

A Comparative Study of Environmental Accounting Information Disclosure between China and Developed Countries

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Abstract. Natural resources and ecological environment are the basis for human survival. With the increasing severity of the contradiction between economic development and environmental protection, the public is paying more and more attention to environmental information. From the perspective of disclosure regulation and disclosure mode, this paper compares the differences in environmental accounting information disclosure between China and four developed countries: the United States, Britain, Japan, and Canada, and then puts forward some suggestions for improving the environmental accounting information disclosure system in China based on the comparison.

1. Introduction

With the development of the economy, the contradiction between human society and the natural environment has become increasingly prominent. As the main participants in economic activities, enterprises should assume the primary responsibility in promoting sustainable development. The sustainable development of the economy is inseparable from the behavior of enterprises. The environmental protection activities and environmental information disclosure behaviors of enterprises play a vital role in creating a transparent and healthy sustainable development environment. This paper selects four countries with relatively sound environmental accounting information disclosure systems, including the United States, Britain, Japan, and Canada, and then conducts a comparative analysis of environmental accounting information disclosure system in China and the other countries from four aspects: legal regulations, accounting standards, disclosure content and disclosure forms. It is hoped that this research can be useful for building a sound environmental accounting information disclosure system in China.

2. The environmental accounting information disclosure situation in developed countries

2.1. Legal regulations

In the 1950s, the London smoke incident directly prompted the introduction of the “Clean Air Acts”. Since then, the government has promulgated several environmental laws. Among the several bills most relevant to environmental information disclosure is an environmental protection law introduced in 1990. The bill stipulates that companies must provide information related to environmental objectives, environmental protection measures, and environmental performance in financial reports. The behaviour of environmental information disclosure becomes a legal responsibility of the



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enterprise.

The United States, Japan and Canada started environmental legislation a little later, but the laws also work well. In the US, the bills require companies to disclose data on pollution emissions, and clarify that companies should be responsible for environmental pollution caused by their own activities. What's the most important is that the government not only requires companies to take responsibility for current environmental problems, but also to take responsibility for pollution caused in the past, which triggered the development of environmental liabilities[1]. Japanese law specifies the respective environmental responsibilities of the country, locality, company, and individuals, and it also gives local public groups some power to formulate local environmental regulations. In Canada, environmental law states that the government has the right to cooperate with any business or the public to provide information about environmental pollution.

2.2. Accounting standards

A significant feature of the accounting system's requirements for environmental accounting information disclosure is the combination of mandatory disclosure and voluntary disclosure. The United States has done relatively well in mandatory disclosure. The SEC required listed companies to disclose environmental accounting information in their 10-K financial statements as early as 1973. In addition, the agency issued "Staff Accounting Bulletin No. 92" in 1993, requiring companies to separately disclose information about environmental liabilities, environmental costs, and environmental compensation.

The accounting standards in the other three countries are mainly to encourage companies to voluntarily disclose environmental information, with relatively few mandatory measures. The authorities have set up some guidelines to help companies know how to disclose environmental information to the public, which makes the environmental information more standardized and valuable. For example, the "Environmental Accounting Guidelines" and "Environmental Report Guidelines" in Japan have greatly helped companies to disclose environmental information in a normative way. In addition to issuing guidelines, there are also national competitions and awards to encourage companies to disclose high-quality environmental information, which is what the UK does. The CICA of Canada put forward another meaningful viewpoint, which advocates that when providing environmental information, companies should choose different disclosure modes based on the differences in information needs of different stakeholders, making the environmental reporting more targeted[2].

2.3. Disclosure content

This part is about what kind of environmental information should companies disclose to us. The type of information can be divided into qualitative and quantitative parts. Generally, we think that the information with data is more valuable, because companies cannot create it randomly. In order to ensure the environmental information quality, the four developed countries attach great importance to quantitative information. Companies in the United States deals with environmental issues mainly from the perspective of contingent liabilities, so they need to explain the impact of uncertain environmental issues on their future activities. In the UK, the enterprises can voluntarily disclose environmental accounting information in accordance with guidelines issued by the government, and the quantitative financial information is mainly related to environmental costs and environmental liabilities. Japan's environmental accounting information classification is more detailed, including the two major parts of environmental costs and environmental benefits, which are subdivided into other small categories[3]. Canada has special audit requirements for environmental information, so the environmental information there is of high quality[4].

2.4. Disclosure forms

This part is about where companies choose to disclose environmental accounting information. There are many ways for companies to tell us something about their ideas or behaviors relevant to the ecological environment, such as financial reports, company websites, environmental reports, etc.

Among them, financial reports are the most widely used way, and environmental reports are the most professional way. Companies in the US usually disclose environmental data in their financial reports because environmental liabilities and environmental costs are closely related to their financial statements. Besides financial reports, the companies also disclose environmental accounting information through other methods, such as press conference and internet media[5]. The information disclosure methods for companies in the UK and Canadian are similar to those in the US, with financial reporting as the main channel and other methods as supplements. The practices of Japanese companies are different from those in the previous three countries, although the government has not forced companies to write environmental reports, however, with the promotion of a good institutional environment and incentive measures, the proportion of Japanese companies that prepare environmental reports is very high.

3. The environmental accounting information disclosure situation in China

3.1. Disclosure regulations

The promulgation of “Environmental Protection Law (Trial)” at the end of the 1970s marked the beginning of the construction of China's environmental legal system. Since then, the government has issued a series of environmental laws and regulations, which have been applied to the governance of water, air, ocean, minerals, noise, and waste. When it comes to environmental information disclosure, most of these laws reflect an administrative perspective, requiring the polluting companies to report environmental information to the environmental authorities. For enterprises that exceed the emissions standards, the information disclosure requirements are more stringent.

Regarding the accounting standards, the agencies that formulate environmental information disclosure rules include the Ministry of Environmental Protection, the Ministry of Finance, the Securities Regulatory Commission and the Stock Exchange. The Ministry of Environmental Protection has issued a lot of regulations to restrict corporate environmental information disclosure. There are both regulations about the mode and content of information disclosure, as well as special regulations for heavily polluting enterprises, and regulations relate to the assessment of corporate environmental behavior. Compared with the Ministry of Environmental Protection, the regulations of the Securities Regulatory Commission are relatively simple. They mainly require companies to provide necessary environmental accounting information in documents such as prospectus and legal opinion when publicly issuing securities. The stock exchange also issued some documents to regulate the environmental information disclosure of enterprises, such as the “Guidelines for Environmental Information Disclosure of Listed Companies”. The Ministry of Finance stipulates that enterprises should separately list “emissions fees” and “greening fees” in the notes to the financial statements.

3.2. Disclosure modes

In order to understand the environmental accounting information disclosure mode of Chinese enterprises accurately, this paper uses the cross-section data of listed companies in the Shanghai A-share heavily polluting industries in 2017 as a sample. After excluding ST and *ST company data, data with outliers, and data of company that just listed in 2017, this paper obtained valid samples of a total of 330 companies in 16 heavily polluting industries. The relevant data comes from the annual financial reports, social responsibility reports, sustainable development reports, environmental reports, and environmental, social and governance reports of these 330 companies, all of which were obtained from the Shanghai Stock Exchange website and the company's official website.

In addition to media coverage, social networking sites and other scattered methods, companies mainly disclose environmental accounting information through the following five reports, namely annual financial reports, social responsibility reports, sustainable development reports, environmental reports and environmental, social and regulatory reports. The disclosure ratio of these five reports is shown in Table 1. It can be seen that in addition to financial reports, companies mainly disclose environmental accounting information through social responsibility reports. It is noteworthy that

although environmental reports are the most professional way to disclose environmental information, the current penetration proportion is still low.

Table1. Form of environmental accounting information disclosure.

	financial report	social responsibility report	sustainable development report	environmental report	environmental, social and governance report
Number of companies	322	133	6	9	5
Proportion of companies	97.58%	40.30%	1.82%	2.73%	1.52%

The environmental information disclosure content of the sample companies is shown in Table 2. As can be seen from the data in the table, the companies have a strong subjectivity in the choice of disclosure items, and the quality of environmental information disclosure is uneven. The disclosure proportion of qualitative information is generally higher than quantitative information, and the disclosure proportion of favorable information such as environmental protection honors and environmental protection awards is also much higher than negative information such as environmental fines and environmental violations.

Table2. Content of environmental accounting information disclosure.

Content classifications			Number of companies	Proportion of companies
Monetary information	Environmental asset	Environmental facilities	139	42.12%
		Emission rights&mining rights	102	30.91%
	Environmental liability	Environmental governance deposit	42	12.73%
		Contingent liabilities	37	11.21%
	Environmental cost	Total environmental expenditure	128	38.79%
		Emission fees&greening fees	139	42.12%
		Resource tax	97	29.39%
		Environmental fines	10	3.03%
	Environmental benefit	Environmental rewards and subsidies	236	71.52%
		Tax incentives	52	15.76%
Non-monetary information	Quantitative information	Resource consumption&pollution discharge	170	51.52%
		Energy conservation	89	26.97%
	Qualitative information	Environmental concerns	312	94.55%
		Environmental risks	147	44.55%
		Environmental emergency plan	161	48.79%
		Environmental protection agency and management system	168	50.91%
		Environmental technology and facilities	249	75.45%
		Environmental protection publicity and training	75	22.73%
		Environmental violations	16	4.85%
		Environmental certification and honor	140	42.42%

4. Differences comparison and improvement measures

Through the above analysis, it can be seen that although the disclosure of environmental accounting information in China has some merits, for example, almost all sample companies have expressed environmental concerns, and some companies have written environmental reports, it still has a certain gap compared with developed countries. First of all, legal regulations and accounting standards are not yet complete in China, and the disclosure requirements for environmental accounting information are not systematic. Secondly, the disclosure content lacks completeness and accuracy. Thirdly, there are too few companies using environmental reports. Fourthly, most environmental accounting information has not been audited by third-party agencies.

In order to improve the status of environmental information disclosure in China and urge enterprises to provide high-quality environmental information, there are some suggestions. Firstly, it is necessary to improve laws, regulations and accounting standards, and establish a disclosure system that combines voluntary disclosure and mandatory disclosure. Secondly, it is important to promote the environmental audit to improve the reliability of environmental information. Last but not least, the public should be encouraged to pay attention to environmental protection work and environmental information.

5. Conclusion

Environmental information matters a lot. The government uses environmental information to make decisions, the public uses environmental information to care about the earth's ecological environment, and companies use it to shape an eco-friendly image. Knowing the source and content of environmental information, especially the environmental accounting information provided by the company, is helpful to environmental protection. Through a comparative analysis method, this article compares the characteristics of environmental accounting information disclosure between the four developed countries and China. The study concludes that there are certain deficiencies in the quality of environmental accounting information in China, such as insufficient provision of quantitative information, and the use of environmental reports inferior, and proposed some improvement measures.

References

- [1] C.F. Li. (2013) Research on Regulation of Environmental Accounting Information Disclosure. Lixin Accounting Press, Shanghai.
- [2] H.J. Xu, J.Y. Wu. (2012) Research and enlightenment of environmental accounting information disclosure in China and the West. Accounting Communication, 07:130-132.
- [3] H.M. Lai. (2016) Comparison and reference of environmental accounting information disclosure in China and Japan based on environmental reports—Take Toshiba group and Haier group as examples. Accounting Monthly, 07:78-81.
- [4] J. Chen, Q. Shi. (2015) Comparative study on environmental accounting information disclosure of listed companies in China and Canadian petroleum industry. Market Weekly (Theoretical Research), 05:66-69.
- [5] F.X. Fu. (2018) Differences and inspirations of environmental accounting information disclosure between China and the United States—Taking petrochemical company as an example. Accounting Communication, 25:119-122.

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