

The improvement of the legal system of ESG information disclosure of listed companies in China: A cost-benefit analysis path

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Abstract. The number of companies disclosing ESG information among listed companies in China has been increasing year by year, but the quality of ESG reports disclosed varies, mostly with qualitative embellishment content and lack of comparability among companies, which is contrary to the original intention of the system to urge companies to fulfill their social responsibility and strengthen financial supervision to prevent financial crisis. Compared with the more mature ESG disclosure systems in foreign countries, China is still in the initial stage of exploration, and there is a controversy in the academic community as to whether or not to adopt mandatory information disclosure. Based on a cost-benefit analysis, the article argues that a mandatory information disclosure system should be adopted, with specific suggestions from both the legal level and the exchange regulatory documents, so as to transform from semi-mandatory disclosure to mandatory disclosure, with quantitative disclosure indicators for each industry, to better regulate and improve the quality of information disclosure of listed companies, and to maximize social benefits.

Keywords: Listed companies; ESG; law and economics; information disclosure.

1. Realistic background of ESG information disclosure system

(1) Institutional environment of ESG information disclosure of listed companies in China

China's ESG investment is still in its infancy, but the regulation has already paid attention to ESG information disclosure, which has become a hot spot in the judicial field, mainly showing the characteristics of "government leadership + exchange guidelines + voluntary participation of enterprises". In 2019, China's newly amended Securities Law listed the chapter of "Information Disclosure" separately, enriching the scope of the subjects of information disclosure obligors, making the information disclosure requirements simple, clear and easy to understand, and regulating the problems encountered in information disclosure in recent years; in terms of local regulations, a total of 52414 local laws and regulations were searched with "green finance" as the keyword. Among them, Inner Mongolia Autonomous Region, Chongqing Municipality and Fujian Province have mentioned the need to strengthen the ESG information disclosure system.

At the exchange level, the Hong Kong Stock Exchange (HKEx) has changed from voluntary disclosure under the Environmental, Social and Regulatory Reporting Guidelines in 2012 to "comply or explain", and now enforces mandatory disclosure; the Shenzhen Stock Exchange (SZSE) issued the Guidelines on Social Responsibility of Listed Companies in 2006 to encourage voluntary disclosure of corporate social responsibility reports, and the Shenzhen Stock Exchange (SZSE) issued the Self-Regulatory Guidelines on Listed Companies in 2020 to encourage voluntary disclosure of corporate social responsibility reports. In 2020, the Shenzhen Stock Exchange's Guidelines on Self-regulation of Listed Companies required the SZSE 100 sample companies to disclose their social responsibility reports along with their annual reports, which is a mandatory disclosure; in 2021, the Beijing Stock Exchange's Rules for the Listing of Stocks (for Trial Implementation) in Chapter 4, Section 7, Corporate Governance, requires listed companies to undertake social responsibility. The SSE proposed in 2008 that the company's annual report could disclose the social contribution value per share, and the Self-Regulatory Guidelines for the Science and Technology Innovation Board issued in 2022 provided an example of social responsibility disclosure. It can be seen that all exchanges encourage listed companies to take up social responsibility and disclose social responsibility reports, but there is no uniformity in the mandatory or non-mandatory disclosure of information, and the specific content format of disclosure is not clear.

(2) Academic controversy on whether ESG information should be compulsorily disclosed by listed companies in China

Academic research on ESG information is mainly concentrated in the fields of finance and economics, and practical aspects have been explored in the field of law, but the research results in the academic field are relatively few and mainly focus on the specific construction of the system. One view is that mandatory or semi-mandatory disclosure is a huge cost barrier for enterprises and is not conducive to their development, and advocates the adoption of voluntary information disclosure such as soft law regulation, which can also circumvent the drawbacks of hard law lagging; another view that the voluntary information disclosure system is ineffective in China, the Hong Kong Stock Exchange and the American Stock Exchange have already implemented mandatory information disclosure, the ESG mandatory information disclosure system already has extensive overseas capital market practice, and the domestic implementation of the mandatory disclosure system can further enhance the level of China's financial internationalization.

(3) Current situation of ESG information disclosure of listed companies in China

In terms of the number of disclosures, the total number of disclosures is small but increasing year by year; in terms of the geographical characteristics of ESG disclosure reports, the status of ESG disclosure is not related to factors such as the level of regional economic development; in terms of the distribution of industries disclosed, the status of ESG disclosure is heterogeneous among enterprises with different ownership in different industries. The financial sector leads in terms of disclosure rate, with the financial sector leading in terms of the number of companies publishing ESG reports and disclosure rate; followed by the traditional sectors such as steel, transportation, real estate and extractive industries, where the disclosure rate is relatively high, which I believe is due to the fact that the environmental regulations in this sector are more stringent with more fixed quantitative indicator disclosure requirements. I believe this is due to the fact that the environmental regulations in this field are more stringent and have more fixed quantitative indicator disclosure requirements. However, there are double obstacles in the output and input of information disclosure. At present, ESG information of listed companies in China is generally disclosed voluntarily and there is no official authoritative disclosure guideline, which leads to different disclosure contents, formats and methods of different companies, resulting in some listed companies wanting to disclose but not knowing how to do so, and the disclosure calibre of different indicators on the same topic is not uniform, which also affects the horizontal comparison and understanding of readers.

2. Analysis of the applicability of law and economics as a path of analysis

According to Coase's first law, the law has no effect on the allocation of resources when transaction costs are zero. The existence of ESG information as a resource is also in line with Coase's first law. Frictionless markets only exist in a theoretical environment, i.e. the current market cannot achieve an efficient allocation of resources through pure market regulation. From the perspective of law and economics, there is an economic principle behind the construction of any law. I believe that the construction of mandatory information disclosure is to minimise social costs and maximise social interests, and analysing the construction of the ESG information disclosure system from the perspective of law and economics can better analyse the game of interests of all parties and provide corresponding support for the mandatory information disclosure system.

(i) Cost level - social cost minimisation theory

The main reason why there are doubts or objections to the construction of a mandatory ESG disclosure system is that information disclosure will bring additional costs to enterprises, mainly in terms of variable costs, opportunity costs and the costs of losses due to penalties for false disclosure.

Using a game-theoretic approach, it is assumed that companies will refuse to disclose ESG information or disclose low-quality ESG information for their own cost considerations: firstly, from the perspective of investors, investors will spend more time to collect and understand more investment information, while a company faces multiple investors, so different investors will collect the same

information repeatedly, resulting in Secondly, from the perspective of academic research, there is a lack of sufficient data base to promote the development of ESG rating and disclosure regulations in China; thirdly, from the perspective of financial supervision, due to the asymmetry of information, moral hazard and adverse selection are likely to occur, and financial regulators cannot effectively understand the real financial status, efficiency and development of listed companies. Fourthly, due to the incomplete information on decision-making and the lack of understanding of the company's internal, it is more difficult for investors to achieve environmental litigation in the face of insider operations or fraud, and the legal cost of protecting investors' rights and interests increases, which runs counter to the original purpose of the law to protect investors' rights and interests. In addition, the improved disclosure regulations in the Securities Law and the newly amended provisions of the Amendment (XI) to the Criminal Law relating to securities and futures offences (which mainly involve disclosure offences) are provisions for punitive measures against disclosure offences, reflecting the legislative logic of maximum deterrence in law and economics, i.e. to maximise the cost of crime so as to minimise the potential crime rate in society, and to discourage companies that try to gain excessive profits by breaking the law The identification of these offences is undoubtedly based on full disclosure of information, which also fully mobilises all stakeholders to participate in monitoring, and voluntary ESG disclosure does not meet the adequate pool of information data and will limit the effect of other types of law.

In the case of company A and many other companies B, assuming that A and B have fully disclosed ESG information in a timely manner, the same amount of financing will be available to achieve the Pareto optimum for society, with a gain of 4 for each side and a total gain of 8 for society, which is the maximum; whereas under non-compulsory disclosure, the management of each company If only one party discloses, or if neither party discloses, then neither party will benefit more than if they both disclose, and the interests of society will suffer and bear unnecessary costs, as shown in the figure below.

Table 1 Company-side game benefit matrix

		companyB	
		Disclosure	Non-Disclosure
companyA	Disclosure	(4, 4)	(3, 2)
	Non-Disclosure	(2, 3)	(1, 1)

The above benefit matrix suggests that a mandatory ESG disclosure system for listed companies is the only way to reduce information asymmetries in the market, facilitate the flow of resources and help competitors to identify market opportunities and maximise the interests of both parties.

Similarly, there is a "prisoner's dilemma" style game between company C and investor D. In the face of full disclosure, investors will have a deeper understanding and trust in the company and will be more inclined to invest in the company, maximising the benefits for both parties.

In the game between companies and governments on ESG disclosure, assume that the cost of disclosure (disclosure report writing and audit fees) is C, the company's underlying profit is x_1 , the increase in profit due to true disclosure is x_2 , the penalty for misrepresentation is a_1 , the loss is a_2 , and the gain from false disclosure is x_3 .

Let the cost of government regulation be y and the penalty for failure to comply be m .

α is the probability that the government will identify the official as a false disclosure, and p_1 and p_2 are the probability that the firm will disclose the information truthfully and the probability that the government will regulate it, respectively.

Table 2 Benefit matrix of company-side and government regulation games

		Government	
		Supervise	Without supervise
Company	Ture disclosure	$(x_1+x_2, -y_1)$	$(x_1+x_2, 0)$
	Unture disclosure	$(x_1+x_3-a_1 \alpha, -a_2 \alpha, a_1 \alpha, -y)$	$(x_1+x_3, -m)$

With true disclosure by listed companies, the government expects a return of
 $I_{\text{monitoring}} = p_1 * (-y_1) + (1-p_1) * (a_1 \alpha - c)$

$$I_{\text{unsupervised}} = p_1 * 0 + (1-p_1) * (-m) = m(p_1-1)$$

Let the expected returns from supervision and non-supervision be equal to obtain the Nash equilibrium solution: $p_1 = 1 - y/a_1$

Conditional on government supervision, the firm's expected return is

$$I_{\text{true}} = p_2 * (x_1 + x_2) + (1-p_2) * (x_1 + x_2)$$

$$I_{\text{false}} = p_2 * (x_1 + x_3 - a_1 \alpha - a_2 \alpha) + (1-p_2) * (x_1 + x_3)$$

Let the expected returns of firms with true and false disclosure and non-true disclosure be the same, and the Nash equilibrium is $p_2 = x_1 / \alpha (a_1 + a_2)$

From the above game, it is clear that the probability of disclosure by a listed company depends on three main aspects, one is the cost of penalties and losses for false disclosure, one is the cost of government enforcement, and the third is the probability of government enforcement finding the problem and punishing the company.

(ii) Interest level - stakeholder-related theory

It is the consensus of the society that listed companies should take social responsibility while pursuing profit maximisation, and it is also promoted by the current legal and regulatory system to promote legal settings that can achieve a balance point between commercial interests and social responsibility to maximise the overall welfare of the society. Not all violations can be the subject of litigation, and it is unrealistic to attribute all unethical behaviour to violations. Using the ideas of stakeholder-related theory to improve the current system of laws and regulations can allow the market to promote better implementation of legal effectiveness when the role of the law reaches its margins of effectiveness.

The author divides the stakeholders of ESG disclosure into individual stakeholders and organisational stakeholders: individual stakeholders include employees, creditors, consumers, suppliers, etc., while organisational stakeholders include government departments, environmental organisations, communities, monitoring bodies, other relevant enterprises, etc. We expect that through the stakeholder legislation, consumers will be able to know the actual condition of the goods they buy to reject unscrupulous merchants; people who are seeking employment will be able to avoid gender discrimination in the workplace; employees will be able to fully understand the financial situation of the company and the pay and benefits of employees in other companies in the industry, so that they can obtain more effective information in union negotiations and defend their legitimate rights and interests; creditors will be able to refuse to lend. It also enables creditors to refuse to lend funds to enterprises with poor credit and high risk, so that funds can be used more efficiently, and allows monitoring bodies to exercise their monitoring power more actively through public monitoring and reporting, and to rely on securities disclosure to identify illegal danger signals and make correct policy decisions.

3. Measures to improve the legal system of ESG information disclosure of listed companies in China

(I) Legal level

1、The Securities Law adds "relevance" and "comparability" indicators

At present, environmental information is mostly disclosed qualitatively, and environmental information is a more objective information in ESG information, so a unified quantitative indicator disclosure regulation can be formulated from top to bottom, which can refer to the company's carbon emission, carbon emission growth rate, environmental protection investment funds, three wastes and other emissions as quantitative indicators. The current disclosure status of social information shows that there are more disclosures about the fulfillment of responsibilities of employees within the company, but most of them are about work facilities, employee training and production safety systems, and most companies still do not disclose the salaries of employees and the number of employees. There is less disclosure on the fulfillment of responsibilities for suppliers, creditors and the public. The disclosure of governance information is mostly about compliance information, lacking ESG

corporate structure and top-level design mechanisms such as risk testing, etc. The disclosure is mostly positive and not comprehensive as it does not disclose corporate governance risks such as insider trading by executives. Moreover, the information is not described in terms of its impact on the company's profitability, which does not correlate with other information disclosed by the company and affects the efficiency of the reader's reception and analysis.

Reference can be made to the eight ESG reporting priorities set out by the London Stock Exchange to include "strategic" disclosure requirements, and to promote uniform disclosure guidelines from macro to micro, as well as the development and refinement of disclosure indicators and ESG rating rules.

2. Strengthen civil, administrative and criminal linkages

The adoption and implementation of the Amendment to the Criminal Law (XI) is a major signal to increase the cost of violating the law, and is linked to the amendment of the Securities Law, which has increased the scope of criminal liability and the types of information carriers used to commit the crime, in order to play a better deterrent role. The linkage of civil law, administrative law and criminal law can make the form of liability more complete, and should also be actively linked in the civil and administrative fields, helping to change the problem of low penalties and insufficient to deter crime, such as in the field of civil compensation, appropriately increasing the amount of compensation, clarifying the responsibility of the main body of compensation; in the field of administrative law can be for false disclosure of information subject to the corresponding ban on business, false disclosure of the party's assets freezing and temporary restrictions, and restricting their continued violation of disclosure regulations through administrative penalties. It is also important to focus on ex ante prevention and give full play to the role of criminal compliance in the era of big data prosecution. Through the establishment of a corporate compliance system, the use of big data regulation can identify conditions such as abnormal information disclosure.

(ii) The level of the exchange's regulatory system

The stock exchange plays a unique role in the construction of ESG information disclosure regulation compared to other regulatory subjects. From the perspective of the main body compared to the company, the shareholders elect the company's board of directors, and the board's choices are inevitably in line with the interests of the shareholders, so it is difficult to achieve the original purpose of the disclosure system by relying solely on voluntary disclosure within the company. The SFC is responsible for the triple function of auditing, management and supervision, making it inherently tense and lacking the will to supply laws under the benefit and cost measure. In terms of establishing laws and regulations and other levels of regulation compared to the legislature, the core of the Securities Law is to protect the interests of investors, the principle of the Company Law is to protect the interests of shareholders and creditors, and ESG information is the protection of the interests and satisfaction of the needs of all stakeholders, thus the cost of forcing changes to the Securities Law is not an optimal choice. The stock exchange is a platform that directly connects investors and listed companies, and has the responsibility to set trading rules and reduce transaction costs, and at the same time, as an intermediary platform is an important way to collect and understand information from a wide range of stakeholders. The ideal effect of regulating ESG information disclosure of listed companies through the establishment and improvement of relevant documents by the stock exchange can be achieved through minimal legislative and implementation costs, and thus the The following points can be made at the exchange level.

1. Additional incentives and penalties

The purpose of improving laws and regulations is to better play the role of the market in promoting sound economic development. For example, the "Assessment Measures for Information Disclosure Work of Listed Companies on Shenzhen Stock Exchange (Revised in 2020)" provides for corresponding support and facilities for companies with A results in the most recent year of assessment. Drawing on current exchange practices, in the future construction of the exchange's regulatory system, a complete, detailed and industry-segmented evaluation system for ESG disclosure quality can first be established, followed by disclosure ratings for companies disclosing ESG reports

and support and preferences for companies with good disclosure quality in terms of staff training, reputation promotion and new database trials. As local listed companies are important contributors to local tax revenue and economic growth, local governments have a greater incentive to promote disclosure quality among listed companies in their regions. Local branches of the SFC can join hands with local governments to provide tax concessions, or refer to the Shenzhen Stock Exchange for companies with high ESG disclosure quality, which can provide targeted training at their request, giving priority to inviting company chairmen and others to serve as training lecturers, promoting experience in regulated operations to the The SFC can also give priority to inviting company chairmen and others to serve as training instructors, promoting their experience in regulated operations to the market, and recommending senior managers of companies to serve as members of relevant professional committees.

2. Harmonisation of corresponding legal regulations

There are conflicts and inconsistencies between the regulatory documents formulated by the exchanges and the SFC in relation to ESG information disclosure. Specifically: Firstly, the attitude of the documents within the exchanges is not uniform. Article 4.4.1 of the SSE's "Rules for the Listing of Shares on the STB" stipulates that listed companies should disclose their fulfillment of social responsibility in their annual reports, which is an obligatory mandatory disclosure, but the "Guidelines for the Application of the Self-Regulatory Rules for Listed Companies on the STB No. 2 - Voluntary Information Disclosure" stipulates that STB companies can voluntarily choose Secondly, the North China Stock Exchange has the opposite attitude towards social responsibility and disclosure. In October 2021, it stipulated that all listed companies on the North China Stock Exchange must fulfill their social and environmental responsibilities, but the listing rules in November of the same year only encourage listed companies to disclose social responsibility reports, but there is no disclosure behavior how to determine whether the listed companies have complied with the social responsibility requirements. The disclosure requirements do undertake social responsibility, and why the disclosure format requirements provide for socially responsible conduct but not disclosure, two provisions that do not ensure implementation and lack appropriate explanation.

The main reason why there is a lack of harmonisation of exchange legal norms is, in the author's view, the lack of implementation of the exchange's normative documents, which listed companies do not implement as required. Therefore, the major exchanges should communicate in a timely manner to ensure that the disclosure of information for investors and financial risks related to the major institutional requirements remain consistent, and regularly clean up regulatory documents, when the newly promulgated documents conflict with the previous regulatory documents, to be issued with the interpretation of documents or repeal instructions.

3. Disclosure guidelines with relevant case illustrations

When formulating disclosure guidelines, the major exchanges can include disclosure formats in the guidelines documents to clarify the content of disclosures and how to write them, and can invite corporate parties, expert committees and relevant associations to discuss and establish disclosure rules for different industries, which include disclosure formats, disclosure cycles and time requirements, whether audits are required, the scope of disclosure subjects, the scope of disclosure content, language formatting requirements, quantitative and qualitative indicators, etc. Indicators can refer to the reporting guidelines set by the NASDAQ exchange, and gradually integrate to establish disclosure guidelines with Chinese characteristics, for example, the indicators of corporate governance include the work assessment of party building and rural revitalisation.

For example, the Shanghai Stock Exchange has made good attempts - in July 2022 Notice on the Issuance of Self-Regulatory Guidelines No. 1 to No. 3 for Listed Companies on the Shanghai Stock Exchange on the Science and Technology Innovation Board makes an example incidental in terms of investor protection, putting in place whether the donation status during the epidemic had an impact on the company's R&D and project construction, etc. It is hoped that an expert committee can be set up at the exchange level to advise on the protection of investors. It is hoped that an expert committee can be formed at the exchange level to develop disclosure format requirements and specific indicators

by industry, branch size and type of company, and attach a template for writing them to the guidance document.

4. Conclusion

This paper argues that, on the basis of improving China's macro legal construction, special attention should be paid to the leading role of the exchange to gradually and orderly promote ESG information disclosure: from voluntary information disclosure to explanation without disclosure to mandatory information disclosure, from high-quality disclosure by state-owned enterprises to simultaneous disclosure by all enterprises, from the current "SZSE 100" from the current "SZSE 100" sample companies to all listed companies in China, and from the interpretation of concepts, timing of disclosure, determination of indicators, construction of data platforms, etc. to the formulation of detailed standards according to different characteristics of industries and different scales of enterprises; breaking the "information pile-up" and "inefficient disclosure" It will also improve the class action and shareholder representative litigation systems, effectively curb the controlling shareholders from using their controlling position to harm the interests of the company and its small and medium-sized shareholders, expand the scope of small and medium-sized investors' rights protection, complement administrative supervision and market supervision, form a virtuous cycle of multi-party game collaboration, improve the quality of listed companies, prevent and resolve financial risks, and help the quality development of the economy.

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