of ending assets
	Financial leverage	FL	Common stock per share profit margin/EBITDA profit margin change
	Assets structure	AS	Proportion of various assets in the investment of firms
	Total asset turnover	TAT	Net sales revenue/average total assets, operating capacity
	Capital intensity	CI	Ratio of two factors of production used to produce a product
	Cash asset ratio	CR	Indicator that examines the liquidity capacity of firms
	Asset-liability ratio	DAR	A firm's liabilities/assets, solvency at the end of the period
	Assets receivable ratio	RAR	(Net notes receivable + net accounts receivable)/total assets
	Ownership concentration	OC	Sum of the shareholding ratios of the firm's top 3 tradable shareholders
	Number of employees	NE	Number of employees
	Working capital ratio	WCR	(Current assets-current liabilities)/ current assets

points, an average of 9.624 points, and a standard deviation of 7.779 points. It shows that high-polluting listed companies have a higher level of environmental disclosure than tourism-listed enterprises. The average total assets growth rate is 0.124, the minimum and maximum values are -0.405 and 1.629, respectively, indicating a large gap in the growth capacity of different firms in the research object. The internal characteristics of firms that play an important role also show some differences. For example, for ownership concentration,

Table 3. Descriptive statistical analysis of variables.

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
TAGR	592	0.124	0.281	-0.405	1.629
EID	676	0.333	1.243	0	8
COD	550	0.209	0.730	0	5.147
SIZE	673	21.131	1.200	18.474	25.199
FL	598	1.396	1.167	0.555	9.625
AS	666	0.396	0.192	0.013	0.842
TAT	673	0.473	0.388	0.078	2.212
CI	673	3.476	2.392	0.452	12.834
CR	624	0.180	0.143	0.005	0.628
DAR	673	0.380	0.217	0.051	1.300
RAR	673	0.059	0.070	0	0.339
OC	517	24.381	20.460	0.331	69.355
NE	605	3202.324	4664.991	102	25130
WCR	673	0.084	0.266	-0.922	0.667

the minimum value is 0.331, the maximum value is 69.355, indicating great heterogeneity among tourism-listed enterprises.

Regression Analysis Results

This article uses a dual fixed-effects model to test the effects of EID on the total assets growth rate. Models 1-4 in Table 4 represent the results of the stepwise regression of the variables. The results of the four columns all show significant negative correlations, and the results are robust. According to Model (4), EID and total assets growth rate are significantly negatively correlated at 1% level (coef=-0.0505), indicating that the improvement of environmental information disclosure level leads to the decline of total assets growth rate. That is, the expansion speed of firm asset management scale slows down, which will affect the future development speed and enterprise development capabilities, and thus, hypothesis 1 is verified. This finding is mainly because tourism is a non-environmentally sensitive industry, which has always been regarded as a "smoke-free industry" with less pollution, making it difficult for the public to recognize and identify the links that generate pollution. The disclosure of environmental information will increase the operating costs of firms, and the increase in cost burden will inhibit the growth of firms. This is contrary to the conclusion of Zhang's study, Zhang [61] chose the growth rate of total assets as one of the indicators to measure the development capability of enterprises and believed that the development capability is negatively related to the environmental investment of heavy polluting enterprises and positively related to non-heavy polluting enterprises, which

Table 4. Regression results of the fixed effect on firm environmental information disclosure quality and total assets growth rate.

Variables	Model1 TAGR	Model2 TAGR	Model3 TAGR	Model4 TAGR
EID	-0.028** (-2.28)	-0.048*** (-4.51)	-0.050*** (-5.05)	-0.051*** (-5.02)
SIZE		0.209*** (6.11)	0.211*** (5.97)	0.229*** (4.29)
FL		-0.030*** (-2.90)	-0.032*** (-2.86)	-0.022** (-2.05)
AS		-0.488*** (-4.22)	-0.308*** (-2.97)	-0.315*** (-2.82)
TAT		-0.158** (-2.66)	-0.129* (-1.99)	-0.160*** (-2.78)
CI			0.013 (0.83)	0.016 (0.92)
CR			0.479*** (2.92)	0.339* (1.86)
DAR			0.036 (0.34)	0.066 (0.50)
RAR				0.289 (0.66)
OC				-0.001 (-1.20)
NE				-0.029 (-0.60)
WCR				0.008 (0.06)
Constant	0.012** (2.68)	-3.991*** (-5.83)	-4.113*** (-5.70)	-4.325*** (-4.85)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Adj.R^2	0.087	0.242	0.264	0.273
F-statistic	2.02	5.02	5.61	5.21
N	592	523	520	454

Note: The value in the brackets is T-value; ***, **, * indicate significance at the level of 1%, 5%, and 10%.

is because non-heavy polluting enterprises are less involved in the production of physical products and less polluting, and the stronger the development capability, the more enterprises want to improve their reputation through environmental regulations and other means, which differs from the research perspective of this paper.

Firm size (SIZE) is positively correlated with total assets growth rate at 1% level, that is, the larger firm size, the greater total assets growth rate, and the stronger enterprise development capabilities. Financial leverage (FL) is negatively correlated at 5% level, which is in line with reality. The greater the financial leverage, the greater the financial risk, and the worse the solvency of firms, which will affect the sustainable development capability. Asset structure (AS) is negatively correlated with total assets growth rate at 1% level, indicating that the asset structure of a firm will affect the increase in total assets growth rate. Cash asset ratio (CR) and total asset growth rate is positively correlated at 10% level, indicating that they fluctuate in the same direction. The higher the cash asset ratio, the stronger the firm's liquidity and solvency, and the faster the total assets growth rate. The regression coefficient of capital intensity (CI), asset-liability ratio (DAR), asset receivable ratio (RAR), ownership concentration (OC), number of employees (NE), working capital ratio (WCR) and total asset growth rate is not significant, indicating that the effects of these indicators on the regression results of enterprise development capabilities are not obvious.

Mediating Effect Analysis

Debt financing is one of the main external financing channels for firms, especially in China [78]. It can affect the financial flexibility and operational risk of firms, and it plays a vital role in emerging economies [79]. Hence, to examine the impact mechanism of environmental information disclosure on firm growth, we further choose corporate debt financing cost as a mediating variable for testing. The results are shown in Table 5.

The results of Column 1 show that after adding control variables, the negative effect of EID on TAGR remains significant at 1% level (Coef. = -0.049, P-value = 0.000). Column 2 shows that the effect of EID on debt financing costs is significantly positive (Coef. = 0.068, P-value = 0.044), which indicates that environmental information disclosure will increase the debt financing costs of enterprises. Column 3 further reports the results of the TAGR regression of EID and debt financing costs. TAGR and EID are still significantly negatively correlated, and the estimated coefficient of debt financing cost is -0.093, which is significant at 1% level, indicating that the increase in debt financing costs significantly inhibited the growth of firms. As a measure of firm risk, the cost of debt is important for a firm because the related funding gap

may limit the growth of firms [80]. The Sobel test is significant at 10% level, indicating that debt financing costs are an available mediating variable. EID has a significant effect on TAGR through debt financing costs. Thus, to ensure the robustness of the results

Table 5. The effects of EID on TAGR through debt financing costs.

VARIABLES	(1) TAGR	(2) COD	(3) TAGR
EID	-0.049*** (-4.94)	0.068** (2.09)	-0.058*** (-4.01)
COD			-0.093*** (-4.52)
SIZE	0.242*** (4.88)	0.010 (0.04)	0.297*** (5.41)
FL	-0.022** (-2.03)	0.042 (1.15)	-0.026* (-1.71)
AS	-0.303*** (-2.78)	-0.541 (-0.92)	-0.563*** (-3.99)
TAT	-0.173*** (-2.95)	-0.420 (-1.22)	-0.194* (-1.83)
CI	0.015 (0.89)	-0.066 (-1.16)	0.016 (0.66)
CAR	0.331* (1.79)	-0.058 (-0.06)	0.250 (1.11)
DAR	0.109 (0.74)	0.969 (1.56)	0.198 (1.11)
RAR	0.233 (0.52)	-5.531* (-1.99)	-0.229 (-0.43)
OC	-0.001 (-1.34)	0.004 (1.68)	-0.002* (-1.77)
NE	-0.000 (-1.63)	-0.000 (-1.13)	-0.000 (-1.20)
WCR	0.057 (0.40)	-0.366 (-0.62)	0.029 (0.18)
Constant	-4.801*** (-4.60)	0.425 (0.09)	-5.821*** (-4.85)
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Adj.R^2	0.275	0.234	0.334
Number of id	37	36	36
N	454	353	353
Sobel test	-0.006*		
Direct effect	-0.058***		
Indirect effect	-0.006*		
Proportion of total effect that is mediated	0.097		

Note: The value in the brackets is T-value; ***, **, * indicate significance at the level of 1%, 5%, and 10%.

of the mediation effect test, the bootstrapping method is used to perform the robustness test. The results are shown in Table A2.

Robustness Test

Replace the Explained Variable

The net profit growth rate (NPGR) represents the increase in the current net profit of firms over the previous period. The larger the index value, the stronger the firm's profitability. In this paper, the net profit growth rate is used instead of the total assets growth rate, and other variables remain unchanged for

the regression analysis. The results are shown in Table 6 Model 1. The results show that EID has a significant negative impact on the net profit growth rate, it's consistent with the benchmark results, indicating that the results are robust. Wang et al. [81] also chose the net growth rate to measure the development ability of enterprises, and used the listed enterprises in five northwestern provinces as the research object. They found that the development ability of enterprises positively affects environmental information disclosure, verifying that there is a certain correlation between the two.

The capital accumulation rate (CAR) reflects the capital accumulation of firms. Its improvement

Table 6. Robustness test results.

	Model1	Model2		Model3		Model4
	NPGR	CAR		CMAR		TAGR
EID	-0.278** (-2.06)	-0.060***	(-4.37)	-0.060***	(-4.40)	/
Environment-protection	/	/		/		-0.174*** (-3.68)
SIZE	1.327* (1.99)	0.345***	(3.58)	0.345***	(3.52)	0.222*** (3.97)
FL	-0.890*** (-2.77)	-0.005	(-0.17)	-0.005	(-0.23)	-0.023** (-2.08)
AS	6.387* (1.70)	-0.646**	(-2.55)	-0.646**	(-2.56)	-0.382*** (-3.51)
TAT	-0.043 (-0.03)	0.077	(0.52)	0.077	(0.51)	-0.173*** (-2.84)
CI	0.224 (1.01)	-0.005 (-0.19)		-0.005 (-0.21)		0.018 (0.96)
CR	11.002** (2.39)	-0.028	(-0.22)	-0.028	(-0.09)	0.345* (1.87)
DAR	-0.376 (-0.20)	-0.562	(-1.42)	-0.562	(-1.41)	0.047 (0.34)
RAR	18.106 (1.59)	-0.418 (-0.81)		-0.418 (-0.77)		0.283 (0.64)
OC	0.006 (0.24)	-0.004** (-2.02)		-0.004** (-2.03)		-0.001 (-1.03)
NE	-0.224 (-0.42)	0.014 (0.37)		0.014 (0.33)		-0.030 (-0.28)
WCR	-3.839** (-2.06)	0.203 (0.77)		0.203 (0.64)		-0.038 (-0.28)
Constant	-30.643** (-2.65)	-6.592*** (-3.65)		-5.592*** (-3.02)		-4.149*** (-4.42)
Year FE	Yes	Yes		Yes		Yes
Industry FE	Yes	Yes		Yes		Yes
Adj.R^2	0.124	0.215		0.215		0.263
F-statistic	1.70	3.65		3.65		4.96
N	402	438		438		454

Note: The value in the brackets is T-value; ***, **, * indicate significance at the level of 1%, 5%, and 10%.

creates a prerequisite for the expansion of a firm's reproduction. The expansion of production scale is one of the important factors that reflects the core competitiveness of firms. In this paper, capital accumulation rate was used to replace the explanatory variables, and other variables remained unchanged for regression analysis. The results are shown in Model 2 of Table 6. The empirical results show EID has a significant negative effect on the capital accumulation rate. It is consistent with the benchmark results, indicating that the results are robust.

Capital preservation and appreciation rate (CMAR) refers to the ratio of equity at the end of the year to equity at the beginning. It reflects the value preservation and appreciation of the owner's investment and can be used to illustrate the sustainable development trend of firms. This paper uses capital preservation and appreciation rate to replace the explained variables, and other variables remain unchanged for regression analysis. The results are shown in Model 3 of Table 6. The empirical results show the EID has a significant negative effect on capital preservation and appreciation rate, indicating that the results are robust.

Replace Explanatory Variables

A single indicator of environmental protection is used instead of the EID total score because the measurement method of environmental information disclosure will also affect the results of the hypothesis. When other variables remain unchanged, the regression results are shown in Model 4 of Table 6. The results show that environmental protection has a significant negative effect on the total assets growth rate. This result is consistent with the benchmark result, indicating that the results are robust.

Time Lag Effect

Considering that environmental information disclosure may have a certain time lag effect on enterprise development capabilities, that is, the mechanism of the effect of environmental information disclosure on enterprise development capabilities requires a certain amount of time to react and buffer, and thus, the sample firms with incomplete data are excluded. After lagging the explanatory variable EID by one and two periods and performing regression analysis with total assets growth rate and other control variables, the results are shown in Table 7.

The analysis shows that when time lags for one year, the regression coefficient of EID to TAGR is -0.041, which is reduced in absolute value compared with the regression coefficient of -0.051 without lag, and the results are significantly negatively correlated at 1% level. When the lag is two years, the regression coefficient becomes -0.032, the absolute value is further reduced, and the result is a significant negative correlation at 5% level. Studies have shown that

the effects of environmental information disclosure on enterprise development capabilities do have a certain time lag and that this effect will last for a long time and will weaken year by year. The possible explanation is that the public only pays attention to a part of the supply chain of tourism-listed enterprises, and they have partly ignored the more polluting parts of the production supply chain upstream. With the continuous disclosure of environmental information, corporate information is more exposed to the public, and the imperfect environmental protection infrastructure cannot effectively transform environmental information disclosure into productivity that promotes the rapid development of enterprises. EID will have a negative effect on enterprise development capabilities and will continue for a period. With the continuous improvement of the green supply chain, the cost-effectiveness of firm

Table 7. Time lag effect results.

	T=1	T=2
EID	-0.041*** (-4.26)	-0.032** (-2.54)
SIZE	0.237*** (4.72)	0.241*** (4.82)
FL	-0.025** (-2.16)	-0.024** (-2.04)
AS	-0.349*** (-3.40)	-0.422*** (-4.11)
TAT	-0.153*** (-2.76)	-0.155** (-2.63)
CI	0.006 (0.32)	0.004 (0.21)
CR	0.144 (0.86)	0.055 (0.33)
DAR	-0.021 (-0.18)	-0.022 (-0.17)
RAR	0.165 (0.37)	0.112 (0.23)
OC	-0.000 (-0.13)	0.000 (0.24)
NE	-0.033 (-0.71)	-0.039 (-0.80)
WCR	-0.100 (-0.80)	-0.124 (-0.93)
Constant	-4.357*** (-5.36)	-4.342*** (-5.48)
Year FE	Yes	Yes
Industry FE	Yes	Yes
Adj.R^2	0.256	0.256
F-statistic	4.63	4.49
N	443	430

Note: The value in the brackets is T-value; ***, **, * indicate significance at the level of 1%, 5%, and 10%

environmental information disclosure will gradually weaken, and the positive effect on firm development abilities will continue to appear, which will cause the negative effect to gradually weaken. A related study by Dai et al. [82] also shows that the effect of environmental information disclosure on financial performance has a certain time lag and diminishes from year to year, which is the same view as this paper, but she argues that this effect generally lasts for only one period, and the possible explanation is that firms fail to really play the role mechanism of environmental information disclosure.

Dynamic Panel Model

This study adopts the GMM to alleviate the endogenous problem. Table 8 is the result of the dynamic panel estimation model (1). Columns 1 and 2 use the System GMM method, Columns 3 and 4 use the Difference GMM method. We lag the explained variables by one and two periods, respectively. We can see that the core explanatory variables are still robust, EID is significantly negatively correlated with TAGR, and the null hypothesis is established. The AR (1) p-value less than 0.05 indicates the presence of a first-order autocorrelation, while an AR (2) p-value

Table 8. Dynamic panel results.

Explained variable	Model 1 System GMM One lag	Model 2 System GMM Two lags	Model 3 Difference GMM One lag	Model 4 Difference GMM Two lags
$TAGR_{i,t-1}$	0.196 (1.62)	0.038 (0.98)	-0.034 (-0.34)	0.047 (1.10)
EID_{it}	-0.060* (-1.84)	-0.066* (-1.90)	-0.082*** (-3.30)	-0.057*** (-3.19)
$SIZE_{it}$	0.067** (2.47)	0.080*** (3.00)	0.541*** (5.23)	0.534*** (4.15)
FL_{it}	-0.021 (-1.53)	-0.024 (-1.64)	-0.016 (-1.46)	-0.016 (-1.30)
AS_{it}	-0.189*** (-3.22)	-0.221*** (-2.78)	-0.452*** (-3.01)	-0.565*** (-3.58)
TAT_{it}	-0.081 (-1.24)	-0.090 (-1.24)	-0.265 (-1.63)	-0.301** (-2.07)
CI_{it}	0.015 (0.80)	0.014 (0.71)	0.056 (1.49)	0.053 (1.57)
CR_{it}	0.168 (1.22)	0.153 (1.03)	0.488* (1.88)	0.370 (1.35)
DAR_{it}	0.140 (1.38)	0.164 (1.40)	0.344* (1.81)	0.444 (1.62)
RAR_{it}	0.074 (0.35)	0.061 (0.25)	-0.146 (-0.30)	-0.031 (-0.07)
OC_{it}	-0.001* (-1.87)	-0.001** (-2.38)	-0.001 (-0.92)	-0.001 (-0.69)
NE_{it}	-0.006 (-0.33)	-0.010 (-0.48)	-0.062 (-0.81)	-0.070 (-0.85)
WCR_{it}	-0.115 (-1.07)	-0.119 (-0.95)	-0.112 (-0.48)	-0.083 (-0.37)
Constant	-1.217** (-2.50)	-1.424*** (-2.97)	/	/
Year Dummy	Yes	Yes	Yes	Yes
AR(1)	0.013	0.005	0.015	0.020
AR(2)	0.152	0.417	0.950	0.718
Hansen test	1.000	1.000	1.000	1.000
N	430	430	369	356

Note: ***, **, * indicate significance at the level of 1%, 5% & 10%. AR (1) and AR (2) respectively refer to the one-phase and the two-phase lag of the residual term. The Hansen Test is used as an overidentification test.

greater than 0.05 indicates the absence of second-order autocorrelation, the model is reasonable. All dynamic panel models have passed Hansen's test and the results are robust.

Heterogeneity Analysis

Considering that differences in internal factors between firms may cause differences in this effect, the sample firms are discussed separately according to three classification methods, namely, firm size, region, and nature of equity.

Heterogeneity of Firm Size

Firms can be divided according to firm size into small and micro, medium-sized, and large firms. According to the National Standards No.1 Amendment Form of GB/T 4754-2017 "Classification of National Economic Industries" issued by the National Bureau of Statistics and the "Measures for the Classification of Large, Medium, Small and Micro firms in Statistics", the criteria for determining the size of tourism enterprises are based on the number of employees and total assets. Hence, small and micro firms are those with less than 100 employees and total assets of less than 80 million yuan. The number of employees in a medium-sized firm is greater than or equal to 100 and less than 300 and the total assets are greater than or equal to 80 million yuan and less than 1.2 million yuan. The number of employees in a large firm is not less than 300 and the total assets are not less than 1.2 million yuan. It must meet the lower limits of the two indicators at the same time, otherwise, they will be reduced to one level. After classification, it can be observed that among the tourism-listed enterprises, the number of large firms is slightly higher than that of small and medium-sized firms. The regression results show that the effect of EID of small and micro firms and medium-sized firms on TAGR is not significant. The effect of EID of large firms on TAGR shows a significant negative correlation at 10% level (Coef. = -0.032).

A comparison of the regression results shows that the effects of environmental information disclosure on enterprise development capabilities are significantly manifested in large firms, while the effects on small and micro firms and medium-sized firms are not obvious. The possible reason is that larger firms focus more attention on building a corporate social image and disclosure of environmental information [83]. At the same time, large enterprises have strong capital. Managers have sufficient financial resources and the ability to develop more efficient environmental protection technologies, implement environmental management practices, and voluntarily disclose more environmental information [33]. Thus, the stakeholders and the public can understand the environmental information and production supply chain of firms more directly and the effect is more obvious.

From the regression results of Models 1-3 in Table 9, it can be seen that although large firms' environmental information disclosure has a negative effect on development capabilities over time when the disclosure system of firm internal environmental information becomes perfect, the negative effect will also be reduced. The level of environmental information disclosure of small and micro and medium-sized firms is not high, and they should strengthen awareness of the independent disclosure of environmental information and pay attention to its effects on enterprise development capabilities.

Heterogeneity of Region

Firms are divided according to the region into eastern, central, and western firms. The regression results show the regression coefficient of EID of eastern firms on TAGR is -0.050, which is significantly negatively correlated at 1% level, hypothesis 1 is verified. The effect of EID of central firms on TAGR has multicollinearity, the model is difficult to accurately estimate, the results are not referential. As a whole, the number of tourism-listed enterprises distributed in the central region is less than the other two types. The regression coefficient of the EID of the western firms to TAGR is -0.041, indicating a significant negative correlation at 5% level.

Table 9 Models 4-6 show that the effect of environmental information disclosure on enterprise development capabilities is significantly different in the three regions. Eastern and western firms show an obvious influence effect, while central firms did not have a significant influence, consistent with the finding reported by Yang et al. [53]. This result may be due to the differences in the degree of economic development and public environmental participation among the three regions. Because of the rapid economic development in the eastern region, the environmental pollution problem is also increasingly serious, and the government has a higher degree of supervision over it. Thus, to improve market competitiveness and establish a good social image, firms attach importance to the pursuit of environmental performance, causing the effects of the environmental information disclosure to be greater. With the backward economic conditions in the western region, to attract more tourists and promote economic growth, tourism enterprises pay more attention to the disclosure of corporate environmental information, actively respond to government policies, and the effects are significantly related. As for firms in the central region, investors and other stakeholders pay more attention to the economic benefits of firms but pay less attention to environmental responsibility. Therefore, the change of environmental information disclosure level cannot have a significant effect on the firm's development capabilities.

Heterogeneity of Nature of Equity

When categorized according to the nature of equity, can be divided into state-owned and non-state-owned firms. The regression results show that the regression coefficient of state-owned firm EID to TAGR is -0.045, which is significantly negatively correlated at 1% level. The model has good explanatory power, and the fitting result is ideal. Compared with non-state-owned firms, EID and TAGR are not relevant. In terms of quantity, the majority of listed tourism enterprises are state-owned enterprises.

According to the regression results in Table 9, Models 7-8 indicate that for tourism-listed enterprises, the effect of environmental information disclosure on

enterprise development capabilities differs significantly among different equity properties. The possible reason is that state-owned enterprises are supported by government departments, compared with non-state-owned firms, which allows state-owned firms to pay more attention to the independent disclosure of environmental information, causing the information disclosure to be more significant.

In summary, after discussing the effects of the different internal characteristics of the enterprise on their relationship, environmental information disclosure is found to have heterogeneity on the effects of enterprise development capabilities. The effects of environmental information disclosure on the development capabilities of tourism listed

Table 9. Heterogeneity test results.

	Firm size			Region			Nature of equity	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Small and micro firms	Medium-sized firms	Large firms	Eastern firms	Central firms	Western firms	State-owned firms	Non-state-owned firms
EID	-0.018 (-0.24)	0.028 (1.03)	-0.032* (-1.95)	-0.050*** (-3.11)	0(omitted)	-0.041** (-3.01)	-0.045*** (-3.52)	-0.022 (-0.59)
SIZE	0.313 (1.25)	1.223*** (3.94)	0.198** (2.43)	0.258*** (4.99)	0.568** (2.97)	-0.039 (-0.65)	0.251*** (3.64)	0.336** (2.45)
FL	-0.007 (-0.65)	0.130 (1.62)	-0.058* (-2.13)	-0.008 (-0.41)	0.009 (1.07)	-0.036 (-1.27)	-0.046*** (-3.36)	0.009 (0.53)
AS	-0.298 (-0.91)	-0.967 (-2.03)	-0.482*** (-2.88)	-0.326 (-1.72)	-0.206 (-0.71)	-0.653** (-2.53)	-0.361*** (-3.11)	-0.273 (-0.44)
TAT	-0.184 (-1.33)	0.614 (1.08)	-0.234* (-1.94)	-0.203** (-2.65)	-0.032 (-0.21)	-0.168 (-1.57)	-0.116 (-1.41)	0.139 (0.24)
CI	0.002 (0.16)	-0.016 (-0.22)	0.046 (1.46)	0.028 (1.22)	-0.089 (-1.25)	0.010 (0.33)	0.029 (0.94)	0.007 (0.25)
CR	0.640 (1.23)	0.616 (1.47)	0.344 (1.66)	0.497* (1.99)	0.475 (1.27)	-0.194 (-0.40)	0.168 (0.76)	0.201 (0.22)
DAR	0.027 (0.17)	0.016 (0.02)	0.803*** (3.51)	0.031 (0.20)	-0.363** (-2.83)	1.003*** (3.82)	0.236 (0.99)	0.028 (0.10)
RAR	0.576 (1.34)	-1.849 (-1.73)	0.165 (0.26)	0.307 (0.48)	0.182 (0.19)	-0.229 (-0.33)	-0.219 (-0.47)	0.096 (0.10)
OC	-0.008 (-1.33)	0.001 (0.23)	-0.000 (-0.27)	-0.001 (-0.62)	-0.001 (-0.57)	-0.003 (-1.45)	-0.001 (-0.73)	-0.003 (-0.42)
NE	0.025 (0.36)	0.340(1.14)	-0.118* (-1.92)	-0.037 (-0.82)	-0.048 (-0.80)	0.082* (2.02)	-0.085* (-2.01)	-0.027 (-0.25)
WCR	-0.034 (-0.17)	0.222 (0.55)	-0.221 (-1.51)	-0.069 (-0.45)	-0.286 (-1.39)	0.696** (2.46)	-0.120 (-0.73)	0.369 (1.10)
Constant	-6.246 (-1.24)	-27.431*** (-4.00)	-3.306** (-2.30)	-5.008*** (-5.09)	-10.622** (-2.76)	0.282 (0.27)	-4.405*** (-3.60)	-6.319** (-2.33)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R^2	0.434	0.758	0.395	0.317	0.565	0.413	0.347	0.359
F-statistic	1.40	2.52	5.27	3.70	1.64	1.93	5.74	1.06
N	94	72	288	273	67	114	359	95

Note: The value in the brackets is T-value; ***, **, * indicate significance at the level of 1%, 5%, and 10%.

enterprises differ because of the differences in firm size, region, and nature of equity.

Conclusions

This study selected tourism-listed enterprises from 1993 to 2019 as the research sample, constructed an environmental information disclosure system, and adopted a two-way fixed effect model to explore the effects of environmental information disclosure on enterprise development capabilities. The research conclusions are as follows. First, environmental information disclosure of tourism-listed enterprises has a significant negative effect on enterprise development capabilities. The future development speed and growth capacity of tourism-listed enterprises will decline as the quality of the environmental information disclosure improves. Second, a time lag can be observed in the effect of environmental information disclosure on the development capabilities of tourism-listed enterprises. Regression was carried out for EID lagging for one and two periods and the results are still stable, showing a significant negative correlation, indicating that this kind of effect has a time lag, and it will be weakened yearly. Third, the effects of environmental information disclosure on the development capabilities of tourism-listed enterprises have heterogeneity. The sample firms are classified according to the three classification methods of firm size, region, and nature of equity. Through the group regression of firm size, it is found that compared to small and medium-sized firms, the environmental information disclosure of large firms has a more significant effect on enterprise development capabilities. The effect of environmental information disclosure on the development capabilities of central firms is found to be not significant through the group regression of regions, while eastern and western firms have a more significant effect. This study verified that more fully standardized environmental information disclosure of state-owned enterprises will bring a more significant effect on development capabilities by grouping regression to nature of equity.

The research shows that at this stage, Chinese tourism-listed enterprises are still facing higher cost pressures when they carry out environmental protection practices. The negative effects of environmental information disclosure on the development capabilities of tourism-listed enterprises will continue for some time in the future. A large amount of early cost investment will lead to a decline in the firm's financial performance and slow down the growth rate of the firm's economy. According to the environmental Kuznitz curve, it can be expected that as time goes on, the cost-effectiveness of firm environmental information disclosure will gradually weaken, and the positive effect on enterprise development capabilities will continue to appear. Thus, the government and firms must cooperate and engage in joint efforts to encourage firms to actively disclose environmental information and continuously increase their development capabilities.

The results have several realistic implications for governments and firms. First, the government should formulate a scientific and proper environmental information disclosure system, standardize the form and content of information disclosure of tourism-listed enterprises according to the different nature of the industry, actively guide enterprises to protect the environment and control pollution, and strengthen environmental protection supervision. Because non-environmentally sensitive firms will face greater environmental governance costs, appropriate environmental protection incentives and punishments will be given to help such firms reduce the negative effects caused by increased costs. Second, firms disclose environmental information in strict accordance with regulations to ensure that stakeholders can truly understand the specific conditions of the firm's production and operation while increasing investment in environmental protection and energy-saving equipment, strengthening environmental governance, and achieving sustainable development of firms. Considering the actual situation of firm size, region, and nature of equity, and by adopting appropriate environmental protection practices, the content and method of environmental information disclosure should be changed appropriately to balance the economic development and environmental protection of firms. This step will solve the problem of the public having difficulty understanding the front-end supply chain of tourism enterprises. Firms should build a green supply chain, improve ecological innovation capabilities, reduce production costs, and gradually change the negative effects of environmental information disclosure.

No universally recognized database or report on environmental information disclosure indicators exists, and thus, a certain degree of subjectivity can be observed in the establishment of the environmental information disclosure system. Future research can carry out a comprehensive and in-depth investigation of enterprise environmental information disclosure using big data software to build more detailed and accurate scoring standards. In addition, many indicators can be used to measure enterprise development capabilities. In this study, total assets growth rate, net profit growth rate, capital accumulation rate, and capital preservation and appreciation rate were selected. In the future, more financial indicators should be used to measure enterprise development capabilities and optimize the existing model to obtain more accurate results and countermeasures.

The bootstrap method is used for the robustness test to ensure robustness of the test results of the mediating effect. Table A2 reports the 95% confidence interval based on percentile and bias-corrected as well as the results. The bootstrap method fitting the path coefficient has a 95% confidence interval and does not contain 0, indicating that the test results of the mediating effect are robust.

Acknowledgments

Conflict of Interest

The authors declare no conflict of interest.

Appendix

Table A1. The basic situation of China's tourism listed enterprises.

Type	Stock code	firm name	Main business area	Time to market	Main revenue models
Hotel and Catering	000033	Shenzhen Kunpeng Holding Co.,Ltd.	Shenzhen	1994-01-03	Hotel
	000428	Huatian Hotel Group Co.,Ltd.	Hunan,Beijing	1996-08-08	Hotel + Real Estate
	000524	Guangzhou Lingnan Group Holdings firm Limited	Shenzhen	1993-11-18	Hotel + Catering
	000721	Xi'an Catering Co., Ltd.	Xi'an	1997-04-30	Catering
	600754	Shanghai Jin Jiang International Hotels Development Co., Ltd.	All over the country	1996-10-11	Hotel + Chain Catering
	601007	Jinling Hotel Corporation, Ltd.	Nanjing	2007-04-06	Hotel
	000613	Hainan Dadonghai Tourism Centre (Holdings) Co.Ltd.	Hainan	1997-01-28	Hotel + Travel Service
	000007	Shenzhen Quanxinhao Co., Ltd.	Shenzhen	1992-04-13	Catering + Property Management
	000609	Beijing Zodi Investment Co., Ltd.	Beijing	1996-10-10	Catering + Real Estate
	002186	China Quanjude (Group) Co. Ltd.	Beijing	2007-11-20	Catering + Merchandise sales
	600640	Besttone Holding Co., Ltd.	Shanghai	1993-04-07	Hotel
	600258	Btg Hotels (Group) Co.,Ltd.	Beijing,Hainan	2000-06-01	Hotel + Travel agency + Scenic spot + Advertisement
	600650	Shanghai Jin Jiang International Industrial Investment Co., Ltd.	Shanghai	1993-06-07	Hotel + Travel Service
Scenic spot	000069	Shenzhen Overseas Chinese Town Co., Ltd.	Shenzhen,Shanghai	1997-09-10	Theme park + Tourism service + Tourism real estate
	000888	Emei Shan Tourism firm Limited	Sichuan	1997-10-21	Scenic area + Hotel
	000978	Guilin Tourism Corporation Limited.	Guilin	2000-05-18	Scenic area + Hotel + Passenger transport
	002033	Lijiang Yulong Tourism Co., Ltd.	Yunnan	2004-08-25	Scenic area + Cableway + Hotel
	002159	Wuhan Sante Cableways Group Co., Ltd.	All over the country	2007-08-17	Scenic area + Cableway + Hotel + Tourist service
	000430	Zhang Jia Jie Tourism Group Co., Ltd.	Zhangjiajie,xiangxi	1996-08-29	Scenic area + Hotel
	600054	Huangshan Tourism Development Co., Ltd.	Anhui	1997-05-06	Scenic area + Cableway + Hotel + Tourist service

Table A1. Continued.

Scenic spot	600593	Dalian Sunasia Tourism Holding Co., Ltd.	Dalian	2002-07-11	Artificial scenic spot
	300144	Songcheng Performance Development Co., Ltd.	Hangzhou	2010-12-09	Scenic spot
	002059	Yunnan Tourism Co., Ltd.	Kunming	2006-08-10	Scenic area + Real estate
	603099	Changbai Mountain Tourism Co., Ltd.	Jilin	2014-08-22	Hot spring leisure + Passenger transportation + Travel service
Scenic spot	603199	Anhui Jiuhuashan Tourism Development Co., Ltd.	Anhui	2015-03-26	Scenic area + Cableway + Hotel + Catering
	000610	Xi'an Catering Co., Ltd.	Xi'an	1996-09-26	Scenic area + Hotel + Real estate
	600749	Tibet Tourism Co., Ltd.	Tibet	1996-10-15	Scenic + Hotel + Passenger transport + Advertising agency
	600706	Xi'an Qujiang Cultural Tourism Co., Ltd.	Xi'an	1996-05-16	Scenic area + Hotel + Catering + Tourism service
	600088	China Television Media, Ltd.	Shanghai	1997-06-16	Artificial scenic spot
	600832	Shanghai Oriental Pearl (Group) Co., Ltd.	Shanghai	1993-03-16	Scenic + Catering + Tourism Service
Comprehensive Service	000802	Beijing Jingxi Culture & Tourism Co., Ltd.	Beijing	1998-01-08	Travel Service + Passenger Transport + Travel Products
	600138	China CYTS Tours Holding Co., Ltd.	All over the country	1997-12-03	Travel agency + Hotel + Scenic spot + Real estate
	002707	UTour Group Co., Ltd.	Beijing	2014-01-23	Passenger transport + Retail
	002558	Giant Network Group Co., Ltd.	Chongqing	2011-03-02	Travel agency + Passenger transport
	300178	Tempus Global Business Service Group Holding Ltd.	Shenzhen	2011-02-15	Passenger transport + Travel service + Commodity purchase and sale
	601888	China Tourism Group Duty Free Corporation Limited	Beijing	2009-10-15	Travel agency + Travel service + Merchandise sales
	000796	Caissa Tosun Development Co., Ltd.	All over the country	1997-07-03	Travel agency + Travel service
	900929	Shanghai Jinjiang International Travel Co., Ltd.	Shanghai	1994-09-28	Travel service + Passenger transport + Travel goods

Table A2. Summary effect test based on debt financing cost under bootstrap.

	Indirect effect			Direct effect		
	B	LLCI	ULCI	B	LLCI	ULCI
Percentile confidence interval	-0.006	-0.016	-0.001	-0.058	-0.096	-0.017
Bias-corrected confidence interval		-0.015	-0.001		-0.099	-0.023

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