

Research on ESG System Construction and Environmental Accounting Information Disclosure: A Case Study of CITIC Securities

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Abstract. Since the signing of the Paris Agreement, societal concern regarding climate change and sustainable development has grown exponentially. The construction of ESG (Environmental, Social, and Governance) frameworks and the disclosure of environmental accounting information have garnered significant attention. Constructing a financial ESG framework and refining its environmental accounting system holds paramount significance. This study employs a case study approach, using leading Chinese securities firm, CITIC Securities, as a focal point. It elucidates the complementary relationship between ESG frameworks and environmental accounting within financial institutions. Leveraging databases and publicly available information such as CITIC Securities' annual reports and corporate social responsibility report, the study systematically analyzes the development of CITIC Securities' ESG framework and the current status of environmental accounting information disclosure. Based on these findings, the study identifies issues in CITIC Securities' and other financial institutions' information disclosure practices, such as a tendency towards one-sided disclosure or the presence of "greenwashing" phenomena. Finally, the study proposes measures and recommendations in four key areas: standardization, enhanced disclosure, independent verification, and digitization empowerment.

Keywords: ESG; Environmental Accounting; CITIC Securities; Information Disclosure; Green Finance

1. Introduction

Since the signing of the Paris Agreement in 2016, countries have been actively formulating roadmaps and timetables for achieving carbon peaking and carbon neutrality. Major securities exchanges globally have issued regulations related to ESG standards, mandating listed companies to disclose ESG reports, Corporate Social Responsibility reports, and sustainability reports.

China aims to achieve carbon peaking by 2030 and carbon neutrality by 2060. Against this policy backdrop, China places greater emphasis on enhancing the ESG framework and improving the quality of environmental accounting disclosures. In this regard, securities firms play a crucial role by integrating the ESG framework with environmental accounting, facilitating the development of comprehensive ESG systems, and optimizing environmental management accounting. Securities firms contribute significantly to breaking the deadlock between economic development and environmental sustainability by providing financing and investment channels to support sustainable development projects and environmental protection enterprises. Through strategic capital allocation, they facilitate the transition of industrial and energy structures towards green and low-carbon models[1]. The synergy between economic benefits and environmental protection underscores the importance of studying the ESG framework and environmental accounting disclosures within the securities industry.

Currently, there is a scarcity of systematic research addressing the issues surrounding ESG frameworks and environmental accounting disclosures in financial institutions. Existing studies primarily extend from previous research on corporate social responsibility and sustainable development (Brooks et al., 2018), focusing on two main aspects: firstly, the relationship between corporate social responsibility and financial performance. Some scholars argue that corporate social responsibility contributes to enhancing financial performance (Zhang & Lian, 2019; Eccles, 2014; Clark et al., 2015). Secondly, research on ESG disclosure. Studies by Mervelskemper and Streit

(2017) suggest that ESG disclosure positively impacts social responsibility performance. However, environmental management accounting in China has a relatively short history of development, with current research focusing mainly on the objectives, definitions, and disciplinary positioning of environmental management accounting (Han, 2018). Literature combining case studies to analyze disclosure issues is limited. Moreover, research based on ESG is mostly sampled from developed country markets, resulting in a limited volume of literature for emerging markets like China.

2. The relationship between environmental accounting and ESG

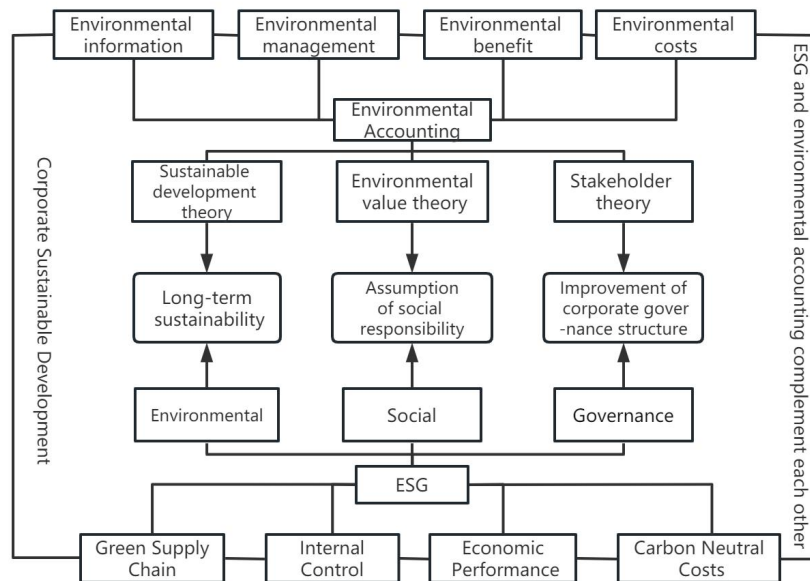


Fig. 1 Impact of Environmental Management Accounting and ESG on Businesses

Figure 1 illustrates the impact of environmental accounting and ESG on enterprises, indicating a complementary relationship between the content emphasized by the ESG framework and the objectives of environmental management accounting.

The disclosure of environmental accounting information has a positive impact on ESG performance. It contributes to enhancing the environmental sustainability of enterprises, managing environmental risks, and meeting the transparency and sustainable development needs of investors and stakeholders, thereby enhancing the competitiveness and long-term value of enterprises[2]. On the other hand, the enhancement of the ESG framework can also promote the disclosure of environmental accounting information. By emphasizing the requirements of environmental protection, social responsibility, and good governance, improving the ESG framework can encourage enterprises to pay more attention to environmental accounting information disclosure, thereby improving the quality and transparency of disclosure and enhancing the sustainability and social responsibility image of enterprises.

3. Current State of ESG Framework Development and Environmental Accounting Information Disclosure of CITIC Securities

3.1 Overview of CITIC Securities

CITIC Securities is a large comprehensive securities firm in China, with a business scope covering securities brokerage and trading, investment banking, asset management, research, and consulting services, among others. It boasts a broad client base in the Chinese securities market and has established extensive collaborative relationships with internationally renowned financial

institutions. As a significant representative in the Chinese securities industry, CITIC Securities plays a crucial role in shaping the landscape of the market.

3.2 Development of CITIC Securities' ESG System

From 2018 to 2020, CITIC Securities had not yet established an ESG framework. During this period, its disclosure of environmental accounting information was limited to meeting the mandatory disclosure requirements of the International Financial Reporting Standards (IFRS), disclosing only a small amount of key environmental information (such as total greenhouse gas emissions and benefits from environmental protection measures implemented by the company).

Since 2021, CITIC Securities has begun to explore ESG research. While enhancing its own ESG framework, it also considers ESG performance as an important decision-making factor in portfolio selection in investment activities. By integrating ESG ratings from domestic and international institutions, CITIC Securities has developed a consistent evaluation system covering all A-share stocks and industry-specific ESG evaluation systems focusing on key industries such as pharmaceuticals, construction, and manufacturing. In addition, research has been conducted on investment strategies, asset management products, corporate services, and disclosure standards, with regular reports released to provide continuous commentary on significant ESG events in the market. At the outset of establishing the ESG framework, CITIC Securities, in line with the United Nations Sustainable Development Goals, set a series of ESG targets, which also guided the construction of the entire framework. Table 1 presents several representative goals and their corresponding measures.

Table 1. ESG Issues and Initiatives

Number	ESG Issues	Initiative
1	Partnerships for the goals	Participating in industry exchange initiatives, exploring industry trends, attending securities industry conferences, organize ESG offshore strategy seminars.
2	Peace, Justice and Strong Institutions	Improving the contemporary corporate governance structure, continuously standardizing the internal governance framework, refining the risk mitigation and control mechanisms, and integrating sustainable development principles into corporate decision-making processes.
3	Climate Action	Integrating climate risk management into corporate strategies, enhancing the disclosure quality of climate-related information, and implementing a green office system.
4	Industry, Innovation and Infrastructure	Practicing the concept of responsible investment and continuing to add assets with ESG attributes to the investment portfolio. Contributing to the successful issuance of the first batch of carbon-neutral green bonds in the market.
5	Affordable and Clean Energy	Incorporating ESG factors into the risk management system and developing green finance and debt assets of environmental protection projects. Promoting the first carbon-neutral bond project for forest carbon in China.
6	Gender Equality	Adhering to the concept of equal and diverse talents, formulating a system of gender equality to eliminate discrimination and protect the rights of female employees.

Based on the establishment of ESG objectives, CITIC Securities has enhanced its ESG framework from two aspects: its own ESG and the ESG evaluation system for the economic entities it serves. In terms of the evaluation system, CITIC Securities adheres to the internationally recognized essence of ESG as its guideline. At the detailed level of indicators' weighting and calculation methods, it leverages various dimensions such as the national objective economic level and structure, ESG data disclosure quality, and national policy guidelines to create a new ESG scoring system that balances international perspectives with the current stage in China. Additionally,

CITIC Securities continuously explores innovations in index compilation and data services. Presently, the evaluation system covers the entire A-share market[3]. Table 2 demonstrates a portion of CITIC Securities' ESG system.

Table 2. CITIC Securities ESG System
(Source: Based on CITIC Securities' Social Responsibility Report 2021-2022)

CITIC ESG			ESG for economic entities served		
E	S	G	E	S	G
Carbon footprint	Staff Development	Governance structure	Greenhouse gas emission	Working environment	Governance environment
Environmental assessment	Gender equality	Risk management	Air quality	Health and Safety	Accounting standard
Green Materials and Technologies	Social security	Disclosure of information	Resource consumption	Education	Board of Directors Diversity
...	Local community	Corporate strategy	Pollution prevention and management	Labor and working conditions	Board structure
	Customer interest	Anti-bribery and corruption	Land acquisition	Rural rejuvenation	Management pay

In 2022, CITIC Securities actively engaged in independent research and innovation to empower digital transformation through financial technology. Moreover, the ESG evaluation system of CITIC Securities greatly improved the efficiency of data collection and processing through the utilization of artificial intelligence technology. Underpinned by the empowerment of big data, CITIC Securities' ESG framework has further advanced and refined.

In recent years, other countries' ESG rating industry has transitioned from a period of rapid development to one of industry consolidation, while China's ESG rating industry has developed later than its foreign counterparts. Representative foreign ESG rating agencies include MSCI, S&P Global Rating, S&P Dow Jones Indices, Moody's, FTSE Russell, and so on[4]. With the dissemination and implementation of ESG investment concepts, domestic rating agencies in China have emerged rapidly, including notable ones like SynTao Green Finance, RKS, Wind, Index companies (Sino-Securities Index, China Securities Index), etc. Considering the existence of multiple ESG evaluation systems and the lack of uniform standards among them, the author selected three domestic rating agencies in China with similar evaluation systems: Sino-Securities Index, SynTao Green Finance, and Wind. The ratings of these three agencies were sorted and reassigned on a scale of 0 to 10 to address the issue of inconsistency in ratings among different agencies. The annual ratings and assigned scores are shown in Table 3.

Table 3. CITIC Securities 2018-2022 ESG Score (Assigned)

Year	Sino-Securities Index	SynTao Green Finance	Wind	Total of scores assigned
2018	B	B	BBB	15
2019	BB	B+	BBB	17
2020	BBB	B+	A	19
2021	BBB	B+	A	19
2022	A	A-	A	21

The line graph in Figure 2 vividly illustrates that from 2018 to 2020, CITIC Securities maintained a slow but steady growth trend, with growth stagnating from 2020 to 2021, only to

resume growth once the ESG framework construction commenced in 2021. Over the course of five years, the company achieved a relatively high level of development overall, maintaining a trajectory of sustained growth even amidst the global economic downturn. This can be attributed to the increasingly robust governance structure and the gradual establishment of a comprehensive ESG framework.



Fig. 2 CITIC Securities ESG Score Trend 2018-2022

3.3 Status of Environmental Accounting Disclosure of CITIC Securities

3.3.1 Environmental Accounting Disclosure Model

CITIC Securities discloses environmental accounting information through various channels such as annual reports, social responsibility reports, ad hoc announcements, the company's official website, official accounts on new media platforms, and investor relations activities. The emphasis and amount of information disclosed through these channels vary. Environmental policies, environmental management systems, pollutant reduction measures, and environmental performance information are primarily disclosed through social responsibility reports. Additionally, environmental conservation efforts are often promoted through official Weibo accounts and company websites. Annual reports focus on the disclosure of environmental financial information, with a significant overlap in information between the two types of reports.

3.3.2 CITIC Securities Environmental Accounting Disclosure Content

(1) Annual Report

During the period from 2018 to 2022, CITIC Securities disclosed environmental accounting-related information in its annual reports every year. In the important matters section of the 2018-2020 annual reports, there was minimal information concerning precise poverty alleviation and rural revitalization, with almost no mention of environmental accounting information. Starting in 2021, a separate "Environmental and Social Responsibility" module was established in the annual reports to disclose environmental accounting-related information. In the years 2021-2022, CITIC Securities not only listed detailed environmental performance indicators such as solid waste, greenhouse gas emissions, and water resource utilization but also disclosed environmental non-financial information such as the company's environmental responsibility concept and management structure, the status of environmental management work, contingency plans for sudden environmental events, environmental accountability situations, and potential environmental risks. Currently, China has not yet established a systematically sound environmental accounting information disclosure system, and since CITIC Securities is not classified as a high-polluting enterprise, it has not added environmental accounting elements to its financial reports and appendices. Overall, the disclosure status of environmental accounting information in the annual reports remained relatively stable from 2018 to 2022, with minimal environmental information disclosure that was scattered and difficult to locate.

Corporate Social Responsibility Report (CSR)

During the period from 2018 to 2022, CITIC Securities released five consecutive corporate social responsibility reports. Between 2019 and 2021, the disclosure of environmental accounting information mainly consisted of qualitative and quantitative data, focusing on achievements and key metrics related to environmental friendliness and sustainable finance. With the introduction of the ESG framework in 2021 and 2022, the content of environmental accounting information in the social responsibility reports was significantly enriched, addressing the shortcomings observed in the annual reports. For instance, the 2022 report incorporated the policy orientation of the year and added a section on addressing climate change, disclosing performance data related to climate change risk mitigation objectives. Additionally, in sections promoting responsible investment, supporting sustainable financing, and green operations, the report elucidated how the company systematically integrates ESG considerations into its investment processes, thereby contributing to the sustainable development of the economy and society. Overall, the disclosure status of the social responsibility reports improved year by year from 2018 to 2022, with a sharp increase in information richness starting in 2021. Environmental information disclosure became more extensive, presented in a segmented manner for easier reference.

4. Case Insights and Strategies for the Development of CITIC Securities' ESG Framework and Environmental Accounting

Currently, CITIC Securities and some enterprises face the following issues regarding the disclosure of ESG and environmental accounting information:

(1) Limited Disclosure Patterns

CITIC Securities does not utilize independent ESG reports or environmental accounting reports, nor does it present sustainability reports separately. Instead, it relies solely on corporate CSR reports. Additionally, there is considerable overlap between the content of the annual report and the CSR report, resulting in minimal space allocated to environmental accounting-related financial information. Consequently, this fragmented presentation lacks coherence and completeness. Employing such a singular disclosure method significantly heightens the challenge for users to access information.

(2) Tendency to Disclose Positive Information or Greenwashing Phenomenon

Any behavior or phenomenon that falsely, inaccurately, or misleadingly presents a company as environmentally responsible or attempts to establish an environmentally friendly and resource-conserving corporate image can be termed "greenwashing"[5]. For CITIC Securities, terms such as "green loans", "green bonds", "green insurance", and "green funds" lack a unified and clear definition, with no standardized international criteria established to date. Within certain sustainability-themed funds, there are investments in industries such as petrochemicals and non-ferrous metals that contradict ESG and environmental conservation principles by engaging in high-carbon investment activities. In such cases, the direct enumeration of large-scale "green investments" and transaction volumes may raise suspicions of greenwashing[6]. Additionally, CITIC Securities' statistics on various forms of green finance lack independent verification. Coupled with the absence of an established information collection system to track the environmental performance of green finance and the incomplete nature of evaluation methods, there is a lack of reliable evidence to support the environmental performance of green finance. Consequently, there is a risk of green finance being subjected to greenwashing, which is a common issue across financial institutions.

In response to the aforementioned issues, this paper proposes governance measures from four aspects: standardization, enhanced disclosure, independent verification, and digital empowerment.

(1) Establishing Unified Definition and Disclosure Standards

The global landscape of over 200 definitions for green finance has led to the infiltration of unsubstantiated financial institutions and products into the realm of green finance[7]. Regulatory authorities need to establish unified definition standards in the green sector to provide clear

guidelines for green labeling. Furthermore, the current lack of comprehensive regulations on environmental accounting disclosure by the government has resulted in a dearth of unified disclosure standards, making it difficult for enterprises to voluntarily disclose unfavorable information. The Chinese government can adopt the International Standards on Disclosures for Sustainability (ISDS) as a benchmark, integrate it with the "dual carbon" goals and their roadmap, and establish its disclosure standards.

(2) Enforcing Mandatory Disclosure and Strengthening Social Supervision

Mandatory disclosure can enhance the transparency of environmental accounting information disclosure, increase the disclosure obligations and responsibilities of financial institutions, and allow society, the news media and NGOs to strengthen their supervision of "greenwashing" behaviors by enterprises and financial institutions[8].

(3) Implementing Independent Verification to Curtail False Data

According to the 2017 KPMG Global CSR Survey, 93% of the world's top 250 companies released CSR reports, of which only 67% engaged third parties to independently verify CSR[9]. Falsification of ESG and environmental accounting information can lead to significant economic benefits. Faced with this temptation, only by adopting an independent audit mechanism akin to financial reporting and introducing independent verification mechanisms for ESG reporting can the impulse of enterprises and financial institutions to "greenwashing" be restrained.

(4) Enhancing Digitalization Levels for Technological Advancement in Management

ESG and environmental accounting information involve numerous and dispersed environmental performance indicators, and financial institutions also need to estimate the environmental impact factors of loans or investments[10]. The probability of errors or falsification in these data is high. Therefore, leveraging the empowerment of digital technologies such as artificial intelligence, blockchain, cloud computing, big data, and the Internet of Things, a robust information system can be established to systematically collect, efficiently analyze, and precisely trace climate-related information.

5. Conclusion

Currently, governments and relevant financial institutions should promptly define concepts such as green loans, green bonds, green insurance, and green funds, and establish strict standards for information disclosure. Within enterprises, efforts should be made to strengthen financial intelligence construction and optimize the development of environmental accounting systems through the integration of digital technologies, continuously reinforcing ESG frameworks tailored to the company's development. Externally, collaboration with third-party organizations for independent verification of disclosed information is essential, alongside accepting supervision from the entire society. Interconnected with the socio-economic fabric, collaborative efforts are pivotal to achieving sustainable global economic development, jointly assuming social and environmental responsibilities, and charting a path towards mutual development.

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