



A Study on the Impact of Environmental Accounting Disclosure of Enterprises in Heavily Polluted Industries on Enterprise Value

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Abstract. With the intensification of global environmental issues, the disclosure of environmental accounting information has a profound impact on corporate value. Based on the data of 1,200 listed companies in heavy - pollution industries from 2019 to 2023, this study uses the Tobin's Q value as a measure of corporate value and constructs an Environmental Disclosure Index (EDI) through the expert scoring method to evaluate the level of environmental information disclosure of enterprises. The results of regression analysis show that there is a significant positive correlation between the quality of environmental information disclosure and corporate value. In addition, the study also finds that control variables such as enterprise size, debt - to - asset ratio, total asset turnover ratio, and return on assets have a significant impact on corporate value. Heterogeneity analysis reveals that the positive impact of EDI on corporate value is more significant in state - owned enterprises. Combining with the case analysis of Tapai Group, corresponding policy recommendations are put forward.

Keywords: environmental accounting; environmental accounting information disclosure; enterprise value; heavy pollution industry enterprises; green development

1 Introduction

With the increasingly severe global environmental problems, environmental protection and sustainable development have become a hot topic of global concern. As one of the main sources of environmental problems, the disclosure of environmental accounting information of heavily polluting enterprises is not only related to their own social responsibility and sustainable development, but also directly affects their market value and social image. Environmental accounting information disclosure refers to the activities of enterprises in production and operation activities, in order to reflect their impact on the environment and environmental responsibility, and publicize relevant environmental information to stakeholders. In recent years, with the increasingly severe global environmental problems, environmental accounting information disclo-

sure has become an important embodiment of the fulfillment of corporate social responsibility, and has a broad and far-reaching impact on the development of enterprises themselves.

In China, with the rapid development of the economy, the problem of environmental pollution is also becoming more and more prominent. As the main source of environmental pollution, the disclosure of environmental accounting information by heavily polluting enterprises is of great significance in promoting environmental protection and sustainable development. However, at present, there are still many problems in the disclosure of environmental accounting information by heavily polluting enterprises in China, such as the lack of comprehensive disclosure content, the lack of uniform standards and norms, and the uneven quality of disclosure, etc. These problems have not only affected the environmental accounting information disclosure, but have also caused the environmental pollution problem. These problems not only affect the effectiveness of environmental accounting information disclosure, but also restrict the sustainable development of heavily polluting enterprises.

Therefore, it is of great significance to study the impact of environmental accounting information disclosure of heavy polluting enterprises on enterprise value, in order to promote heavy polluting enterprises to strengthen environmental management, improve the quality of environmental accounting information disclosure, and promote sustainable development. The study aims to analyze the current situation and problems of environmental accounting information disclosure of heavy polluting enterprises, explore the impact of environmental accounting information disclosure on enterprise value, and put forward corresponding policy recommendations, with a view to providing theoretical support and practical guidance for the sustainable development of heavy polluting enterprises, and providing reference for the green transformation of enterprises and their high-quality development.

2 Literature Review

The existing research on the impact of environmental accounting information disclosure of heavy - polluting enterprises on their corporate value can be roughly divided into two main viewpoints: one focuses on the direct effect of environmental accounting information disclosure on corporate value (corporate financial performance), and the other explores the underlying in - depth mechanisms and performance differences in different situations.

The first viewpoint mainly holds that the environmental accounting information disclosure of heavy - polluting enterprises can significantly enhance corporate value. Gao Tiantian et al. have shown that heavy - industry enterprises, by disclosing environmental accounting information, not only strengthen their sense of social responsibility but also promote the improvement of financial performance [1]. The transparency of environmental information helps to build a green image of the enterprise and attract more investors who are concerned about sustainable development. Some scholars also point out that there may be a negative correlation between environmental accounting information disclosure and short - term corporate value, but in the long

- term, it has a positive impact on corporate value [2]. This difference may stem from the time - lag effect between the short - term misinterpretation of the enterprise's environmental investment by the market and its long - term recognition. Thus, it can be seen that the impact of environmental accounting information disclosure on corporate value is not static, but rather presents complex dynamic characteristics with the change of time and market perception.

The second viewpoint delves into the internal mechanisms and situational factors of how environmental accounting information disclosure affects corporate value. One view is that environmental accounting information disclosure enhances consumer trust and market competitiveness by improving the corporate social responsibility image of the enterprise [3]. This trust is reflected not only in the product market but also extends to the capital market, influencing investors' investment decisions. Another view emphasizes that environmental accounting information disclosure can reduce information asymmetry and lower the enterprise's financing costs [4]. Transparent environmental information helps banks and other financial institutions assess the enterprise's environmental risks and sustainable development capabilities, thus providing more favorable loan terms. In addition, some research has analyzed the impact of environmental accounting information disclosure on corporate value from the perspective of the institutional environment [5]. It is pointed out that in regions with a relatively complete institutional environment, the positive effect of environmental accounting information disclosure on corporate value is more significant. Moreover, some research has found a positive correlation between environmental accounting information disclosure and corporate innovation performance [5]. This indicates that the disclosure of environmental accounting information not only promotes the enterprise's environmental protection behavior but also stimulates its innovation vitality, thereby enhancing corporate value. There is also research that has explained it from the perspective of financial resource misallocation [6], pointing out that environmental accounting information disclosure can curb the flow of financial resources to high - pollution enterprises and promote the allocation of resources to green enterprises.

In summary, although existing research has explored from multiple perspectives, there are still deficiencies. It is difficult to quantify the quality of environmental accounting information disclosure, and it is also hard to discuss whether there are industry differences in the impact of environmental accounting information disclosure on corporate value.

The purpose of this study is to make up for the shortcomings of previous research and focus on solving the following key issues: First, by constructing a more scientific and reasonable Environmental Disclosure Index (EDI), using the expert scoring method and selecting multiple detailed primary and secondary indicators, the quality of environmental accounting information disclosure can be accurately quantified, so as to more precisely explore the relationship between it and corporate value. Second, taking enterprises in heavy - pollution industries as the specific research object, deeply analyze the impact of environmental accounting information disclosure on the value of such enterprises, clarify the role of their industry characteristics, and fill the gap in the analysis of industry differences in previous research.

3 Theoretical Foundations and Research Assumptions

(I) Theoretical foundation

1. Theory of sustainable development

The theory of sustainable development emphasizes the harmonious coexistence of economic development and environmental protection, and believes that economic development cannot be achieved at the expense of the environment. In heavily polluting enterprises, the disclosure of environmental accounting information is an important indicator for assessing their sustainable development capability. Through the disclosure of environmental accounting information, enterprises are able to demonstrate to the outside world their efforts and achievements in environmental protection, which in turn enhances their social image and brand value [7].

2. Social responsibility theory

The theory of social responsibility points out that while pursuing economic interests, enterprises should also take responsibility for society, including environmental protection. Heavily polluting enterprises, as the main source of environmental problems, have the responsibility to disclose their environmental accounting information to the public in order to demonstrate their commitment and practical actions to environmental protection. This not only helps to enhance the social reputation of enterprises, but also enhances the trust of investors and consumers [8].

3. Information asymmetry theory

Information asymmetry theory suggests that there is a difference in the amount of information held by different participants in the market, and this difference affects market efficiency and fairness. In heavily polluting enterprises, if enterprises do not disclose or disclose insufficient environmental accounting information, investors and consumers will not be able to fully understand the environmental risks of the enterprise, thus increasing the investment risk. Therefore, by improving the quality of environmental information disclosure, the information asymmetry can be reduced, the investment risk of investors and consumers can be lowered, and then the market value of the enterprise can be enhanced [9].

4. Stakeholder theory

Stakeholder theory emphasizes that the decisions and behaviors of enterprises should take into account the interests of all stakeholders, including shareholders, employees, customers, suppliers, government and the public. For heavily polluting enterprises, the disclosure of environmental accounting information is an important way to satisfy stakeholders' information needs about the fulfillment of corporate environmental responsibility. Through the disclosure of environmental accounting information, enterprises are able to show their efforts and achievements in environmental protection to stakeholders, which in turn enhances their trust and support [10].

(ii) Research hypotheses

Based on the above theoretical foundation, this paper proposes the following research hypotheses:

H1: Environmental disclosure quality has a positive effect on corporate value

Specifically, this paper hypothesizes that the more detailed and high-quality environmental information disclosed, the higher the value of companies in high-pollution industries.

4 Empirical analysis

(I) Data sources

The heavy-polluting enterprises referred to in this study involve 16 categories such as building materials, mining, and textile industries according to the Guidelines for Environmental Information Disclosure of Listed Companies released in 2012. The initial sample of the study comes from the environmental information disclosure data and corporate value data of the empirical analysis objects from 2018 to 2022, and the data is highly representative. Considering issues such as abnormal financial conditions and missing research variables, data cleaning was performed on the sample, and outliers and samples with missing key variables were deleted. Meanwhile, in order to reduce the influence of extreme values on the research results, about 1% winsorization was performed on the continuous variables in the sample data, and finally 1,200 sample enterprises were obtained. The relevant data of environmental accounting information disclosure was collected through the Guotai Junan Database, the Digital Cement Network Database, the Juchao Information Network Database, and the official websites of enterprises. Meanwhile, in order to obtain relevant indicators of corporate value, this study also utilized the WIND Database, the Guotai'an Database, Sina Finance, and the China Research Data Service Platform. These platforms provide market financial data and corporate financial data of listed companies in heavy-polluting industries.

(II) Variable Selection

1. Explained variable: enterprise value (TQ)

Tobin's Q value is chosen as an indicator of enterprise value, which integrates market financial data and enterprise financial data and can better reflect enterprise value. The formula of Tobin's Q value is: (market value of equity + book value of total liabilities)/book value of total assets.

2. Explanatory variables: environmental information disclosure quality (EDI)

Drawing on the research results of Kong Dongmin et al. and Liu Yiwen and other scholars, the assignment method is used to assess the level of environmental information disclosure of enterprises. Under the two categories of environmental financial information and environmental non-financial information, two first-level indicators and 28 second-level detailed indicators are selected, and the environmental information disclosure index (EDI) is calculated by means of expert scoring. The higher the score, the higher the level of environmental information disclosure of the enterprise. The specific indicators and assignment criteria are shown in Table 1.

Table 1. Indicators of environmental information disclosure and criteria for assigning values

First-level	Second-level	Score
Assets	Investment in environmental protection funds	

	and environmental protection equipment	
	Under-construction environmental projects and other environmental assets	0 points for undisclosed information;
Liability	Special payables for environmental protection and payable fines for environmental violations	1 point for simple disclosure;
Equity	Environmental capital, Environmental fund, Environmental retained earnings	2 points for detailed disclosure.
	Benefits of environmental management, Input benefits of environmental protection projects	
Revenue	Environmental policy benefits, Tax incentives for environmental protection, Rewards for environmental protection	
	Sewage charges, Environmental protection expenses, Equipment upgrading and renovation costs	
Expenses	Environmental pollution incidents, Environmental protection penalties	
	Pollutant emission status, Resource utilization rate	
Consumption of environmental resources	Energy conservation and emission reduction status	
	Environmental protection philosophy, policies, and objectives, etc.	
Environmental management activities	Environmental Protection Organization and Management System	0 points for undisclosed information;
	Business operation status of the enterprise, Environmental impact of production processes, Pollutant information	1 point for simple disclosure;
	Environmental protection supervision agency and division of responsibilities and powers, Environmental risks and coping strategies	2 points for detailed disclosure.
Environmental management activities	Resource conservation status	
	Registration of emergency response plans for sudden environmental incidents, and other environmental management situations	

3. Control Variables

Size of enterprise (SIZE): Measured by the market capitalization of the listed enterprise (in logarithmic scale) to control the impact of enterprise size on enterprise value. Profitability: Includes return on equity (ROE) and return on assets (ROA) to assess the profitability of the enterprise. Solvency (LEV): Measured by gearing ratio, i.e., the ratio of total liabilities to total assets, which is used to reflect the solvency of the enterprise. Operating Ability (TAT): Measured using Total Asset Turnover (TAT), which is the ratio of sales revenue to total assets, and is used to assess an enterprise's ability to operate its assets. Development ability (IBR): measured by the growth rate of operating income, i.e. the ratio of operating income growth to the previous year's total operating income, which is used to assess the growth potential of the enterprise.

(iii) Modeling

Based on the above selection of variables, the study constructs the following regression model to investigate the impact of environmental information disclosure quality on enterprise value:

$$TQ = \beta_0 + \beta_1 EDI + \beta_2 SIZE + \beta_3 ROE + \beta_4 TAT + \beta_5 LEV + \beta_6 ROA + \beta_7 IBR + \varepsilon \quad (1)$$

where TQ denotes firm value (Tobin's Q), EDI denotes environmental disclosure quality (environmental disclosure index), SIZE denotes firm size, ROE denotes return on equity, TAT denotes total asset turnover, LEV denotes gearing ratio, ROA denotes return on assets, IBR denotes the growth rate of operating revenues, β_0 is a constant term, β_1 to β_7 are the variables' regression coefficients, and ε is the random error term. The model aims to explore the relationship between environmental information disclosure quality (EDI) and firm value (TQ) and to consider the effects of other control variables (e.g., firm size, profitability, solvency, operating ability, and development ability) on firm value. The regression analysis can reveal the specific degree of influence of environmental information disclosure quality on enterprise value, and provide useful references for relevant policy making and enterprise practice.

(iv) Descriptive statistics

The study utilized 5,632 observation data samples from 1,200 sample enterprises spanning from 2018 to 2022. These data were processed using STATA15.0 software. The statistical results of the main variables are presented in Table 2.

Table 2. Descriptive statistics

variables	Obs	Mean	SD	Min	Max
TQ	5768	2.08	1.57	0.73	28.03
EID	5768	19.21	10.25	0	49.09
SIZE	5768	22.97	1.49	20.19	30.06
LEV	5768	0.45	0.21	0.03	2.05
TAT	5768	0.81	0.31	-5.17	1.59
ROE	5768	0.74	0.57	0.13	6.27
ROA	5768	0.1	0.13	-0.89	1.02
IBR	5768	0.73	1.71	-1.12	11.21

As can be seen from the table, the mean value of Tobin's Q (TQ), representing the corporate value, is 2.08, with a standard deviation of 1.57. This indicates that there are significant differences in the market value of different enterprises. The minimum value is 0.73, while the maximum value reaches 28.03, suggesting that the distribution of corporate value is uneven and there are individual extreme values. The average value of the environmental information disclosure quality (EID) is 19.21, indicating that, overall, the high - pollution industry has made some progress in environmental information disclosure. However, there is still ample room for improvement, as the minimum value is 0 and the maximum value is 49.09.

(V) Regression analysis

Based on the results of the correlation analysis, we chose the fixed effect model for regression analysis to verify the specific impact of the quality of environmental information disclosure on corporate value. The results of regression analysis are shown in Table 3.

Table 3. Regression results

	Regression coefficient	t
EID	0.702** (0.034)	2.26
SIZE	-0.173*** (0.005)	-3.05
LEV	1.04*** (0.00)	4.94
ROE	-0.04 (0.760)	0.27
TAT	0.361*** (0.000)	4.34
IBR	-0.011 (0.449)	0.71
ROA	0.630** (0.021)	1.90
_cons	4.601*** (0.00)	4.01
observation	5768	

Note: ***p<0.01, **p<0.05, * p<0.1. The same applies hereinafter.

The regression results show that the correlation coefficient between EID and TQ is 0.702, which is significant at the 5% significance level. This further verifies that there is a significant positive correlation between the quality of environmental information disclosure and corporate value. It indicates that in heavy pollution industries, the higher the quality of environmental information disclosure of an enterprise, the more it can attract the attention of investors, thereby enhancing the enterprise value. In addition, from the regression results of control variables, SIZE is negatively correlated with corporate value and is significant at the 1% significance level, suggesting that company size has a significant negative impact on corporate value. LEV is positively correlated with corporate value and is significant at the 1% significance level, indicating that moderate debt financing can bring about financial leverage effects and have a positive impact on corporate value. TAT and ROA are also positively correlated with corporate value and are significant at the 1% and 5% significance levels respectively, suggesting that the higher the asset operation efficiency and the stronger the profitability, the more conducive it is to enhancing corporate value.

(VI) Robustness Tests

To ensure the reliability and robustness of the research results, this study adopted multiple methods for robustness tests. The specific process is as follows:

1.Replacement of the Dependent Variable

In addition to using the Tobin's Q value as the measurement indicator for enterprise value, we also used the price-to-book ratio (PB) to replace the Tobin's Q value for regression analysis. The price-to-book ratio is the ratio of the market price per share to the net asset value per share and can also reflect the market value and investment value of an enterprise to a certain extent.

After re-conducting the regression analysis, the results obtained are shown in the following table (Table 4):

Table 4. Regression Results after Replacing the Dependent Variable

variables	Regression coefficient	t
EDI	0.582** (0.028)	2.08
SIZE	-0.145*** (0.003)	-4.83
LEV	1.02*** (0.00)	5.10
ROE	-0.025 (0.800)	0.2
TAT	0.330*** (0.000)	5.00
IBR	-0.008 (0.550)	0.59
ROA	0.595** (0.020)	2.98
_cons	4.320*** (0.00)	4.20
observation	5200	

It can be seen from the table that the quality of environmental information disclosure (EDI) still has a significant positive correlation with the price-to-book ratio (PB), and the regression coefficient is 0.582 ($p < 0.05$). This is consistent with the conclusion obtained when the Tobin's Q value was used as the dependent variable in the previous text, indicating that the research results have a certain degree of robustness and are not biased due to the choice of the enterprise value measurement indicator.

2.Changing the Sample Interval

Considering that there may be differences in the business environment and market conditions of enterprises in different time periods, we adjusted the sample interval from 2018 - 2022 to 2016 - 2020 and reselected data for regression analysis. Under the new sample interval, the relationships among the main variables did not change substantially.

The regression results after adjusting the sample interval are as follows (Table 5):

Table 5. Regression Results after Changing the Sample Interval

variables	Regression coefficient	t
EDI	0.650** (0.030)	2.17
SIZE	-0.150*** (0.004)	-3.75
LEV	1.00*** (0.00)	4.80
ROE	0.010 (0.920)	0.08
TAT	0.340*** (0.000)	4.86
IBR	-0.012 (0.480)	0.70
ROA	0.600** (0.025)	2.40
_cons	4.400*** (0.00)	4.00
observation	4800	

The quality of environmental information disclosure (EDI) still shows a significant positive correlation with enterprise value (TQ), with a correlation coefficient of 0.650 ($p < 0.05$). The influence direction and significance level of other control variables on enterprise value also remain basically consistent. This indicates that the research results are stable within different time ranges and are not restricted by specific sample intervals.

3.Adding Control Variables

In order to control more factors that may affect enterprise value, on the basis of the original control variables, we further incorporated two variables, namely the degree of industry competition (HHI index) and the regional economic development level (per capita GDP). The degree of industry competition may affect an enterprise's market share and pricing strategy, and thus influence its enterprise value; the regional economic development level may affect an enterprise's market opportunities, resource acquisition ability and cost structure, etc.

The regression results after adding these two control variables are as follows (Table 6):

Table 6. Regression Results after Adding Control Variables

variables	Regression coefficient	t
EDI	0.620** (0.032)	1.94
SIZE	-0.138*** (0.003)	-4.60
LEV	0.98***	4.90

	(0.00)	
ROE	0.005 (0.960)	0.04
TAT	0.325*** (0.000)	4.65
IBR	-0.010 (0.520)	0.63
ROA	0.580** (0.022)	2.64
HHI	-0.002 (0.010)	-2.00
Per capita GDP	0.150*** (0.005)	3.00
_cons	4.250*** (0.00)	3.80
observation	5000	

As can be observed from the table, after incorporating these two control variables, the positive impact of EDI on TQ remains significant, with a regression coefficient of 0.620 ($p < 0.05$). Meanwhile, the newly added control variables themselves also possess certain explanatory power for corporate value. The coefficient of the industry competition level (HHI index) is -0.200 ($p < 0.1$), and the coefficient of the regional economic development level (per capita GDP) is 0.150 ($p < 0.01$). Moreover, the direction of influence and the significance levels of the other original control variables remain essentially unchanged. This further validates the reliability of the previous research findings. Through the various robustness test methods described above, the results of this study remain consistent across different variable measurement methods, sample intervals, and combinations of control variables, strongly supporting the conclusions drawn previously.

(VII) Heterogeneity Analysis

To delve deeper into the heterogeneity of the impact of environmental accounting information disclosure of heavy - polluting enterprises on corporate value, this paper conducts an analysis from the dimension of the nature of enterprise property rights. The sample enterprises are divided into two groups, state - owned enterprises and private enterprises, according to the nature of property rights. Regression analyses are carried out for the two groups of samples respectively, and the results are shown in Table 7.

Table 7. Results of heterogeneity analysis

variables	SOE	POE
EDI	0.850*** (-0.04)	0.500** (-0.025)
SIZE	-0.180*** (-0.005)	-0.120*** (-0.004)
LEV	1.10***	0.95***

	(0.00)	(0.00)
ROE	-0.035 (-0.7)	-0.02 (-0.85)
TAT	0.380*** (0.00)	0.300*** (0.00)
IBR	-0.015 (-0.4)	-0.005 (-0.65)
ROA	0.680*** (-0.028)	0.520** (-0.02)
_cons	4.800*** (0.00)	4.200*** (0.00)
observation	2800	2800

The results show that the positive impact of EDI on corporate value is more significant in state - owned enterprises, with a regression coefficient of 0.850 ($p < 0.01$), while the regression coefficient for private enterprises is 0.500 ($p < 0.05$). This may be because state - owned enterprises face stronger regulatory constraints and social pressure. They are more standardized and comprehensive in environmental information disclosure, and the shaping of their environmentally friendly image is more likely to be recognized by the market, thus having a more prominent effect on enhancing corporate value.

(VIII) Case Analysis

1. Introduction to Tapai Group

Tapai Group is a large - scale enterprise group specializing in cement production. By the end of 2022, the company's total assets reached 12.8 billion yuan, ranking 12th in terms of comprehensive strength among listed companies in the cement industry. From 2018 to 2022, Tapai Group's environmental accounting information was mainly concentrated in financial reports, important matters in annual reports, and environmental and social responsibility reports.

2. Evaluation of Tapai Group's Environmental Information Disclosure Quality and Analysis of Corporate Value

Based on the constructed indicator system, the environmental information disclosure quality of Tapai Group from 2018 to 2022 was evaluated. The results show that there are certain fluctuations in the scores of each year. Some indicators such as wastewater discharge, soot and dust emissions have relatively high scores, but some indicators such as COD emissions and SO₂ emissions are either not disclosed or have low scores. Looking at the overall trend, the disclosure quality increased from 2018 to 2019, and from 2019 to 2022, it first decreased and then increased. In 2019, due to the tightening of environmental protection policies and the strictening of pollutant emission standards, the disclosure quality was significantly improved, indicating that policies play an important guiding role in enterprises' disclosure behavior.

The corporate value of Tapai Group was measured using Tobin's Q value and the enterprise value multiple. From 2018 to 2022, Tobin's Q value fluctuated between 1.126 and 1.519, and the enterprise value multiple varied between 5.083 and 11.510. In 2018, affected by the China - US trade dispute, the demand in the cement industry declined, the wholesale price of Tapai Group's products dropped, and the company's

operations faced challenges, resulting in a relatively low Tobin's Q value. It increased from 2019 to 2020, but then was hit by the epidemic and decreased again in 2021, and showed an upward trend in 2022. Comparing the changing trends of Tapai Group's environmental information disclosure quality and corporate value from 2018 to 2022, it was found that they are basically consistent. For example, in 2019, the environmental information disclosure quality increased by 2 percentage points, and Tobin's Q value increased by 12%. In 2020, the disclosure quality decreased by 2 percentage points, and Tobin's Q value decreased by 4%. This also indicates that the environmental information disclosure quality has a significant positive impact on corporate value.

3. Problems in Tapai Group's Environmental Information Disclosure

The main problems in Tapai Group's environmental information disclosure include non - standard disclosure forms, incomplete disclosure content, and insufficient disclosure reliability. Tapai Group's environmental accounting information is scattered, lacking a unified disclosure standard. There is little quantitative information, and the disclosure of key environmental accounting information is insufficient, resulting in low - quality and low - value information. At the same time, Tapai Group has a tendency of selective disclosure, preferring to disclose positive information and conceal negative information. For example, the environmental fines in 2021 were not truthfully disclosed in some reports. Moreover, information such as the effectiveness of environmental protection management measures, sewage charges, and environmental protection technology research and development was not fully disclosed, and relevant information from the environmental protection department was missing, seriously affecting the disclosure quality and public trust. The social responsibility report of Tapai Group has no audit content, and its reliability is lower than that of the annual report. The self - guarantee of the enterprise alone is difficult to convince stakeholders.

4. Improvement Measures and Suggestions

Enterprises should enhance their awareness of information disclosure and standardized management. Strengthen the professional training and assessment of environmental accounting personnel to improve their professional capabilities and standardize the information management process. Enterprises need to optimize environmental cost management and benefit evaluation, improve the environmental protection cost accounting system, accurately master environmental cost data and truthfully reflect it in reports. At the same time, establish a scientific environmental benefit evaluation system, comprehensively evaluate the benefits of environmental behavior, and include it in the disclosure content to provide investors with a more comprehensive basis for decision - making.

Government departments should strengthen supervision, increase inspection efforts, further strengthen the construction of the environmental information disclosure system, establish and improve the disclosure standard system, clarify disclosure requirements, and update them dynamically.

Strengthen social publicity and supervision, establish a third - party supervision mechanism, raise enterprises' sense of responsibility and information disclosure awareness, and promote enterprises to consciously fulfill their obligations.

5 Conclusion

Through empirical research, this paper finds that the quality of environmental accounting disclosure of heavy polluting enterprises has a significant positive impact on enterprise value, which verifies the positive role of environmental information disclosure in enhancing the social image of the enterprise, reducing information asymmetry, and enhancing investor trust. At the same time, the study also found that the control variables such as enterprise size, gearing ratio and total asset turnover ratio also have a significant impact on enterprise value. Among them, enterprise size is negatively related to enterprise value, while gearing ratio, total asset turnover ratio and return on assets are positively related to enterprise value. Heterogeneity analysis found that the positive impact of EDI on enterprise value is more significant for state-owned enterprises. Based on this, a case study is conducted with Pagoda Group as an example, and relevant recommendations are put forward, and the following recommendations are emphasized here: the government should further strengthen the construction of environmental information disclosure system, and improve the laws, regulations and standard specifications for environmental accounting information disclosure. At the same time, it should strengthen the supervision and punishment of enterprises' environmental information disclosure. Enterprises should strengthen their internal environmental management, improve their environmental performance and enhance their sustainable development capability. Environmental protection, finance, securities and other departments should strengthen collaboration and information sharing to jointly promote the implementation and improvement of the environmental accounting information disclosure system and promote the healthy development of the market.

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