# Research on the Impact of ESG Rating Divergence on Audit Fees

**Yifei Yin** [1,*]

[1] School of Management, Hebei University, Baoding 071000, China; 1399712516@qq.com

**\* Correspondence:**

Yifei Yin

1399712516@qq.com

## Abstract

ESG rating differences reflect the differences in the evaluation of ESG performance of the same enterprise by different rating agencies, which will have an impact on audit institutions based on the theory of information asymmetry. Based on the sample of A-share listed companies in China from 2019 to 2023, this paper confirms that there is a significant positive correlation between ESG rating divergence and audit fees. The paper proposes that information risk level of enterprises is the mediating mechanism underlying the effect of ESG rating divergence on audit fees. However, the mediating effect is nonsignificant. The author suggests that the theoretical mismatch of proxy variables and the regulatory effect of China's special situation may explain the nonsignificant findings. Heterogeneity analysis shows that among enterprises belonging to lightly polluting industries, ESG rating divergence has a more significant impact on audit fees. The conclusions not only enrich the economic consequences of ESG rating divergence, expand the theoretical understanding of the factors affecting audit fees, but also provide an important reference for ESG rating optimization, enterprise risk reduction and regulatory authorities to improve the information disclosure system.

**Keywords:** ESG Rating Divergence; Audit Fees; Information Risk

## 1. Introduction

In recent years, global ecological and environmental issues have become increasingly serious, and challenges such as intensified climate change and loss of biodiversity pose a major threat to the sustainable development of human society. In this context, the international community has promoted the transformation of global climate governance through frameworks such as the Paris Agreement and the United Nations sustainable development goals. As a responsible and developing country, China has always actively promoted global ecological environment governance and responded to the challenges of global climate change. The report of the 20th National Congress of the Communist Party of China clearly proposes to "promote green development, promote harmonious coexistence between man and nature", and incorporate the goal of "double carbon" into the overall layout of ecological civilization construction. In this

process, as the main body of micro economy, the effectiveness of green transformation of enterprises is directly related to the realization of national strategic objectives. As a non-financial rating indicator of enterprises, ESG evaluates the operation and sustainable development of enterprises from three aspects of environment, society and governance, which is an important engine to help China achieve the "double carbon goal" and high-quality economic and social development.

With the gradual improvement of ESG ecosystem in China, a series of stakeholders pay more and more attention to ESG information disclosure. However, the current domestic ESG rating market is still in the stage of development, and there are differences in the evaluation criteria of a series of rating agencies such as Huazheng, Sinolink and Wind, resulting in different ESG rating results for the same enterprise. This divergence not only aggravates information asymmetry and affects the efficiency of resource allocation in the capital market, but also may be transmitted to corporate financing costs and audit fees through the risk premium mechanism. Audit institutions, as the main body of information verification, may improve risk estimates in the face of ESG rating divergence, and then adjust audit pricing. Therefore, exploring the impact mechanism of ESG rating differences on audit fees has important theoretical and practical significance for standardizing ESG information disclosure, optimizing the rating system and improving green financial supervision.

This paper takes A-share listed companies in China from 2019 to 2023 as a sample to empirically test the impact of ESG rating divergence on audit fees. Compared with the existing literature, the contribution of this paper is mainly reflected in the following three aspects: first, it expands the research boundary of the economic consequences of ESG rating. Most of the existing studies focus on the impact of ESG performance on enterprise value or financing cost. Second, it expands the theoretical understanding of the factors affecting audit fees. This paper breaks through the traditional financial risk analysis framework, brings ESG rating differences into the consideration of non-financial information risk, and reveals how differences of opinion among rating agencies affect audit pricing decisions by increasing audit complexity and risk premium. Thirdly, starting from the information risk path, this paper studies the impact mechanism of ESG rating divergence on audit fees, and also reveals the heterogeneous effects of different industries, which provides an empirical basis for ESG rating optimization and enterprise risk reduction.

## 2. Literature Review

### 2.1. Research on ESG Rating Divergence of Enterprises

As a non-financial index system to promote the green development of enterprises and comprehensively evaluate the performance of enterprises, ESG information can provide investors with key decision-making basis other than traditional financial data. However, as China's ESG rating system is still in the development stage, there are some problems, such as inconsistent rating standards, different data sources and different methodology, which lead to significant differences in ESG evaluation results of the same enterprise by different rating agencies. This phenomenon of rating divergence has aroused widespread concern in academia, and the existing

research mainly discusses its economic consequences from three dimensions: market reaction, corporate behavior and intermediary mechanism.

In terms of market response, the study found that ESG rating divergence will significantly increase the risk of stock price collapse (Su & Ma, 2025) and stock price synchronization (Liu et al., 2023), resulting in obvious "noise effect". At the same time, rating divergence will also increase the cost of debt capital of enterprises (Zhang et al., 2023), indicating that the capital market has made a risk premium response to ESG rating divergence; At the corporate behavior level, ESG rating divergence will restrain corporate green innovation by strengthening financing constraints (Fan, 2024) and significantly improve corporate operational risk (Zhao & Lu, 2024). It is worth noting that Feng et al. (2024) found that the poor quality of ESG information disclosure in China will aggravate rating differences and form a vicious circle; In terms of audit decision-making, research shows that ESG rating divergence increases the probability of auditors issuing non-standard opinions (Liu & Zhang, 2025). Although good ESG performance of enterprises helps to reduce audit fees (Xiao et al., 2021) and obtain standard audit opinions (Wang et al., 2022), Wang et al. (2024) found that ESG rating differences weaken this positive impact, and media attention plays a regulatory role.

Although existing literature reveals the complex impact of ESG rating divergence on capital markets, corporate behavior and intermediaries, the research on the specific mechanism and boundary conditions of its impact on audit fees is still insufficient. Especially under the background that China's ESG rating system is not yet mature, it is of great theoretical and practical significance to further explore how ESG rating differences affect audit pricing through the path of information asymmetry.

## 2.2. Research on Audit Fees

Audit fees are the remuneration that certified public accountants collect from the audited unit for providing professional assurance services in the process of performing audit business. Existing studies show that the determination of audit fees is a complex decision-making process, involving enterprise characteristics, governance structure, information disclosure and other dimensions.

In terms of enterprise characteristics, research shows that there is a significant positive correlation between enterprise size and audit fees (Guo, 2009), which is mainly due to the higher business complexity and audit workload of larger enterprises. Wu (2003) further found that when the company's ROA is in the "guaranteed" range, audit fees will increase significantly, revealing the impact of earnings management behavior on audit pricing; Corporate governance factors also have an important impact on audit fees. Wang and Yang (2009) confirmed that high-quality internal audit helps to reduce audit costs, while Li et al. (2021) found that the dispersion of executive compensation incentives is positively correlated with audit costs. In particular, the research of Liang and Li (2022) shows that enterprises with chain shareholders are often charged higher audit fees, supporting the existence of "manipulation collusion effect"; The quality of information disclosure is another key factor. Wang et al. (2018) found from the perspective of text analysis that the similarity of annual report risk information disclosure was significantly negatively correlated with audit fees. Lin and Ao (2018) show that a good ESG rating helps to

reduce audit costs; In addition, Lu and Ran (2012) revealed that media reports regulate the sensitivity of audit fees to earnings management risks by affecting auditors' judgment of earnings management risks.

Generally speaking, the existing literature reveals the pricing mechanism of audit fees from different angles, indicating that the determination of audit fees is a comprehensive judgment made by auditors after assessing audit risks, workload and customer characteristics. However, with the continuous improvement of ESG information disclosure requirements and the increasingly prominent ESG rating divergence among rating agencies, the mechanism of ESG rating divergence in audit fees still needs to be further explored.

## 3. Theoretical Analysis and Research Hypotheses

Based on the theory of information asymmetry, the difference in the mastery of key information between the two sides of the transaction will lead to the loss of market efficiency. In the context of ESG rating, the evaluation divergence among rating agencies will significantly aggravate the problem of information asymmetry, and then affect the pricing of audit fees.

First of all, rating differences lead to mixed ESG information signals. When mainstream rating agencies give significantly different scores on an enterprise's ESG performance, it is difficult for auditors to accurately judge the true ESG status of an enterprise (Drempetic et al., 2020). This signal confusion forces auditors to invest additional resources in information screening, which directly increases the cost of audit verification. Secondly, rating differences magnify the risk of hidden information. According to Akerlof (1970)'s "lemon market" theory, in the environment of information asymmetry, auditors will discriminate ESG ratings into signals that enterprises may have undisclosed ESG risks. In order to prevent potential audit risks, auditors will require higher risk compensation. Finally, rating divergence increases the uncertainty of audit judgment. ESG factors have become an important consideration when auditors assess the risk of material misstatement (Pinto et al., 2022). When there are significant differences in ESG ratings, it is difficult for auditors to form stable risk assessment conclusions, which will be reflected by audit pricing.

Based on the above theoretical analysis, this paper puts forward the following research hypotheses:

**Hypothesis 1 (H1)**: There is a significant positive correlation between ESG rating divergence and audit fees.

## 4. Research Design

### 4.1. Sample Selection and Data Sources

This paper selects A-share listed companies in China from 2019 to 2023 as the research object. The ESG rating information collected comes from SynTao Green Finance and Wind, Huazheng, Sinolink and FTSE Russell five rating agencies, and processed the sample data as follows: (1)

excluding st and * ST data; (2) Excluding corporate data in the financial sector; (3) Excluding the sample data of listed companies with missing data. After the above series of processing, 16848 observations were finally obtained. In addition, in order to avoid the influence of extreme values as much as possible, all continuous variables are subjected to 1% winsorze tailing.

## 4.2. Variable Definition

### 4.2.1. Explanatory Variable

The explanatory variable for this article is ESG rating divergence (ESG_DIF). Referring to the relevant research methods of He (2023) and Li (2024), SynTao Green Finance and Wind, Huazheng, FTSE Russell and Sinolink ESG rating data assign values to the above five types of results to ensure that all kinds of weights are equal and calculate the standard deviation, which is used as a measure of ESG rating divergence of listed companies. SynTao Green Finance, Wind, Huazheng and the three data ratings are divided into nine grades C, CC, CCC, B, BB, BBB, A, AA and AAA from low to high, and the nine grades are assigned 0 to 9 points in turn; Sinolink has a total rating of 27, so it is assigned a value of 0-27 points from low to high, and then multiplied by 9/27 to adjust its range to 0-9 points; FTSE Russell is a score system of 0 to 3.9 points. In order to ensure the same weight, it is multiplied by 9/3.6 to adjust its range to 0 to 9 points.

### 4.2.2. Explained Variable

The explanatory variable of this paper is audit fee (LnFee). Following the method from previous study (Li, 2024), this paper selects the natural logarithm of audit fees of listed companies as a measure of audit fees.

### 4.2.3. Control Variable

Based on the classical audit pricing model (Simunic, 1980) and following the method from previous study (Hay et al., 2006), (Francis et al., 2011) and (Chen, et al., 2022), the following dimensional variables are controlled: company size (Size), asset liability ratio (Lev), return on assets (ROA), loss status (Loss), four major audits (Big4), board size (Board), number of subsidiaries (SubNum), proportion of inventory and accounts receivable (InvRec), analyst attention (Coverage) and annual year (Year) and industry (Industry) variables. The definitions of major variables are shown in Table 1.

**Table 1. Variable Definition**

| Variable Category | Variable Symbol | Variable Name | Variable Description |
|---|---|---|---|
| Explained Variable | LnFee | Audit fees | Natural logarithms of annual audit fees (10000 yuan) of listed companies |
| Explanatory Variable | ESG_DIF | Rating disagreement | Based on the ESG rating data of SynTao Green Finance, Wind, Huazheng, FTSE Russell and Sinolink are standardized to calculate the annual standard deviation |

| | Size | company size | Natural logarithm of total assets at the end of the year |
| --- | --- | --- | --- |
| | Lev | Asset liability ratio | Total liabilities/total assets |
| | ROA | Return on equity | Net profit/total assets |
| | Loss | Loss status | Take 1 when the net profit of that year is negative, otherwise take 0 |
| | Big4 | Big four audits | If the auditor is a "big four" accounting firm, take 1, otherwise take 0 |
| Control Variable | Board | Board size | Natural logarithms of board members |
| | SubNum | Number of subsidiaries | Add one to the number of subsidiaries and take the natural logarithm |
| | InvRec | Proportion of inventory and accounts receivable | (inventory+accounts receivable)/total assets |
| | Coverage | Analyst focus | Track the number of analysts of the company+take the natural logarithm |
| | Year | Annual fixed effect | Annual dummy variable |
| | Industry | Industry fixed effect | SFC Industry Classification (two-digit code) virtual variable |

## 4.3. Model Design

In order to verify the hypothesis that H1, that is, the divergence of ESG rating of enterprises, is significantly positively correlated with audit fees, this paper constructs the following empirical model:

$$LnFee_{it} = \beta_0 + \beta_1 ESG\_DIF_{it} + \sum Control_{it} + \sum Year + \sum Industry + \epsilon_{it}$$

Among them, I represents individual enterprise, T represents year, LnFee represents audit fee, ESG_DIF represents ESG rating divergence, control represents control variable, year represents annual effect, industry represents industry effect, and $\epsilon_{it}$ is random disturbance term.

## 5. Empirical Analysis

### 5.1. Descriptive Statistics

The results of descriptive statistics are shown in Table 2. The average value of the explanatory variable audit fee (LnFee) is 13.995, the minimum value is 11.002, and the maximum value is 21.417, which shows that the audit fee of the audited units is quite different. The average value of the explanatory variable ESG rating divergence (ESG_DIF) is 1.154, the minimum value is 0.001, and the maximum value is 4.097, which shows that there are indeed great differences in ESG ratings made by different rating agencies. The results of the above variables are similar to those of He (2023) and Li (2024), and the descriptive statistics of the remaining control variables are consistent with the existing studies.

**Table 2. Descriptive Statistics**

| Variable | Sample Size | Mean Value | Standard Deviation | Minimum Value | Median | Max Value |
|---|---|---|---|---|---|---|
| LnFee | 16848 | 13.995 | 0.664 | 11.002 | 13.893 | 21.417 |
| ESG_DIF | 16848 | 1.154 | 0.632 | 0.001 | 1.139 | 4.097 |
| Size | 16848 | 22.347 | 1.307 | 18.902 | 22.100 | 28.697 |
| Lev | 16848 | 0.397 | 0.192 | 0.014 | 0.389 | 1.168 |
| ROA | 16848 | 0.060 | 0.163 | -8.385 | 0.070 | 1.536 |
| Loss | 16848 | 0.141 | 0.348 | 0.000 | 0.000 | 1.000 |
| Big4 | 16848 | 1.930 | 0.255 | 1.000 | 2.000 | 2.000 |
| Board | 16848 | 8.254 | 1.601 | 4.000 | 9.000 | 18.000 |
| SubNum | 16848 | 26.364 | 46.239 | 0.000 | 14.000 | 1225.000 |
| InvRec | 16848 | 0.254 | 0.145 | 0.000 | 0.241 | 0.860 |
| Coverage | 16848 | 1.225 | 1.210 | 0.000 | 1.099 | 4.331 |

### 5.2. Correlation Analysis

In order to avoid excessive correlation between variables affecting the reliability of empirical results, this paper first carries out correlation analysis on each variable. The results are shown in Table 3. According to the data, there is a significant positive correlation between ESG rating divergence (ESG _DIF) and audit fee (LnFee), and the H1 hypothesis is preliminarily verified. At the same time, the correlation coefficient between the remaining control variables is small, indicating that there is no severe multicollinearity problems.

**Table 3. Correlation Analysis Results**

| | LnFee | ESG_DIF | Size | Lev | ROA | Loss | Big4 | Board | SubNum | InvRec | Coverage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LnFee | 1 | | | | | | | | | | |
| ESG_DIF | 0.2206*** | 1 | | | | | | | | | |
| Size | 0.7553*** | 0.2268*** | 1 | | | | | | | | |
| Lev | 0.4107*** | 0.1144*** | 0.4873*** | 1 | | | | | | | |
| ROA | -0.0008 | -0.0092 | 0.1126*** | -0.2063*** | 1 | | | | | | |
| Loss | 0.0296*** | 0.0402*** | -0.0927*** | -0.1592*** | -0.5813*** | 1 | | | | | |
| Big4 | -0.4565*** | -0.0962*** | -0.3310*** | -0.0869*** | -0.0289*** | 0.0215*** | 1 | | | | |
| Board | 0.2109*** | 0.0846*** | 0.2953*** | 0.1378*** | 0.0236*** | -0.0385*** | -0.0932*** | 1 | | | |
| SubNum | 0.4634*** | 0.1253*** | 0.4749*** | 0.2979*** | 0.0017 | 0.0049 | -0.1454*** | 0.1301*** | 1 | | |
| InvRec | -0.0569*** | -0.0390*** | -0.0887*** | 0.2601*** | -0.0306*** | 0.0109 | 0.0780*** | -0.0963*** | 0.0269*** | 1 | |
| Coverage | 0.3121*** | 0.1270*** | 0.4366*** | 0.0275*** | 0.2874*** | -0.1929*** | -0.1971*** | 0.0939*** | 0.1945*** | -0.0762*** | 1 |

## 5.3. Regression Analysis

The benchmark regression results are shown in Table 4. This study examined the impact of ESG differences (ESG_DIF) on audit fees (LnFee) using stepwise regression. Model (1) only

included the core explanatory variable ESG_DIF, with a coefficient of 0.232 and significant at the 1% level; After adding annual and industry fixed effects to Model (2), the coefficient increased to 0.242, indicating that omitting fixed effects would underestimate the impact of ESG rating divergence. With the gradual addition of control variables, models (3) - (5) show a significant decrease in the ESG coefficient to 0.048, indicating that company characteristic variables, especially company size (Size), mediate the impact of ESG. Specifically, company size (coefficient 0.324-0.386), asset liability ratio (Lev) (coefficient 0.148-0.194), and loss status (coefficient 0.112-0.116) have a significant positive impact on expenses, while Big 4 (coefficient -0.605 to -0.596) and analyst focus (Coverage) (coefficient -0.016) significantly reduce expenses. The goodness of fit of the model gradually increased from 0.049 (Model 1) to 0.669 (Model 5), indicating that the addition of control variables significantly improved the explanatory power of the model. This result once again confirms the robustness of the hypothesis that the positive impact of ESG rating divergence and audit fees on H1 firms is robust, while revealing the important role of firm size and financial characteristics in it.

**Table 4. Correlation Analysis Results**

|  | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
|  | LnFee | LnFee | LnFee | LnFee | LnFee |
| ESG_DIF | 0.232*** | 0.242*** | 0.067*** | 0.051*** | 0.048*** |
|  | (17.5827) | (19.0100) | (7.9356) | (6.6060) | (6.3572) |
| Size |  |  | 0.386*** | 0.341*** | 0.324*** |
|  |  |  | (51.8997) | (45.2181) | (30.7868) |
| Lev |  |  |  | 0.194*** | 0.148*** |
|  |  |  |  | (5.1640) | (3.7992) |
| ROA |  |  |  | -0.120** | -0.093** |
|  |  |  |  | (-2.4663) | (-2.1866) |
| Loss |  |  |  | 0.116*** | 0.112*** |
|  |  |  |  | (7.3837) | (7.7580) |
| Big4 |  |  |  | -0.596*** | -0.605*** |
|  |  |  |  | (-20.5516) | (-20.1742) |
| Board |  |  |  | -0.000 | -0.000 |
|  |  |  |  | (-0.0632) | (-0.0690) |

| | | | | |
|---|---|---|---|---|
| SubNum | | | | 0.002*** |
| | | | | (3.7834) |
| InvRec | | | | 0.059 |
| | | | | (1.2307) |
| Coverage | | | | -0.016*** |
| | | | | (-2.9828) |
| _cons | 13.728*** | 13.659*** | 5.374*** | 7.434*** | 7.796*** |
| | (921.7441) | (99.4520) | (28.5497) | (40.0060) | (32.0184) |
| Year fe | No | Yes | Yes | Yes | Yes |
| Industry fe | No | Yes | Yes | Yes | Yes |
| N | 16848 | 16848 | 16848 | 16848 | 16848 |
| r2_a | 0.049 | 0.197 | 0.606 | 0.660 | 0.669 |

Note: t statistics in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01

## 5.4. Robustness Analysis

Using the method of replacing explanatory variables and following method from Zhang (2023), the ESG rating divergence (ESG_DIF2) was re measured by dividing the ESG standard deviation of the five existing institutions by their average. The regression results are shown in Table 5. The results show that the coefficient of ESG_DIF2 is still significantly positive ($\beta = 0.029$, t = 2.205, p < 05), indicating that the positive impact of ESG rating divergence on audit fees is still valid, which is consistent with the previous research conclusions.

**Table 5. Robustness Test Results**

| | (1) | (2) |
|---|---|---|
| | LnFee | LnFee |
| ESG_DIF | 0.048*** | |
| | (6.3572) | |
| ESG_DIF2 | | 0.029** |
| | | (2.2053) |
| Size | 0.324*** | 0.329*** |

|  |  |  |
|---|---|---|
|  | (30.7868) | (31.1406) |
| Lev | 0.148*** | 0.155*** |
|  | (3.7992) | (3.9510) |
| ROA | -0.093** | -0.097** |
|  | (-2.1866) | (-2.3200) |
| Loss | 0.112*** | 0.117*** |
|  | (7.7580) | (8.1320) |
| Big4 | -0.605*** | -0.608*** |
|  | (-20.1742) | (-20.2861) |
| Board | -0.000 | -0.000 |
|  | (-0.0690) | (-0.0515) |
| SubNum | 0.002*** | 0.002*** |
|  | (3.7834) | (3.8269) |
| InvRec | 0.059 | 0.056 |
|  | (1.2307) | (1.1707) |
| Coverage | -0.016*** | -0.015*** |
|  | (-2.9828) | (-2.7965) |
| _cons | 7.796*** | 7.746*** |
|  | (32.0184) | (31.7126) |
| Year fe | Yes | Yes |
| Industry fe | Yes | Yes |
| N | 16848 | 16848 |
| r2_a | 0.669 | 0.667 |

Note: t statistics in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

## 6. Further Analysis

### 6.1. Mechanism Test

#### 6.1.1. Analysis of Findings and Conclusions

Following the method from Chen (2012), this paper constructs a virtual variable enterprise information risk (InfoRisk_Score), and uses the rating disclosed by Shenzhen Stock Exchange as the proxy variable of information risk mechanism. The better the information disclosure rating results of Shenzhen Stock Exchange, indicating that the higher the quality of the company's comprehensive information disclosure, the lower the information risk. The rating disclosed by Shenzhen Stock Exchange has four grades: fail, pass, good and excellent, which are assigned a value of 1 to 4. The greater the value, the lower the information risk. Because 118 of them have not received the disclosure rating of Shenzhen Stock Exchange, there are 16376 valid data.

This study tests the mediating effect of information risk through three steps. The results of mechanism test are shown in Table 6. ESG_DIF has no significant impact on InfoRisk_Score ($\beta$ = - 0.001, t= - 0.11), and the explanatory power of the model is very low ($R^2$ = 0.004). After adding the information risk variable, the coefficient of ESG_DIF remained stable (from 0.049 to 0.049), P values were all less than 0.01. This result shows that the traditional information risk channels measured by the information disclosure rating of Shenzhen Stock Exchange fail to explain the impact mechanism of ESG rating divergence on audit fees.

**Table 6. Mechanism Test Results**

|  | (1) LnFee | (2) InfoRisk_Score | (3) LnFee |
|---|---|---|---|
| ESG_DIF | 0.049*** | -0.001 | 0.049*** |
|  | (6.3800) | (-0.1099) | (6.3799) |
| Size | 0.326*** | -0.007 | 0.326*** |
|  | (30.6191) | (-0.7229) | (30.6268) |
| Lev | 0.149*** | -0.010 | 0.149*** |
|  | (3.7859) | (-0.2092) | (3.7858) |
| ROA | -0.093** | 0.030 | -0.093** |
|  | (-2.1350) | (0.7314) | (-2.1337) |
| Loss | 0.112*** | -0.009 | 0.112*** |
|  | (7.6324) | (-0.5575) | (7.6314) |
| Big4 | -0.606*** | 0.029 | -0.606*** |

|  |  | (-19.9207) | (1.0010) |  | (-19.9186) |
|---|---|---|---|---|---|
| Board |  | -0.001 | -0.001 |  | -0.001 |
|  |  | (-0.2233) | (-0.1518) |  | (-0.2236) |
| SubNum |  | 0.002*** | 0.000** |  | 0.002*** |
|  |  | (3.6931) | (2.0808) |  | (3.6979) |
| InvRec |  | 0.063 | -0.095* |  | 0.063 |
|  |  | (1.3184) | (-1.6704) |  | (1.3138) |
| Coverage |  | -0.017*** | -0.000 |  | -0.017*** |
|  |  | (-3.0110) | (-0.0096) |  | (-3.0109) |
| InfoRisk_Score |  |  |  |  | -0.001 |
|  |  |  |  |  | (-0.1765) |
| _cons |  | 7.770*** | 2.093*** |  | 7.773*** |
|  |  | (31.5451) | (9.7174) |  | (31.6076) |
| Year fe |  | Yes | Yes |  | Yes |
| Industry fe |  | Yes | Yes |  | Yes |
| N |  | 16376 | 16376 |  | 16376 |
| r2_a |  | 0.670 | 0.004 |  | 0.670 |

Note: t statistics in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

In view of this result, this paper explains the nonsignificant effect from two aspects: the theoretical mismatch of proxy variables and the regulatory effect of China's special situation:

The first aspect is that the essence of agent variable theory mismatch Shenzhen stock exchange information disclosure rating (InfoRisk_Score) is to measure the quality of corporate compliance disclosure, while ESG rating divergence reflects the difference of market cognition, and the two are essentially different. Regulatory ratings pay more attention to format standardization and timeliness (such as the timeliness of annual report disclosure), while ESG differences of market concern involve substantial interpretation of non-financial information (such as differences in calculation methods of carbon emission data). This explanation can be verified by the statistically significant positive correlation between the number of sub companies (SubNum) and the information disclosure rating ($\beta = 0.000$, $p < 05$). Although the absolute value of the coefficient is small, the finding still has theoretical value: it implies that regulatory rating systems may pay

more attention to the formal completeness of corporate disclosures than to the substantial risk of information emphasized in traditional studies. This echoes the discussion of Zhang et al. (2023) on the characteristics of the "Chinese style disclosure" system.

The second aspect is that the regulatory role of China's special situation, in a strong regulatory environment, the ESG information of heavily polluting enterprises has formed a standardized template through mandatory disclosure, resulting in rating differences that are difficult to reflect the real risk; The voluntary ESG disclosure of non polluting enterprises may magnify the difference in market interpretation (Feng et al., 2024). This is consistent with the finding that the effect of non polluting industries in the main regression is stronger. China's ESG rating agencies (such as Huazheng and SynTao Green Finance) focus on policy compliance in the environmental dimension and public welfare donations in the social dimension. This "policy adaptation" rating system may weaken the information content of differences. (Su & Ma, 2025)

### 6.1.2. Theoretical Implications and Future Prospects

First, the direction of theoretical deepening. This study reveals that the impact of ESG rating divergence on audit fees may have a transmission path outside the traditional information risk theory, which provides important enlightenment for follow-up research. Future research can pay further attention to: first, build an ESG specific information risk assessment framework to distinguish between regulatory compliance risk (such as timeliness and integrity of information disclosure) and market cognitive risk (such as analyst forecast divergence and media reporting tendency). Secondly, we should deeply explore the unique transmission mechanism of ESG rating divergence in China's institutional environment, especially the differentiated impact of policy driven (such as "double carbon" target related indicators) and market driven (such as corporate governance indicators) divergence.

Second, practical application value. The findings of this study have important implications for regulatory policy and audit practice: first, for regulators, it is suggested to build an ESG special information disclosure quality assessment system and add ESG specific indicators to the existing disclosure framework, such as the consistency statement of supply chain carbon emission accounting methods. Secondly, for accounting firms, ESG risk assessment module should be established to incorporate the controversial event data of major rating agencies into the modern risk oriented audit model. Thirdly, for listed companies, differentiated ESG information disclosure strategies need to be established for different industry characteristics (such as the sensitivity of environmental indicators in highly polluting industries).

These research directions not only help to deepen the understanding of the economic consequences of ESG rating divergence, but also provide theoretical support and practical guidance for improving China's ESG ecosystem. Follow-up research can focus on the changes of ESG audit risk premium before and after the implementation of the "double carbon" policy, as well as the differences in ESG divergence transmission mechanism in different industries.

## 6.2. Heterogeneity Analysis

It is classified by whether the enterprise belongs to the heavy pollution industry. There are 16 heavy pollution industries, with the code as follows: B06, B07, B08, B09, C17, C19, C22, C25, C26, C27, C28, C30, C31, C32, C33 and D44. There are 4428 data of listed companies belonging to the above industries and 12420 data of listed companies not belonging to the above industries. The regression results are shown in Table 7.

The results show that when enterprises belong to heavy polluting industries, the coefficient of ESG_DIF is 0.043, while when enterprises belong to lightly polluting industries, the coefficient of ESG_DIF is 0.052. It can be concluded that when enterprises belong to lightly polluting industries, the positive role of ESG rating divergence in promoting audit fees is more obvious. This difference can be attributed to the following reasons: first, the heavily polluting industry itself is facing strict environmental protection supervision, and its ESG performance has been subject to institutional constraints, resulting in low marginal information content of ESG rating divergence; Secondly, for lightly polluting industries, ESG rating, as a voluntary information disclosure, can better reflect the real information risk of enterprises, so auditors will give it a higher risk premium. (Clarkson et al., 2013)

In addition, the control variable analysis found that the positive impact of asset liability ratio (Lev) on audit fees was more significant in heavily polluting industries, while the size of the board showed a significant positive correlation only in heavily polluting industries, which may imply that there is a phenomenon of "formal governance" in heavily polluting enterprises. The adjusted $R^2$ of the two groups of models was 0.686 and 0.666, respectively, indicating that the model setting has good explanatory power. The results of this study suggest that regulators should pay special attention to the quality of ESG rating in lightly polluting industries, and audit institutions need to assess ESG risk differently according to the characteristics of different industries.

### Table 7. Results of Heterogeneity Analysis

|  | (1) | (2) |
|---|---|---|
|  | LnFee | LnFee |
|  | Heavily Polluting industries | Lightly Polluting Industries |
| ESG_DIF | 0.043*** | 0.052*** |
|  | (3.0096) | (5.7459) |
| Size | 0.312*** | 0.324*** |
|  | (19.1925) | (26.5849) |
| Lev | 0.192*** | 0.134*** |
|  | (2.5945) | (2.9169) |

| | | |
|---|---|---|
| ROA | -0.033 | -0.163*** |
| | (-0.8161) | (-3.3432) |
| Loss | 0.116*** | 0.096*** |
| | (4.6853) | (6.0184) |
| Big4 | -0.571*** | -0.614*** |
| | (-9.5145) | (-17.8055) |
| Board | 0.019*** | -0.009* |
| | (2.5874) | (-1.9401) |
| SubNum | 0.003*** | 0.001*** |
| | (5.5922) | (3.1386) |
| InvRec | 0.037 | 0.058 |
| | (0.3429) | (1.0948) |
| Coverage | -0.015 | -0.015** |
| | (-1.4444) | (-2.3702) |
| _cons | 7.625*** | 7.918*** |
| | (17.8301) | (28.4684) |
| Year fe | Yes | Yes |
| Industry fe | Yes | Yes |
| N | 4428 | 12420 |
| r2_a | 0.686 | 0.666 |

Note: t statistics in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

## 7. Discussions

### 7.1. Research Conclusion

With the deepening of China's "double carbon" strategy, ESG information disclosure has become an important starting point for the green transformation of enterprises. However, there are differences in ESG rating standards and results, which have become an important factor affecting the information efficiency of capital market. Taking A-share listed companies from 2019 to 2023 as a sample, this paper empirically studies the impact of ESG rating divergence on audit fees. The

results show that there is a significant positive correlation between ESG rating divergence and audit fees. However, enterprise information risk level is a nonsignificant mediator in the current research. Heterogeneity analysis shows that the ESG rating divergence of enterprises belonging to lightly polluting industries has a more significant positive impact on the increase of audit fees. The results of this paper not only expand the research pedigree of the economic consequences of ESG rating, but also extend the research boundary of the factors affecting audit pricing to the field of non-financial information risk, making up for the limitations of the traditional financial risk analysis framework.

## 7.2. Managerial Implications

Based on the conclusions of this paper, the following suggestions are put forward: (1) For listed companies, ESG rating should be paid more attention to. Establish a sound ESG information disclosure mechanism, reduce the fuzziness of ESG information disclosure, and improve the quality of disclosure. At the same time, enterprises should actively maintain communication with rating agencies, timely explain ESG performance differences, and continue to optimize ESG management system, so as to effectively control the negative impact of audit premium caused by rating differences. (2) For the government and relevant regulatory agencies, on the premise of clarifying the underlying logic of ESG rating mechanism, we should optimize the top-level design of ESG rating, establish a unified index system, rating methods and disclosure standards, and focus on solving the problems of index fragmentation and opaque methods in the existing rating system. At the same time, the regulatory authorities should strengthen the coordinated supervision with industry associations and financial institutions, and promote the formation of a new pattern of ESG rating governance combining market self-discipline and administrative supervision.

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Conceptualization, Y. Y.; methodology, Y. Y.; software, Y. Y.; validation, Y. Y.; formal analysis, Y. Y.; investigation, Y. Y.; resources, Y. Y.; data curation, Y. Y.; writing—original draft preparation, Y. Y.; writing—review and editing, Y. Y.; visualization, Y. Y.; supervision, Y. Y.; project administration, Y. Y.; funding acquisition, Y. Y. All authors have read and agreed to the published version of the manuscript.

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Data available on request from the authors.

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