

## ***Corporate Internationalization and Audit Quality***

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**Abstract:** As economic globalization deepens, Chinese enterprises are accelerating their internationalization process, making global operations a crucial strategic choice for enhancing competitiveness and achieving sustainable development. Against this backdrop, the impact of internationalization on audit quality has become a significant topic of interest in both academic and professional circles. This study examines the influence mechanism of internationalization on audit quality using Chinese enterprises from 2003 to 2022 as its sample. The findings reveal a significant positive correlation between the degree of internationalization and audit quality, indicating that international operations can effectively enhance audit quality. Robustness tests, including variable substitution and alternative dependent and independent variables, consistently confirm the core conclusions. Further analysis indicates that the moderating effect of foreign direct investment at the regional level significantly amplifies the positive impact of internationalization on audit quality. On one hand, internationalization reduces information transparency and increases financial risks, indirectly boosting audit demand. On the other hand, it enhances audit supply through talent influx and external audit services, ultimately elevating audit quality. Heterogeneity tests reveal that the quality-enhancing effect of internationalization is more pronounced in manufacturing, high-tech, and technology-intensive firms, with eastern and western enterprises outperforming their central counterparts. This study provides theoretical support for the relationship between corporate internationalization strategies and audit quality, offering valuable insights for policymakers seeking to optimize regulatory frameworks.

**Keywords:** Corporate Internationalization; Audit Quality; Foreign Direct Investment; Financial Risk

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# 1. Introduction

Corporate internationalization refers to the process by which enterprises conduct business activities across national borders, encompassing various forms such as export trade, foreign direct investment, and cross-border mergers and acquisitions. With the deepening implementation of China's "Going Global" strategy and the continuous advancement of the Belt and Road Initiative, Chinese enterprises have progressively increased their internationalization, with overseas revenue accounting for an ever-growing proportion of their total revenue. Concurrently, as a vital mechanism of corporate governance, the quality of auditing directly impacts the healthy development of capital markets and the protection of investor interests. The relationship between corporate internationalization and audit quality has gradually emerged as a cutting-edge topic in the fields of corporate governance and auditing research.

Existing research on the economic consequences of corporate internationalization primarily focuses on its impacts on corporate performance, corporate social responsibility, innovation capabilities, and corporate resilience<sup>[1]</sup>. Zhu (2022) found a U-shaped relationship between internationalization strategy and management earnings forecast bias: as the degree of internationalization increases, management earnings forecast bias first decreases and then increases<sup>[2]</sup>. Corporate internationalization positively correlates with corporate social responsibility (CSR) ratings, a relationship validated across a large sample of companies from 44 countries<sup>[3]</sup>. Wang (2025) examined the relationship between internationalization pace and corporate innovation, finding that the link between internationalization pace and innovation performance in emerging market firms follows a U-shaped curve, with steeper curves observed at higher levels of internationalization depth<sup>[4]</sup>. Wang and Zhao (2025) discovered that capital market internationalization enhances corporate resilience, with this effect being more pronounced in companies possessing higher levels of artificial intelligence capabilities<sup>[5]</sup>.

However, systematic research on how internationalization affects audit quality remains relatively scarce. According to existing literature, firms primarily choose high-quality audits based on three motivations: controlling opportunistic behavior by agents<sup>[6][7][8]</sup>, signaling to address information asymmetry<sup>[9][10][11]</sup>, and risk sharing<sup>[12][13][14]</sup>. International operations may significantly influence these audit demand drivers by altering corporate governance structures<sup>[15][16]</sup>, information transmission<sup>[17][18]</sup>, may significantly influence these drivers of audit demand, thereby altering firms' auditor selection<sup>[19]</sup> and audit quality<sup>[20]</sup>. Furthermore, the resource accumulation and capability enhancement resulting from internationalization<sup>[21]</sup> provide the necessary conditions for firms to support high-quality auditing. Therefore, this study analyzes the impact of corporate internationalization on audit quality from both demand and supply perspectives.

The innovation of this paper manifests in three key aspects: First, it reveals the specific pathways through which internationalization influences audit quality. Second, it challenges existing research assumptions about corporate homogeneity by systematically analyzing the heterogeneous performance of enterprises across different industries and regions. Third, it extends the study of the economic consequences of internationalization strategies to the field of auditing, offering a new perspective for understanding the comprehensive benefits of

corporate internationalization.

## **2. Literature Review and Theoretical Analysis**

### **2.1. The Driving Mechanism of Internationalization for High-Quality Audit Demand**

#### **2.1.1. Compliance Requirements**

International enterprises face constraints from multiple regulatory environments, needing to simultaneously meet the regulatory requirements of both their home country and host countries. This compliance pressure serves as a significant driving force behind the demand for high-quality auditing. Accounting and auditing standards, disclosure requirements, and corporate governance standards vary significantly across countries. To secure legitimacy for their operations in host countries, international enterprises often need to adopt stricter international standards<sup>[22]</sup>. The regulatory environment forms an external constraint framework for audit quality. Effective external oversight limits auditor behavior and consequently enhances audit quality<sup>[23]</sup>. International enterprises face regulatory oversight from both their home countries and host countries, with external oversight being more stringent. This results in higher compliance requirements and consequently higher audit quality.

#### **2.1.2. Signal Transmission Requirements**

Cross-border mergers and acquisitions face higher levels of information asymmetry and greater information risks<sup>[24]</sup>. The information asymmetry arising from internationalization manifests primarily in three aspects: First, geographical distance creates barriers to information transmission, increasing communication costs<sup>[25]</sup>; Second, institutional differences lead to difficulties in interpreting information, complicating information processing<sup>[26]</sup>; Third, cultural differences trigger biases in information comprehension<sup>[27]</sup>. Regarding agency costs, internationalization amplifies the classic agency problems arising from the separation of ownership and control while introducing new transnational agency conflicts. Lei (2020) found that corporate internationalization increases tax avoidance levels, with this effect being more pronounced in samples where executives lack overseas experience. Meanwhile, firm size and executive compensation incentives negatively moderate the positive relationship between internationalization and tax avoidance<sup>[28]</sup>. Institutional trust significantly influences international clients' audit trust, with highly reputable international Big Four firms more readily gaining such trust<sup>[29]</sup>, thereby enhancing corporate audit quality. Consequently, corporate internationalization increases firms' signaling needs, while improved information transparency helps reduce information barriers, ultimately enhancing audit quality<sup>[30]</sup>.

#### **2.1.3. Risk Control Requirements**

International operations significantly increase a company's operational complexity and risk exposure, and this shift in risk profile heightens the demand for high-quality auditing.

Cross-border operations involve multiple risk factors such as exchange rate fluctuations, political risks, and legal differences, which elevate the likelihood of financial misstatements and fraud. Wang (2018) analyzed data from listed manufacturing companies and found that as internationalization deepens, existing internal control systems often fail to fully adapt to and meet global operational demands<sup>[31]</sup>. Over time, internal control quality tends to decline, increasing the likelihood of disclosing significant or material internal control deficiencies. In such circumstances, high-quality external audits can serve as a complementary mechanism to internal controls, helping enterprises identify and manage the unique risks inherent in international operations.

The risk pricing mechanism in auditing is particularly evident in international contexts. Mechanism tests by Li (2023) indicate that family businesses engaging in international operations increase operational risks, prompting auditors to elevate their risk assessments and consequently raise audit fees<sup>[32]</sup>. Further research reveals that the positive impact of family business internationalization on audit fees is more pronounced in firms without executives with overseas backgrounds and in those without state-owned equity holdings. This indicates that auditors do indeed adjust audit inputs and pricing to account for the unique risks of internationalized enterprises, and that firms are willing to pay a premium for risk management.

## **2.2. The Supporting Role of Internationalization in High-Quality Audit Supply**

### **2.2.1. Supply of Professional Talent**

The internationalization process has significantly improved corporate talent structures, providing professional support for high-quality auditing. Corporate internationalization often involves the recruitment of executives and directors with international backgrounds, who bring advanced governance concepts and specialized expertise. Yuan and Wei (2022) found that executives' overseas work experience significantly promotes the internationalization of Chinese enterprises<sup>[33]</sup>. Compared to overseas living or study experiences, overseas work experience demonstrates a more pronounced advantage in driving corporate internationalization. Xin (2022) demonstrated that executives' overseas experience enhances corporate audit quality<sup>[34]</sup>. Companies with executives possessing such experience are more likely to receive standard audit opinions and exhibit fewer instances of earnings management. These internationally experienced executives not only advance corporate internationalization strategies but also elevate overall governance standards, thereby fostering an environment conducive to high-quality auditing.

From the perspective of audit team composition, international enterprises are more likely to employ diverse audit professionals. Due to their higher operational complexity, these companies often prioritize specialized expertise and diversity within their audit teams to enhance the comprehensiveness and effectiveness of their audit work. The growth of multinational corporations has complicated consolidated financial statements across borders. To ensure the reliability of international financial reporting, these companies increasingly employ international audit professionals<sup>[35]</sup>. Particularly when engaging in complex international activities like cross-border mergers and acquisitions, internal audit teams with

international experience and language proficiency become crucial for collaborating with external auditors, thereby elevating the quality of corporate audits<sup>[36]</sup>.

### **2.2.2. Strengthening Internal Audit**

On the one hand, driven by the need to expand overseas markets and establish international reputation, enterprises have incentives to adopt international auditing standards<sup>[37]</sup>. These standards are typically more stringent and structured, providing enterprises with a more scientific and rational auditing framework. This helps enhance the standardization and professionalism of internal auditing, aligning their auditing practices more closely with the expectations and requirements of international markets. On the other hand, audit matters for multinational corporations are often complex, involving laws and regulations, accounting standards, and diverse cultural contexts across multiple countries and regions. To better address these complexities, companies may adopt advanced auditing technologies and tools. These technologies and tools not only enhance audit efficiency but also improve the precision and reliability of audits. Companies can further strengthen their internal audit functions, elevate the quality and effectiveness of internal audits, and consequently drive improvements in the overall audit quality of the organization.

Based on the above analysis, this paper proposes the following hypothesis:

H1: There is a significant positive correlation between corporate internationalization and audit quality.

## **3. Research Design**

### **3.1. Sample Selection and Data Sources**

2003 marked a pivotal year for policy adjustments following China's accession to the WTO, with multiple significant policies introduced in the field of cross-border operations. Effective September 1, 2003, the Ministry of Commerce issued the “Notice on Adjusting Import and Export Qualification Standards and Approval Procedures,” fully liberalizing foreign trade operations for domestic enterprises and eliminating restrictions on registered capital and establishment duration. Therefore, this study selects the period from 2003 to 2022 as the sample interval. Following data processing principles, companies with severe data gaps—including those labeled ST or \*ST, missing data, or missing control variables—were excluded. Ultimately, 42,735 firm-year observations were obtained as the research sample, with all data sourced from CSMAR. To mitigate the interference of extreme values on the overall sample data, all continuous variables underwent 1% truncation.

### **3.2. Variable Measurement**

Drawing on the research of Wang (2014)<sup>[38]</sup>, this paper employs the proportion of overseas primary business revenue to total operating revenue (FSTS) as a measure of corporate internationalization.

Drawing on Hou (2025)<sup>[39]</sup>, we use manipulative accruals as a proxy for audit quality.

Referencing prior literature, the following control variables were selected: firm age (FirmAge), firm size (Size), top five shareholder concentration (Top5), return on assets

(ROA), leverage ratio (LEV), board size (Board), proportion of independent directors (Indep), and dual roles (Dual).

**Table 1.** Definitions of Key Variables

| Variable Type        | Symbol  | Full name                                    | Variable Definition                                                                                                                                                                                 |
|----------------------|---------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Independent variable | FSTS    | Level of Internationalization of Enterprises | The proportion of overseas main business revenue to total operating revenue.                                                                                                                        |
| Dependent variable   | DAC     | Audit Quality                                | Manipulable accrual profits calculated using the modified Jones model serve as a proxy indicator for audit quality. Higher values indicate more severe earnings management and lower audit quality. |
| Control variables    | FirmAge | Company Age                                  | The difference between the current year and the year the company was established, taking the natural logarithm.                                                                                     |
|                      | Size    | Company Size                                 | The natural logarithm of the enterprise's total assets.                                                                                                                                             |
|                      | Top5    | Equity Concentration                         | The combined shareholding ratio of the company's top five shareholders.                                                                                                                             |
|                      | ROA     | Return on Assets                             | Net profit divided by the company's average total assets.                                                                                                                                           |
|                      | LEV     | Leverage ratio                               | Total corporate liabilities divided by total assets.                                                                                                                                                |
|                      | Board   | Board size                                   | The total number of directors on the board.                                                                                                                                                         |
|                      | Indep   | Proportion of Independent Directors          | The number of independent directors divided by the total number of directors on the company's board.                                                                                                |
|                      | Dual    | Combining Two Positions                      | If the chairman also serves as CEO, the value is 1; otherwise, it is 0.                                                                                                                             |

**Table 2.** Descriptive Statistics Results

| Variable | Obs   | Mean   | Std. Dev. | Min    | Max    |
|----------|-------|--------|-----------|--------|--------|
| DAC      | 42735 | .004   | .096      | -.327  | .302   |
| FSTS     | 42735 | .096   | .182      | 0      | .838   |
| FirmAge  | 42735 | 2.826  | .387      | 1.609  | 3.497  |
| Size     | 42735 | 22.122 | 1.273     | 19.822 | 25.964 |
| Top5     | 42735 | 53.092 | 15.187    | 20.93  | 87.827 |
| ROA      | 42735 | .039   | .061      | -.19   | .209   |
| Lev      | 42735 | .441   | .201      | .061   | .868   |
| Board    | 42735 | 2.141  | .204      | 1.609  | 2.708  |
| Indep    | 42735 | 37.22  | 5.307     | 28.57  | 57.14  |
| Dual     | 42735 | .248   | .432      | 0      | 1      |

### 3.3. Model Validation

To verify the relationship between corporate internationalization and audit quality, the following regression model was developed:

$$FSTS_{it} = \alpha_0 + \alpha_1 DAC_{it} + \beta X_{it} + \lambda_t + \varepsilon_{ijt} \quad (1)$$

Among them, *i* denotes the firm, *t* denotes the year; the explained variable,  $FSTS_{it}$  represents the firm's internationalization level;  $DAC_{it}$  represents audit quality;  $X_{it}$  denotes

the control variables;  $\lambda_t$  represents the fixed effect for the year dimension;  $\varepsilon_{ijt}$  denotes the random disturbance term.

## 4. Empirical Findings

### 4.1. Benchmark Test Results

**Table 3.** Benchmark Test Results

|               | DAC                   | DAC                   | DAC                   |
|---------------|-----------------------|-----------------------|-----------------------|
| FSTS          | -0.036***<br>(-7.185) | -0.021***<br>(-4.656) | -0.019***<br>(-4.368) |
| FirmAge       |                       | -0.018***<br>(-7.277) | -0.016***<br>(-2.895) |
| Size          |                       | 0.007***<br>(7.233)   | 0.009***<br>(9.000)   |
| Top5          |                       | 0.000<br>(0.623)      | 0.000**<br>(2.484)    |
| ROA           |                       | 0.719***<br>(75.579)  | 0.685***<br>(74.063)  |
| Lev           |                       | -0.008*<br>(-1.756)   | -0.017***<br>(-4.175) |
| Board         |                       | 0.004<br>(0.997)      | 0.001<br>(0.327)      |
| Indep         |                       | 0.000*<br>(1.659)     | 0.000<br>(0.780)      |
| Dual          |                       | 0.000<br>(0.183)      | -0.000<br>(-0.246)    |
| Annual Effect |                       |                       | Yes                   |
| _cons         | 0.007***<br>(11.245)  | -0.140***<br>(-7.251) | -0.167***<br>(-7.072) |
| N             | 42735                 | 42735                 | 42735                 |
| R2            | 0.001                 | 0.156                 | 0.229                 |
| F             | 51.620                | 784.275               | 406.267               |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

This study systematically examines the impact of corporate internationalization (FSTS) on audit quality (DAC) through a three-stage regression model. The empirical results in Table 3 reveal that corporate internationalization exerts a significant positive effect on audit quality. This finding remains robust after controlling for firm characteristics and annual fixed effects.

In the base model (Column 1), the coefficient estimate for FSTS is -0.036 and statistically significant at the 1% level ( $t=-7.185$ ). This indicates that for each unit increase in a firm's internationalization level, its manipulable accruals decrease by 3.6 percentage points, leading to improved audit quality. This result preliminarily validates the research hypothesis. After introducing firm-level control variables (Column 2), the FSTS coefficient is -0.021 but remains statistically significant at the 1% level ( $t=-4.656$ ). Further controlling for annual fixed effects (Column 3), the core explanatory variable FSTS maintains a stable coefficient of -0.019 ( $t=-4.368$ ), confirming Hypothesis 1. Notably, the coefficient for firm size (Size) consistently remained significantly positive, while that for financial leverage (Lev) remained significantly negative, consistent with existing literature findings.

## 4.2. Robustness Tests

To further verify the reliability of the aforementioned results, this paper also employs robustness tests through methods such as replacing the dependent variable, changing the independent variable, and switching measurement approaches.

### 4.2.1. Replacing the Dependent Variable

**Table 4.** Replacing the Dependent Variable with Big10

|               | Big10                | Big10                 | Big10                 |
|---------------|----------------------|-----------------------|-----------------------|
| FSTS          | 0.231***<br>(11.689) | 0.091***<br>(4.810)   | 0.058***<br>(3.159)   |
| FirmAge       |                      | 0.293***<br>(29.343)  | 0.158***<br>(6.813)   |
| Size          |                      | 0.055***<br>(14.129)  | 0.051***<br>(12.997)  |
| Top5          |                      | 0.003***<br>(12.468)  | 0.001***<br>(5.963)   |
| ROA           |                      | 0.084**<br>(2.148)    | 0.057<br>(1.477)      |
| Lev           |                      | -0.148***<br>(-8.389) | -0.079***<br>(-4.544) |
| Board         |                      | -0.027<br>(-1.570)    | -0.024<br>(-1.420)    |
| Indep         |                      | 0.001<br>(1.194)      | -0.000<br>(-0.184)    |
| Dual          |                      | 0.007<br>(1.169)      | -0.004<br>(-0.636)    |
| Annual Effect |                      |                       | Yes                   |
| _cons         | 0.478***             | -1.620***             | -1.166***             |

|    |           |           |           |
|----|-----------|-----------|-----------|
|    | (183.791) | (-20.460) | (-11.856) |
| N  | 42735     | 42735     | 42735     |
| R2 | 0.004     | 0.099     | 0.149     |
| F  | 136.640   | 466.280   | 239.256   |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

To test the robustness of the benchmark regression results, this study replaced the dependent variable with the Big10 (a dummy variable for audits by the top ten accounting firms) and conducted the regression analysis again. The results show that the coefficient of the core explanatory variable FSTS remains statistically significant at the 1% level, but its impact gradually diminishes with the inclusion of control variables: decreasing from 0.231 (t=11.689) in the first column to 0.058 (t=3.159) in the third column. This trend indicates that while the positive effect of FSTS on Big10 selection exhibits marginal diminishing returns, its statistical significance remains consistently stable, supporting the reliability of the benchmark conclusion.

#### 4.2.2. Substitution of Independent Variables

**Table 5.** Replacing the independent variable with FSTS1

|               | DAC                   | DAC                   | DAC                  |
|---------------|-----------------------|-----------------------|----------------------|
| FSTS1         | -0.157***<br>(-6.626) | -0.050**<br>(-2.085)  | -0.057**<br>(-2.528) |
| FirmAge       |                       | -0.026***<br>(-3.796) | -0.023*<br>(-1.672)  |
| Size          |                       | 0.011***<br>(4.672)   | 0.013***<br>(5.779)  |
| Top5          |                       | 0.000<br>(1.608)      | 0.000<br>(1.618)     |
| ROA           |                       | 0.796***<br>(46.889)  | 0.785***<br>(49.045) |
| Lev           |                       | 0.002<br>(0.263)      | -0.016*<br>(-1.837)  |
| Board         |                       | 0.000<br>(0.041)      | -0.002<br>(-0.181)   |
| Indep         |                       | 0.000<br>(0.680)      | 0.000<br>(1.050)     |
| Dual          |                       | -0.004<br>(-1.325)    | -0.002<br>(-0.902)   |
| Annual Effect |                       |                       | Yes                  |
| _cons         | 0.004***              | -0.218***             | -0.246**             |

|    |         |          |          |
|----|---------|----------|----------|
|    | (2.647) | (-4.332) | (-2.318) |
| N  | 12854   | 12854    | 12854    |
| R2 | 0.004   | 0.208    | 0.311    |
| F  | 43.902  | 321.549  | 190.748  |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

This study draws upon Sun (2025) by employing the number of overseas subsidiaries (FSTS1) as a proxy variable for corporate internationalization to conduct robustness tests<sup>[40]</sup>. The regression results in Table 5 reveal that the number of overseas subsidiaries exerts a significant positive impact on audit quality. This finding corroborates the conclusions from the benchmark regression, further enhancing the reliability of the research conclusions. In the base model (Column 1), the coefficient for FSTS1 is -0.157 and highly significant at the 1% level (t=-6.626). This result validates, from the perspective of organizational complexity, the positive impact of international operations on the demand for high-quality audit services, which in turn enhances audit quality, confirming the robustness of the core conclusion.

**Table 6.** Replacement of Independent Variable with FSTS2

|               | DAC                   | DAC                   | DAC                   |
|---------------|-----------------------|-----------------------|-----------------------|
| FSTS2         | -0.002***<br>(-3.666) | -0.003***<br>(-4.219) | -0.003***<br>(-5.254) |
| FirmAge       |                       | -0.017***<br>(-3.989) | -0.037***<br>(-4.119) |
| Size          |                       | 0.009***<br>(5.598)   | 0.010***<br>(6.617)   |
| Top5          |                       | 0.000**<br>(2.486)    | 0.000***<br>(3.461)   |
| ROA           |                       | 0.755***<br>(54.124)  | 0.730***<br>(55.658)  |
| Lev           |                       | 0.010<br>(1.473)      | -0.004<br>(-0.536)    |
| Board         |                       | 0.013*<br>(1.899)     | 0.011*<br>(1.796)     |
| Indep         |                       | 0.000<br>(0.506)      | 0.000<br>(0.428)      |
| Dual          |                       | 0.002<br>(0.932)      | 0.002<br>(1.103)      |
| Annual Effect |                       |                       | Yes                   |
| _cons         | 0.040***<br>(3.563)   | -0.189***<br>(-5.771) | -0.175***<br>(-4.525) |
| N             | 20063                 | 20063                 | 20063                 |

|    |        |         |         |
|----|--------|---------|---------|
| R2 | 0.001  | 0.171   | 0.283   |
| F  | 13.438 | 397.346 | 244.885 |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

This paper continues to measure the degree of corporate internationalization through alternative methods, specifically by taking the natural logarithm of the absolute value of overseas main business revenue (FSTS2), as shown in Table 6. The final results consistently align with the benchmark regression findings, demonstrating the robustness of the conclusions: corporate internationalization can enhance audit quality.

### 4.2.3. Simple Cross-Validation

**Table 7.** Cross-Validation Results

|               | DAC                  | DAC                  | DAC                  |
|---------------|----------------------|----------------------|----------------------|
| FSTS          | -0.038***<br>(-6.33) | -0.023***<br>(-4.13) | -0.019***<br>(-3.52) |
| FirmAge       |                      | -0.015***<br>(-5.03) | -0.013*<br>(-1.85)   |
| Size          |                      | 0.005***<br>(4.47)   | 0.007***<br>(6.15)   |
| Top5          |                      | 0.000<br>(0.35)      | 0.000**<br>(2.02)    |
| ROA           |                      | 0.718***<br>(61.36)  | 0.684***<br>(60.20)  |
| Lev           |                      | -0.007<br>(-1.33)    | -0.017***<br>(-3.42) |
| Board         |                      | 0.005<br>(0.97)      | 0.002<br>(0.48)      |
| Indep         |                      | 0.000<br>(0.89)      | -0.000<br>(-0.01)    |
| Dual          |                      | 0.000<br>(0.11)      | -0.001<br>(-0.29)    |
| Annual Effect |                      |                      | Yes                  |
| _cons         | 0.008***<br>(9.55)   | -0.109***<br>(-4.63) | -0.139***<br>(-4.86) |
| N             | 29882                | 29882                | 29882                |
| R2            | 0.002                | 0.153                | 0.227                |

**Notes:** 1. \*\*\*p<0.01, \*\*p<0.05, \*p<0.10;

2. Test set prediction correlation: Model 1 = 0.053, Model 2 = 0.377, Model 3 = 0.449

To assess the robustness of the models, this study employed simple cross-validation to

validate the benchmark regression results. As shown in Table 7, all models were estimated using 70% of the training set samples. The results indicate that the FSTS coefficient is significantly negative at the 1% level across all model specifications, demonstrating the stability of the positive influence exerted by the core explanatory variable.

#### 4.2.4. Narrowing the Sample Scope

**Table 8.** Narrowing the Sample Scope

|               | DAC                   | DAC                   | DAC                   |
|---------------|-----------------------|-----------------------|-----------------------|
| FSTS          | -0.040***<br>(-5.380) | -0.030***<br>(-4.449) | -0.030***<br>(-4.711) |
| FirmAge       |                       | -0.011**<br>(-1.966)  | 0.030**<br>(2.193)    |
| Size          |                       | 0.007***<br>(4.267)   | 0.011***<br>(6.723)   |
| Top5          |                       | -0.000**<br>(-1.993)  | -0.000*<br>(-1.884)   |
| ROA           |                       | 0.755***<br>(62.277)  | 0.743***<br>(64.808)  |
| Lev           |                       | 0.003<br>(0.489)      | -0.015**<br>(-2.386)  |
| Board         |                       | 0.005<br>(0.712)      | 0.004<br>(0.660)      |
| Indep         |                       | 0.000<br>(0.674)      | 0.000<br>(0.704)      |
| Dual          |                       | -0.001<br>(-0.675)    | -0.002<br>(-0.875)    |
| Annual Effect |                       |                       | Yes                   |
| _cons         | 0.003***<br>(3.332)   | -0.158***<br>(-4.440) | -0.322***<br>(-6.154) |
| N             | 27603                 | 27603                 | 27603                 |
| R2            | 0.001                 | 0.166                 | 0.261                 |
| F             | 28.942                | 514.383               | 481.336               |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

The 2014 Measures for the Approval and Filing of Overseas Investment Projects implemented a filing system for general overseas investment projects, significantly streamlining procedures and exerting a substantial impact on enterprises' internationalization processes. Therefore, this study narrowed the sample period to conduct regression analysis using data from 2014 to 2022. The final results remained consistent with the benchmark

regression outcomes, indicating the robustness of the findings.

#### 4.2.5. Lagged Variable Method

**Table 9.** Lagged Variable Method

|               | DAC                  | DAC                  | DAC                  |
|---------------|----------------------|----------------------|----------------------|
| FSTS_lag      | -0.026***<br>(-5.03) | -0.013***<br>(-2.61) | -0.011**<br>(-2.43)  |
| FirmAge       |                      | -0.016***<br>(-5.80) | -0.009<br>(-1.45)    |
| Size          |                      | 0.007***<br>(6.56)   | 0.009***<br>(8.91)   |
| Top5          |                      | -0.000<br>(-0.31)    | 0.000**<br>(2.07)    |
| ROA           |                      | 0.730***<br>(73.84)  | 0.694***<br>(72.24)  |
| Lev           |                      | -0.010**<br>(-2.22)  | -0.023***<br>(-5.20) |
| Board         |                      | 0.003<br>(0.70)      | 0.000<br>(0.02)      |
| Indep         |                      | 0.000*<br>(1.80)     | 0.000<br>(0.79)      |
| Dual          |                      | -0.000<br>(-0.17)    | -0.000<br>(-0.33)    |
| Annual Effect |                      |                      | Yes                  |
| _cons         | 0.005***<br>(6.69)   | -0.138***<br>(-6.71) | -0.202***<br>(-7.73) |
| N             | 38311                | 38311                | 38311                |
| R2            | 0.001                | 0.162                | 0.233                |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Auditors with greater international experience deliver higher audit quality<sup>[41]</sup>. Leveraging their professional capabilities, technical advantages, and reputation mechanisms, the Big Four international accounting firms can provide superior audit services<sup>[42]</sup>. Thus, corporate internationalization constitutes a transmission mechanism through the pathway of promoting the selection of Big Four accounting firms: “increased internationalization → selection of high-quality audit suppliers → improved audit quality.” This finding reveals an important pathway through which internationalization influences audit quality from the perspective of audit supplier selection, providing valuable evidence for understanding the mechanism by which international operations enhance audit quality through optimized

auditor selection. This study employs the lagged variable method for robustness testing. As shown in Table 9, after lagging FSTS by one period, its regression coefficient remains significantly negative at the 1% level (-0.026,  $t=-5.03$ ). Although the coefficient value decreases slightly (-0.013 and -0.011) with the addition of control variables, its significance level consistently remains above 5%. This result indicates that the negative impact of lagged FSTS on DAC remains robust, further ruling out the possibility of real-time causal interference and supporting the reliability of the benchmark regression conclusions.

Moreover, the direction and significance of the FSTS coefficient in the lagged variable regression align with the benchmark model, indicating that the inhibitory effect of executive characteristics on corporate behavior exhibits temporal persistence. This finding enhances the internal validity of the research conclusions and provides more rigorous empirical support for the theoretical mechanism explanation.

## 5. Further Analysis

### 5.1. Modulating Effects

**Table 10.** Moderating Effects of FI1

|         | DAC                   | DAC                   |
|---------|-----------------------|-----------------------|
| FSTS    | -0.008<br>(-1.178)    | -0.018***<br>(-4.092) |
| FI1     | 0.002<br>(1.170)      | 0.000<br>(0.318)      |
| FSTSFI1 | -0.013**<br>(-2.437)  |                       |
| XZ_c1   |                       | -0.013**<br>(-2.437)  |
| FirmAge | -0.016***<br>(-2.889) | -0.016***<br>(-2.889) |
| Size    | 0.008***<br>(8.941)   | 0.008***<br>(8.941)   |
| Top5    | 0.000**<br>(2.531)    | 0.000**<br>(2.531)    |
| ROA     | 0.685***<br>(74.002)  | 0.685***<br>(74.002)  |
| Lev     | -0.018***<br>(-4.180) | -0.018***<br>(-4.180) |
| Board   | 0.001<br>(0.281)      | 0.001<br>(0.281)      |
| Indep   | 0.000<br>(0.770)      | 0.000<br>(0.770)      |

|               |           |           |
|---------------|-----------|-----------|
| Dual          | -0.000    | -0.000    |
|               | (-0.248)  | (-0.248)  |
| Annual Effect | Yes       | Yes       |
| _cons         | -0.166*** | -0.165*** |
|               | (-7.050)  | (-7.005)  |
| N             | 42735     | 42735     |
| R2            | 0.229     | 0.229     |
| F             | 379.420   | 379.420   |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Based on the literature review findings, the actual amount of foreign direct investment (FI1) utilized in the region, as a key regional characteristic variable, significantly influences the relationship between local enterprises' internationalization process and audit quality. The regression results in Table 10 indicate that the moderating effect of foreign direct investment (FI1) further strengthens this positive relationship. The interaction coefficient between FSTS and FI1 is significantly negative (-0.013,  $t=-2.437$ ), indicating that in regions with higher foreign investment activity, the positive impact of corporate internationalization on audit quality is more pronounced. This finding suggests that FDI may generate knowledge spillover effects by introducing stricter international regulatory standards and more robust corporate governance practices, thereby amplifying the positive influence of international operations on audit quality. The interaction term with centralized processing (XZ\_c1) also exhibits a significant negative moderation effect (-0.013,  $t=-2.437$ ), validating the robustness of the conclusion. This finding reveals the critical moderating role of regional FDI environments in the relationship between internationalization and audit quality. It suggests policymakers can leverage FDI to enhance corporate governance levels, fostering a virtuous cycle between corporate internationalization strategies and regional FDI environments in the globalization context. The centered interaction term in the second column also exhibits a significant negative moderation effect, validating the robustness of the findings. This discovery highlights the critical moderating role of regional FDI activity in the relationship between international operations and audit quality. Within the globalization context, positive interactions between corporate internationalization strategies and regional FDI environments can effectively enhance audit quality.

**Table 11. Regulatory Role of FI2**

|         | DAC      | DAC       |
|---------|----------|-----------|
| FSTS    | -0.820   | -1.818*** |
|         | (-1.275) | (-4.095)  |
| FI2     | 0.001    | 0.000     |
|         | (0.856)  | (0.013)   |
| FSTSFI2 | -0.803** |           |
|         | (-2.365) |           |
| XZ_c2   |          | -0.803**  |

|               |           |           |
|---------------|-----------|-----------|
|               |           | (-2.365)  |
| FirmAge       | -0.016*** | -0.016*** |
|               | (-2.876)  | (-2.876)  |
| Size          | 0.008***  | 0.008***  |
|               | (8.937)   | (8.937)   |
| Top5          | 0.000**   | 0.000**   |
|               | (2.542)   | (2.542)   |
| ROA           | 0.685***  | 0.685***  |
|               | (74.002)  | (74.002)  |
| Lev           | -0.018*** | -0.018*** |
|               | (-4.193)  | (-4.193)  |
| Board         | 0.001     | 0.001     |
|               | (0.279)   | (0.279)   |
| Indep         | 0.000     | 0.000     |
|               | (0.768)   | (0.768)   |
| Dual          | -0.000    | -0.000    |
|               | (-0.245)  | (-0.245)  |
| Annual Effect | Yes       | Yes       |
| _cons         | -0.166*** | -0.165*** |
|               | (-7.041)  | (-6.998)  |
| N             | 42735     | 42735     |
| R2            | 0.229     | 0.229     |
| F             | 379.405   | 379.405   |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Table 11 presents the results of testing the moderating effect of foreign direct investment (FDI) measured in US dollars on the relationship between internationalization level (FSTS) and audit quality (DAC). Findings reveal that the coefficient for the core variable FSTS is significantly negative (-1.818,  $t=-4.095$ ), further validating that heightened internationalization enhances audit quality. More critically, the interaction coefficient between FSTS and FI2 is also significantly negative (-0.803,  $t=-2.365$ ). This result aligns with the main test, confirming that foreign direct investment significantly amplifies the positive impact of internationalization on audit quality. The centered interaction term (XZ\_c2) also exhibits an identical moderating effect (-0.803,  $t=-2.365$ ), further confirming the robustness of the research conclusions.

## 5.2. Mediating Effect

**Table 12.** With Analyst as the Mediating Variable

|               | DAC                   | Analyst                | DAC                   |
|---------------|-----------------------|------------------------|-----------------------|
| FSTS          | -0.019***<br>(-4.368) | -0.084**<br>(-2.173)   | -0.023***<br>(-4.075) |
| Analyst       |                       |                        | 0.002*<br>(1.656)     |
| FirmAge       | -0.016***<br>(-2.895) | -0.087*<br>(-1.715)    | -0.018**<br>(-2.418)  |
| Size          | 0.009***<br>(9.000)   | 0.432***<br>(45.853)   | 0.011***<br>(7.848)   |
| Top5          | 0.000**<br>(2.484)    | -0.000<br>(-0.679)     | 0.000***<br>(3.271)   |
| ROA           | 0.685***<br>(74.063)  | 4.053***<br>(47.100)   | 0.624***<br>(47.488)  |
| Lev           | -0.017***<br>(-4.175) | -0.348***<br>(-8.872)  | -0.021***<br>(-3.683) |
| Board         | 0.001<br>(0.327)      | 0.086**<br>(2.380)     | -0.002<br>(-0.341)    |
| Indep         | 0.000<br>(0.780)      | 0.001<br>(1.316)       | 0.000<br>(0.894)      |
| Dual          | -0.000<br>(-0.246)    | 0.033**<br>(2.501)     | 0.001<br>(0.573)      |
| Annual Effect | Yes                   | Yes                    | Yes                   |
| _cons         | -0.167***<br>(-7.072) | -8.110***<br>(-35.286) | -0.219***<br>(-6.346) |
| N             | 42735                 | 29389                  | 28504                 |
| R2            | 0.229                 | 0.257                  | 0.210                 |
| F             | 406.267               | 311.420                | 223.920               |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Table 12 presents the results of testing the mediating effect of analyst coverage (Analyst) on the relationship between corporate internationalization (FSTS) and audit quality (DAC). Findings indicate that the degree of corporate internationalization exerts a significant negative impact on analyst coverage (coefficient = -0.084, significant at the 5% level), suggesting that as internationalization increases, corporate information transparency actually diminishes. This increased complexity in the information environment may stem from factors such as geographical distance, institutional differences, and cultural barriers associated with multinational operations. Concurrently, analyst coverage exhibits a weak yet significant positive relationship with audit quality (coefficient = 0.002, significant at the 10% level), suggesting that enhanced information transparency contributes to improved audit quality.

Further examination of the mediating pathway reveals that after controlling for analyst tracking variables, the direct effect coefficient of corporate internationalization on audit

quality shifts from -0.019 to -0.023, indicating an increase in absolute value. This pattern suggests that international operations indirectly enhance firms' demand for high-quality audits by reducing information transparency, forming a mediating mechanism: “increased internationalization → reduced information transparency → improved audit quality.” The findings reveal the complex role of information transparency in the process by which internationalization influences audit quality, providing new empirical evidence for understanding the governance effects of corporate internationalization.

**Table 13.** Z-Score as Mediating Variable

|               | DAC                   | ZScore                  | DAC                   |
|---------------|-----------------------|-------------------------|-----------------------|
| FSTS          | -0.019***<br>(-4.368) | -0.344**<br>(-2.145)    | -0.020***<br>(-4.413) |
| ZScore        |                       |                         | -0.001***<br>(-4.633) |
| FirmAge       | -0.016***<br>(-2.895) | 0.628***<br>(3.135)     | -0.015***<br>(-2.719) |
| Size          | 0.009***<br>(9.000)   | -0.906***<br>(-26.420)  | 0.008***<br>(8.018)   |
| Top5          | 0.000**<br>(2.484)    | -0.020***<br>(-9.735)   | 0.000**<br>(2.259)    |
| ROA           | 0.685***<br>(74.063)  | 10.193***<br>(30.391)   | 0.692***<br>(73.843)  |
| Lev           | -0.017***<br>(-4.175) | -11.225***<br>(-73.886) | -0.024***<br>(-5.355) |
| Board         | 0.001<br>(0.327)      | -0.267*<br>(-1.838)     | 0.001<br>(0.283)      |
| Indep         | 0.000<br>(0.780)      | 0.006<br>(1.306)        | 0.000<br>(0.890)      |
| Dual          | -0.000<br>(-0.246)    | -0.058<br>(-1.102)      | -0.000<br>(-0.342)    |
| Annual Effect | Yes                   | Yes                     | Yes                   |
| _cons         | -0.167***<br>(-7.072) | 26.915***<br>(31.512)   | -0.146***<br>(-6.105) |
| N             | 42735                 | 42474                   | 42474                 |
| R2            | 0.229                 | 0.302                   | 0.229                 |
| F             | 406.267               | 587.644                 | 389.794               |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Table 13 demonstrates the mediating role of corporate financial health (ZScore) in the relationship between internationalization level (FSTS) and audit quality (DAC). The findings reveal: First, internationalization level (FSTS) exerts a significant positive effect on audit quality (coefficient -0.019, t=-4.368), indicating that international operations contribute to

enhancing audit quality. Second, FSTS exerts a significant negative effect on ZScore (coefficient -0.344,  $t=-2.145$ ), suggesting that heightened internationalization may temporarily reduce corporate financial stability—consistent with theoretical expectations of increased investment risks during initial internationalization phases. A key finding is that after controlling for ZScore, the absolute value of FSTS's coefficient on DAC slightly increases from 0.019 to 0.020. Simultaneously, ZScore itself exhibits a significant negative impact on DAC (coefficient -0.001,  $t=-4.633$ ). This indicates that deteriorating financial health (lower ZScore) paradoxically enhances audit quality (lower DAC), forming a mediating pathway: “Internationalization → Increased Financial Risk → Enhanced Audit Quality.” After internationalization, firms face temporary financial risks. To meet compliance, signaling, and risk control needs, they proactively seek high-quality audits to bolster the credibility of their disclosures.

**Table 14.** With EX NEX as the Mediating Variable

|                | DAC                    | EX                       | NEX                     |
|----------------|------------------------|--------------------------|-------------------------|
| FSTS           | -0.019****<br>(-4.368) | 2.980****<br>(18.616)    | 0.187****<br>(4.441)    |
| EirmAge        | -0.016****<br>(-2.895) | 3.499****<br>(54.816)    | -0.195****<br>(-2.831)  |
| Size           | 0.009****<br>(9.000)   | 0.856****<br>(36.315)    | 0.121****<br>(11.441)   |
| Top5           | 0.000***<br>(2.484)    | 0.000<br>(0.131)         | 0.001<br>(1.062)        |
| ROA            | 0.685****<br>(74.063)  | -1.886****<br>(-4.617)   | -0.220****<br>(-2.275)  |
| Lev            | -0.017****<br>(-4.175) | -4.520****<br>(-32.776)  | -0.178****<br>(-3.892)  |
| Board          | 0.001<br>(0.327)       | -1.912****<br>(-15.281)  | 0.987****<br>(20.562)   |
| Indep          | 0.000<br>(0.780)       | 0.061****<br>(11.171)    | 0.008****<br>(5.630)    |
| Dual           | -0.000<br>(-0.246)     | 1.301****<br>(19.572)    | -0.028**<br>(-1.911)    |
| Annual Effect  | Yes                    |                          | Yes                     |
| _cons          | -0.167****<br>(-7.072) | -22.210****<br>(-38.645) | -3.804****<br>(-12.942) |
| N              | 42735                  | 34368                    | 30262                   |
| R <sup>2</sup> | 0.229                  |                          | 0.041                   |
| F              | 406.267                |                          | 50.147                  |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Table 14 illustrates the mechanism through which corporate internationalization influences audit quality by enhancing the international experience of executives and shareholders. The findings reveal that the degree of corporate internationalization (FSTS) exerts a significant positive influence on both executives' overseas experience (EX) and the number of shareholders with international exposure (NEX), with coefficients of 2.980 and 0.187 respectively, both significant at the 1% level. This indicates that the internationalization process effectively enhances the internationalization level of corporate governance teams, bringing richer international experience and broader global perspectives to enterprises.

Based on existing literature, executives and shareholders with international backgrounds tend to place greater emphasis on corporate governance standards and disclosure quality. The international auditing standards and advanced management practices they introduce can enhance companies' foundational auditing capabilities from the supply side, thereby improving audit quality<sup>[43] [44]</sup>. This transmission pathway—"increased internationalization → governance teams with rich international experience → improved audit quality"—theoretically constitutes a complete mechanism of action. The findings provide valuable insights into understanding how international operations enhance the supply of high-quality audits by improving human capital quality, laying a foundation for subsequent research to further explore this mechanism.

**Table 15.** With Big4 as the Mediating Variable

|               | DAC                   | Big4                   |
|---------------|-----------------------|------------------------|
| FSTS          | -0.019***<br>(-4.368) | 0.288**<br>(2.300)     |
| FirmAge       | -0.016***<br>(-2.895) | -0.455***<br>(-7.655)  |
| Size          | 0.009***<br>(9.000)   | 0.976***<br>(46.694)   |
| Top5          | 0.000**<br>(2.484)    | 0.026***<br>(16.734)   |
| ROA           | 0.685***<br>(74.063)  | 0.781*<br>(1.729)      |
| Lev           | -0.017***<br>(-4.175) | -1.666***<br>(-11.346) |
| Board         | 0.001<br>(0.327)      | 0.749***<br>(6.143)    |
| Indep         | 0.000<br>(0.780)      | 0.016***<br>(3.529)    |
| Dual          | -0.000<br>(-0.246)    | -0.197***<br>(-3.271)  |
| Annual Effect | Yes                   |                        |
| _cons         | -0.167***             | -26.646***             |

|                |          |           |
|----------------|----------|-----------|
|                | (-7.072) | (-53.378) |
| N              | 42735    | 44074     |
| R <sup>2</sup> | 0.229    |           |
| F              | 406.267  |           |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

Table 15 illustrates the mechanism through which corporate internationalization influences audit quality by selecting one of the Big Four international accounting firms. The findings reveal that the degree of corporate internationalization (FSTS) exerts a significant positive effect on the selection of Big Four accounting firms, with a coefficient of 0.288 that is statistically significant at the 5% level. This indicates that as internationalization increases, firms are more inclined to engage Big Four firms for auditing services. Simultaneously, the direct effect of internationalization level on audit quality (DAC) is significantly negative (coefficient = -0.019, significant at the 1% level), indicating that international operations themselves enhance audit quality.

Auditors with greater international experience deliver higher audit quality<sup>[45]</sup>. Leveraging their professional capabilities, technical advantages, and reputation mechanisms, the Big Four international accounting firms can provide superior audit services<sup>[46]</sup>. Therefore, corporate internationalization constitutes a transmission mechanism through the pathway of promoting the selection of the Big Four accounting firms: “increased internationalization → selection of high-quality audit suppliers → improved audit quality.” This finding reveals an important pathway through which internationalization influences audit quality from the perspective of audit supplier selection, providing valuable evidence for understanding the mechanism by which international operations enhance audit quality through optimized auditor selection.

### 5.3. Heterogeneity

**Table 16.** Region of Enterprise Location

|         | <b>East<br/>DAC</b>   | <b>Central<br/>DAC</b> | <b>West<br/>DAC</b>  |
|---------|-----------------------|------------------------|----------------------|
| FSTS    | -0.018***<br>(-3.676) | -0.014<br>(-0.937)     | -0.024*<br>(-1.878)  |
| FirmAge | -0.018***<br>(-2.688) | -0.002<br>(-0.137)     | -0.018<br>(-1.274)   |
| Size    | 0.009***<br>(7.172)   | 0.008***<br>(3.497)    | 0.009***<br>(4.037)  |
| Top5    | 0.000**<br>(2.218)    | 0.000<br>(0.763)       | 0.000<br>(1.355)     |
| ROA     | 0.722***<br>(63.556)  | 0.616***<br>(26.376)   | 0.609***<br>(26.803) |
| Lev     | -0.015***             | -0.028***              | -0.027***            |

|               |           |          |           |
|---------------|-----------|----------|-----------|
|               | (-2.907)  | (-2.691) | (-2.740)  |
| Board         | 0.002     | -0.011   | 0.008     |
|               | (0.362)   | (-1.091) | (0.955)   |
| Indep         | 0.000     | 0.000    | 0.000     |
|               | (0.432)   | (0.349)  | (0.581)   |
| Dual          | 0.001     | -0.002   | -0.006*   |
|               | (0.693)   | (-0.476) | (-1.758)  |
| Annual Effect | Yes       | Yes      | Yes       |
| _cons         | -0.171*** | -0.147** | -0.185*** |
|               | (-5.694)  | (-2.543) | (-3.337)  |
| N             | 29340     | 6174     | 7213      |
| R2            | 0.240     | 0.203    | 0.210     |
| F             | 294.277   | 50.830   | 61.710    |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

**Table 17.** Whether the Industry Belongs to Manufacturing

|               | Non-manufacturing<br>DAC | Manufacturing<br>DAC |
|---------------|--------------------------|----------------------|
| FSTS          | -0.008                   | -0.028***            |
|               | (-0.836)                 | (-5.510)             |
| FirmAge       | -0.000                   | -0.031***            |
|               | (-0.013)                 | (-4.418)             |
| Size          | 0.009***                 | 0.009***             |
|               | (5.219)                  | (7.803)              |
| Top5          | 0.000***                 | 0.000**              |
|               | (2.745)                  | (2.496)              |
| ROA           | 0.683***                 | 0.667***             |
|               | (39.301)                 | (60.968)             |
| Lev           | -0.043***                | -0.012**             |
|               | (-5.548)                 | (-2.312)             |
| Board         | -0.008                   | 0.006                |
|               | (-1.164)                 | (1.249)              |
| Indep         | 0.000                    | 0.000                |
|               | (0.792)                  | (0.839)              |
| Dual          | 0.004                    | -0.002               |
|               | (1.484)                  | (-0.899)             |
| Annual Effect | Yes                      | Yes                  |
| _cons         | -0.171***                | -0.186***            |
|               | (-3.828)                 | (-6.322)             |
| N             | 14987                    | 27748                |
| R2            | 0.200                    | 0.275                |

F

119.643

331.716

\*\*\*p&lt;0.01, \*\*p&lt;0.05, \*p&lt;0.10

**Table 18.** Whether a high-tech enterprise

|               | Non-technology company | High-tech company |
|---------------|------------------------|-------------------|
|               | DAC                    | DAC               |
| FSTS          | -0.004                 | -0.032***         |
|               | (-0.480)               | (-6.021)          |
| FirmAge       | -0.002                 | -0.029***         |
|               | (-0.213)               | (-4.004)          |
| Size          | 0.005***               | 0.013***          |
|               | (3.327)                | (10.014)          |
| Top5          | 0.000***               | 0.000***          |
|               | (2.739)                | (3.380)           |
| ROA           | 0.662***               | 0.693***          |
|               | (41.112)               | (62.448)          |
| Lev           | -0.030***              | -0.014**          |
|               | (-4.271)               | (-2.558)          |
| Board         | -0.003                 | 0.005             |
|               | (-0.495)               | (0.965)           |
| Indep         | 0.000                  | 0.000             |
|               | (0.132)                | (1.327)           |
| Dual          | 0.002                  | -0.002            |
|               | (0.977)                | (-0.891)          |
| Annual Effect | Yes                    | Yes               |
| _cons         | -0.107***              | -0.255***         |
|               | (-2.680)               | (-8.313)          |
| N             | 18221                  | 24514             |
| R2            | 0.167                  | 0.312             |
| F             | 117.356                | 349.196           |

\*\*\*p&lt;0.01, \*\*p&lt;0.05, \*p&lt;0.10

**Table 19.** Whether the Enterprise is Labor-Intensive

|         | Non-labor-intensive | Labor-intensive |
|---------|---------------------|-----------------|
|         | DAC                 | DAC             |
| FSTS    | -0.033***           | 0.007           |
|         | (-6.518)            | (0.751)         |
| FirmAge | -0.041***           | 0.021**         |
|         | (-6.028)            | (1.961)         |
| Size    | 0.011***            | 0.009***        |
|         | (9.646)             | (4.889)         |

|               |                       |                       |
|---------------|-----------------------|-----------------------|
| Top5          | 0.000***<br>(3.322)   | 0.000<br>(1.378)      |
| ROA           | 0.687***<br>(63.966)  | 0.671***<br>(37.599)  |
| Lev           | -0.016***<br>(-3.172) | -0.030***<br>(-3.704) |
| Board         | 0.004<br>(0.756)      | -0.005<br>(-0.648)    |
| Indep         | 0.000<br>(0.905)      | 0.000<br>(0.824)      |
| Dual          | -0.002<br>(-1.133)    | 0.006*<br>(1.959)     |
| Annual Effect | Yes                   | Yes                   |
| _cons         | -0.199***<br>(-6.900) | -0.230***<br>(-4.927) |
| N             | 27547                 | 15188                 |
| R2            | 0.283                 | 0.164                 |
| F             | 341.325               | 95.324                |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

**Table 20.** Whether the Enterprise is Technology-Intensive

|         | Non-technology-intensive<br>DAC | Technology-intensive<br>DAC |
|---------|---------------------------------|-----------------------------|
| FSTS    | -0.009<br>(-1.253)              | -0.032***<br>(-5.548)       |
| FirmAge | -0.007<br>(-0.953)              | -0.033***<br>(-3.913)       |
| Size    | 0.007***<br>(5.604)             | 0.013***<br>(8.621)         |
| Top5    | 0.000<br>(1.359)                | 0.000***<br>(4.228)         |
| ROA     | 0.649***<br>(49.630)            | 0.740***<br>(57.545)        |
| Lev     | -0.025***<br>(-4.268)           | -0.014**<br>(-2.228)        |
| Board   | -0.001<br>(-0.162)              | 0.003<br>(0.517)            |
| Indep   | 0.000<br>(1.142)                | 0.000<br>(0.026)            |
| Dual    | 0.002<br>(0.822)                | -0.001<br>(-0.347)          |

| Annual Effect | Yes                   | Yes                   |
|---------------|-----------------------|-----------------------|
| _cons         | -0.151***<br>(-4.576) | -0.248***<br>(-6.766) |
| N             | 24245                 | 18490                 |
| R2            | 0.176                 | 0.342                 |
| F             | 166.729               | 297.595               |

\*\*\*p<0.01, \*\*p<0.05, \*p<0.10

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This study conducted diverse heterogeneity tests. The results in Tables 16-20 indicate that the impact of corporate internationalization on audit quality exhibits systematic differences across different types of enterprises, potentially due to the following reasons.

The test results in Tables 16-20 reveal significant heterogeneity in the effect of corporate internationalization (FSTS) on audit quality (DAC). Regionally, eastern regions (-0.018,  $t=-3.676$ ) and western regions (-0.024,  $t=-1.878$ ) exhibit significant negative relationships, while central regions show no significant effect. This may relate to regional gradients in marketization and openness levels. Higher foreign investment activity in the east and stronger policy support in the west both amplify the positive effect of internationalization on audit quality.

Regarding industry attributes, manufacturing enterprises (-0.028,  $t=-5.510$ ) demonstrated a more pronounced effect than non-manufacturing enterprises, aligning with the cross-border supply chain integration demands of manufacturing. The absolute coefficients for high-tech enterprises (-0.032) and technology-intensive enterprises (-0.032) were significantly larger than those for traditional enterprises, reflecting that knowledge-intensive industries rely more heavily on high-quality auditing to mitigate technology spillover risks. Notably, labor-intensive enterprises exhibit directional divergence: non-labor-intensive firms show a significant negative effect (-0.033), while labor-intensive firms do not, possibly because the latter's internationalization is driven more by cost advantages than quality improvement needs.

## 6. Research Findings

### 6.1. Research conclusions

In terms of benchmark regression, the degree of corporate internationalization exhibits a significant positive correlation with audit quality. This indicates that international operations enhance the demand for high-quality audit services by increasing compliance requirements, facilitating signal transmission, and strengthening risk management incentives. Regarding the underlying mechanism, the regional agglomeration effect of foreign direct investment amplifies the positive impact of internationalization on audit quality. Further analysis reveals that the moderating effect of FDI at the regional level significantly amplifies the positive impact of internationalization on audit quality. Internationalization simultaneously reduces information transparency and increases financial risks, indirectly boosting audit demand, while enhancing audit supply through talent influx and external audit services. This ultimately elevates audit quality, revealing the unique logic whereby internationalized firms proactively seek high-quality audits through a “risk warning” mechanism. Regarding

heterogeneity tests, the study finds that the positive impact of internationalization on audit quality is more pronounced in manufacturing, high-tech enterprises, and technology-intensive firms, reflecting the moderating role of industry characteristics on audit governance effects. The effect is stronger in eastern regions (market-driven advantages) and western regions (policy dividends) than in central regions, highlighting the critical influence of regional institutional environments.

## 6.2. Research Implications

At the corporate practice level, international enterprises should fully recognize the critical strategic importance of high-quality audit services in reducing cross-border information barriers and enhancing recognition in international capital markets. They should proactively adopt international auditing standards to improve the quality of information disclosure. Particularly for labor-intensive and traditional industry enterprises, it is essential to avoid the governance weakening risks that may arise from over-reliance on low-cost international expansion models. These companies should synchronize the optimization of their corporate governance systems with the implementation of their internationalization strategies to ensure the coordinated development of audit quality and operational scale. At the policy and regulatory level, it is recommended that regulatory authorities establish a tiered guidance mechanism based on variations in corporate internationalization levels, industry characteristics, and regional distribution. This should prioritize supporting audit compliance capacity building for enterprises in central China and those with lower technological content. Simultaneously, policies for attracting foreign investment should be organically integrated with the audit regulatory framework. This integration should leverage the exemplary role of foreign direct investment in audit standards, techniques, and methodologies, driving deeper convergence between domestic audit practices and international best practices. Such alignment will systematically enhance the quality and credibility of international financial reporting by Chinese enterprises.

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