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Charge for Risk: Minority Shareholders' Activism and Audit Pricing

Qiurui Bian

College of Economics and Management, Southeast University, Jiangsu 214135, China

ABSTRACT
This study examines how minority shareholders' activism influences audit fees in Chinese listed companies. Utilizing a distinct dataset that focuses on the attendance of minority shareholders at annual general meetings (AGMs), we observe that auditors charge higher fees for firms with active minority shareholders. The findings remain robust through instrumental variable tests, propensity score matching, and various measures of minority shareholders' activism and audit fees. Further analyses indicate that in firms with fewer key audit matters, fewer tracking analysts, and poorer control quality, minority shareholders' active participation more significantly impacts audit fees. We identify two potential channels: media attention and earnings management, which increase audit risk and thus audit fees. Overall, our findings illuminate the unintended consequences of minority shareholders' activism that may not be entirely foreseen from an external auditing perspective.

KEYWORDS
Minority shareholders' activism; Audit fees; Media; Earnings management

In the literature study of corporate governance, the role and economic consequences of minority shareholders have been essential research issues, especially when it comes to agency. (Strickland, Wiles, and Zenner, 1996; Shleifer and Vishny, 1997; Kandel, Massa, and Simonov, 2011; Chen, Ke, and Yang, 2013; Brav, Cain, and Zytnick, 2022; Yao *et al.*, 2023).Recently, regulators worldwide have been striving to expand the influence of minority shareholders and enhance protection measures(Shleifer and Vishny, 1997; Fan and Wong, 2002; Cao, Fang, and Pan, 2022).The status of minority shareholders has been elevated, and their willingness and level of participation have increased as well, especially in regions where the protection of minority shareholders was initially weak, and the legal framework was inadequate. However, whether and how the minority shareholder activism affects auditors' behavior has not been fully explored in the background of developing country. The primary objective of this paper is to examine how auditors react to minority shareholders' activism against their clients, focusing on the aspect of audit pricing.

According to the results of the existing literature review, there may be two contradictory impacts on audit risk and audit work input when confronted with firms with active participation of minority shareholders, thus affecting audit fees. From one perspective, the misconduct of controlling shareholders and management is constrained by the willingness of minority shareholders and the rise of activism, resulting in positive governance effects(Strickland *et al.*, 1996; Chen *et al.*, 2013; Brav *et al.*, 2022), which could reduce the risk of large shareholders' tunneling and management manipulation of earnings, thereby enhancing firms' value, internal control quality, and making rational business decisions(Hamdani and Yafeh, 2012; Jia, Shi, and Wang, 2018; Cai *et al.*, 2023). These factors can reduce auditors' risk assessment and audit input for the audited entity, thereby lowering audit fees. From the other perspective, minority shareholders' activism campaigns can lead to negative governance effects because of irrational decision-making and supervision, and can be viewed as a signal of heightened risk and greater impact, which brings negative effect for the external auditors. Minority shareholders have the possibility to engage in irrational exercise of their rights considering information barriers and a deficiency in specialized knowledge(Yao *et al.*, 2019; Gao, Huang, and Zhang, 2020; Cheng *et al.*, 2021). For management, excessive supervision from minority shareholders' participation can create pressure t to push them to engage in earnings management manipulations(He and Tian, 2013; Irani and Oesch, 2014). At the same time, when minority shareholders are dissatisfied with the outcomes of participating in shareholder meetings, social media also serves as their platform for voicing their concerns(Mao and Renneboog, 2015; Burke, Hoitash, and Hoitash, 2019). The focus from the media has also heightened auditors' apprehensions regarding risks related to reputation, legal battles, and political factor (Abbott, Parker, and Peters, 2006; Guo *et al.*, 2021; Frost *et al.*, 2022). Therefore, auditors typically view firms with minority shareholders' participation as higher audit risks and requiring greater audit input, which leads to a growth in costs associated with audit fees. Existing research has failed to reach a consensus on the governance role, economic consequences as well as the behavior of auditors adjusting audit fees when confronted with firms with minority shareholders' activism, so we need empirical analysis to specifically determine whether and how auditors adjust the scope and depth of audit work when confronted with the increased activism of minority shareholders in audited entities, to address the risks and challenges that activism may bring.

In order to conduct empirical research on how auditors adjust audit fees when confronted with firms with minority shareholders' activism, a dataset consisting of 1,685 Chinese companies listed on the A-share market of the Shenzhen Stock Exchange (therefore, SZHZ) is employed from 2015 to 2020, we test our prediction on the behavior of auditors increasing audit fees when confronted with firms with e minority shareholders' activism, especially participation at annual general meeting (thereafter, AGMs). Through our empirical research, we have indeed found evidence that auditors tend to increase audit fees when dealing with the audited unity with active participation of minority shareholders, suggesting that auditors are capable to perceive the risk changes stemming from the participation of minority shareholder because of the increased audit workload and risk exposure. Only relying on the results of main regression cannot support our hypothesis effectively, we still need to carry out a series of robustness tests to ensure the reliability and quasi-certainty of the results. Firstly, a two-stage least squares (2SLS) estimation method is adopted, which uses the growth rate of shareholders, and it is separately incorporated into two-stage regression for robustness testing. Secondly, a propensity score matching (PSM) approach is utilized to tackle potential selection bias in the minority shareholders' activism, which may not be uniformly distributed across listed firms. Thirdly, we change the measurement of minority shareholders' attendance and audit fees. These tests validated the reliability of our main regression results.

Following that, a set of cross-sectional tests are carried out to ascertain whether the internal control quality and external supervision influence the behaviors of auditors increasing audit fees when confronted with the risk of minority shareholders' activism in the audited firm. Results show that in firms with less key audit matters, fewer number of following analysts and worse internal control quality, auditors charge higher audit fees when confronted with the risk of minority shareholders' activism in the audited firms, supporting that minority shareholders' activism campaigns are considered as one of the sources of audit risk. Therefore, auditors may adjust their audit fees based on the additional workload and risks. In such cases, auditors need to balance the need to maintain their independence with preserving client relationships, ensuring the quality of audit work and client satisfaction.

Finally, we further investigate the specific mechanisms that auditors increase audit fees when confronted with audited firms with minority shareholders' activism. We mainly propose two possible mechanisms: media attention and earnings management, all of which amplify the risk exposures for auditors, such as reputation and litigation risks, consequently increasing their input. The results further confirm that the participation of minority shareholder is viewed as a source of audit risk from the auditors' perspective.

Therefore, our paper makes the following contributions to existing research in both theoretical and practical aspects. First, empirical evidence is presented by our paper on the unintended consequences of activism campaigns of minority shareholders, especially the attendance, diverging from the affirmation in previous literature regarding the governance effectiveness. Existing literature has already recognized the positive aspects of minority shareholders and the positive economic consequences, including mitigating agency problems between shareholders and management and providing oversight of controlling shareholders(Strickland *et al.*, 1996; Bebchuk, 2005; Kandel *et al.*, 2011). Activism campaigns of minority shareholders', especially the attendance at AGMs, have been a focal point of current research, which is considered as an effective source of data and research setting for studying minority shareholder activism. The previous research mainly points out the importance and advantage of minority shareholders' participation, especially when it comes to the decision-making quality within corporations and economic consequences(Chen *et al.*, 2013; Cao *et al.*, 2022; Wang and Qiu, 2023). However, these studies exclusively emphasize the efficient surveillance and beneficial influence of minority shareholder activism. We examine how auditors adjust audit fees when confronted with the firms of potential risk and extra workload because of the minority shareholders' activism, and demonstrates that the activism of minority shareholders can yield unforeseen outcomes that may have been previously disregarded.

Second, we investigate how auditors adjust audit fees when confronted with the firms of potential risk and extra workload, which both raise because of the minority shareholders' activism. Previous studies on the activism of minority shareholders mainly focus on the following aspects, including firms' value(Bebchuk, 2005; Jia *et al.*, 2018), leverage(Cao *et al.*, 2022), cash dividend(Lin *et al.*, 2023), social responsibility(Yao *et al.*, 2023) and stock price crash risk(Yao *et al.*, 2019; Wang and Qiu, 2023). The point of entry for this paper lies in the perspective of the behaviors of auditors, especially audit pricing.

Third, we supplement the literature on the determinants of audit fees, being the first to investigate how auditors adjust audit fees when confronted with firms of the risk of potential risk and extra workload stemming from minority shareholders' activism, especially in the capital markets of developing countries with China as a representative example. Existing literature mainly focus on audit characteristics, firm characteristics and regulation characteristics(Goodwin-Stewart and Kent, 2006; Markelevich and Rosner, 2013; Lai *et al.*, 2017; Gandía and Huguet, 2021). Small investors are often overlooked, and this paper bridges the gap by examining how auditors adjust audit fees when confronted with firms facing potential risks and additional workload both stemming from minority shareholders' activism. This study explores this issue through two possible pathways: media coverage and earnings management.

Forth, our research offers valuable insights for scholars, auditors, and regulators concerning minority shareholders. Our findings indicate that management indeed perceives pressure from the excessive supervision stemming from minority shareholders' activism, leading to a reverse monitoring effect from minority shareholders which could increase earnings management previously. Additionally, attracting more media attention can create pressure, perceived by auditors as sources of increased audit risk assumption and input. These findings should inspire auditors to maintain vigilance and independence when confront with the enterprises with active minority shareholders. It is necessary for regulators to focus on bolstering the safeguarding of minority investors while also placing significant emphasis on educating these investors. This educational effort can equip them to participate in corporate decision-making processes sensibly and efficiently, thus establishing a solid framework and atmosphere for the engagement of minority shareholders in both developing and developed nations.

Finally, it is imperative to acknowledge that the closest work to our own in the existing literature is the article by Guo *et al.* (2021). A comparison between our paper and Guo's reveals the following expansions in our contribution: Firstly, in terms of research context, their study is anchored in the U.S. capital market, focusing on the activism of shareholders who file Schedule 13D with the SEC. In contrast, our research is set against the backdrop of the general meetings of shareholders in China's capital market, which is characterized by a large presence of retail investors. Regarding the research subjects, the capitalist markets in developed Western countries are populated with numerous institutional investors (Borochin and Yang, 2017; Kang, Luo, and Na, 2018; Chen, Dong, and Lin, 2020;), hence Guo's emphasis on the activism of shareholders. In China's securities market, minority shareholders constitute a significant and undeniable presence and China has also established a Securities Investor Services Center (CSISC) specifically to protect them (Song *et al.*, 2023). Meanwhile, there is a considerable disparity between minority shareholders and institutional investors in aspects such as capital scale, investment professionalism, market influence, rights protection, and investment strategies (Barber and Odean, 2007). Therefore, our research focuses on minority shareholders, which lends our study a more expansive and comprehensive scope, not being confined to the behavior of institutional investors alone. In terms of research significance, our study holds implications for Southeast Asian countries and India (Dai, Guo, and Kadapakkam, 2019) with similar characteristics, including guiding the improvement of capital market systems, enhancing the protection of minority investors' rights, and refining investor relations.

According the logical flow of this paper, the chapters remaining are arranged as follows: we schedule the Section2 to introduce the background of AGMs, with a specific focus on capital markets in developing countries with China as a representative example, introduces the development of literature and proposes our main hypotheses. Section 3 elaborates on the data and research methodology. The empirical analysis is presented in Section 4, leading to the conclusions in Section 5.

1 Institutional background and hypothesis development

1.1 Institutional background of AGMs

For hundreds of years, annual shareholder meetings (AGMs) have functioned as a cornerstone of corporate governance, with a primary emphasis on internal governance elements rather than external supervision(Apostolides, 2007). AGMs provide a formal venue for shareholders to elect the board of directors, propose and question the corporate's operational decisions, vote on relevant matters, and exchange information(Strickland *et al.*, 1996; Del Guercio, Seery, and Woidtke, 2008; Li and Yermack, 2016; Eding and Scholtens, 2017). Indeed, AGMs effectively enable shareholders to directly engage in the company's daily operational affairs, such as the distribution of dividends, hiring or changing audit firms and elections, and safeguards their rights by voting and attendance (Carleton, Nelson, and Weisbach, 1998), especially for minority shareholders with poor equity protection mechanisms. Examining the activism of these shareholders through their voting behavior and participation is driven by the growing influence and visibility of minority shareholders at AGMs(Poulsen, Strand, and Thomsen, 2010; Cai *et al.*, 2023).

In China, the AGM takes on the responsibility to serve as the highest authority in firms publicly traded and is still the main platform for minority shareholders to reasonably exercise their right of inquiry, suggestion and voting to directly participate in corporate governance and decision-making (Cao *et al.*, 2022). Moreover, the *Company Law* also grants minority shareholders the right to propose. Prior studies have indicated that participating in AGMs enables minority shareholders to effectively supervise management, curb controlling shareholders' tunneling and defend the corresponding interests(Cao *et al.*, 2022; Cai *et al.*, 2023; Wang and Qiu, 2023).

Another improvement is that China has revised and strengthened the rules regarding the format and disclosure of AGMs, the China Securities Regulatory Commission (CSRC) updated the regulations on the disclosure of resolutions of shareholders' meetings in October 2014. It emphasized that for major matters, separate voting by small investors is required and should be disclosed publicly timely. With the development of internet technology, minority shareholders in all listed firms could choose online voting and on-site channel to participate in AGMs since 2015. The activism of minority shareholders is affected by the factors of exercise cost and expected return (Li and Yermack, 2016). Among them, the opening of the online voting system is another important measure to protect investors' rights and reduce the exercise cost of shareholders, which is also the supplement of "plurality. Meanwhile, all listed companies are required to disclose, by the end of 2014, information such as the number of shares they hold and their methods of attendance Under the supervision of SZSE. Additionally, they are required to separately disclose resolutions targeting minority shareholders and not just the overall voting information as previously required.

Considering the recent revisions in disclosure rules regarding shareholders' meeting resolutions in China, as well as China's unique institutional background, how auditors adjust audit fees when confronted with firms of potential risk and extra workload stemming from minority shareholders' activism may differ in China compared to other regions. Moreover, external audit perspective provides us with new insights for studying the unintended consequences of activism campaigns, especially for minority shareholders. Therefore, shareholders' meetings are crucial sources of data and research settings for our studies

1.2 Hypothesis development

In this segment, our primary hypotheses are put forth according to the conflicting views of minority shareholders' participation, which influence the auditors' assessment of audit effort and audit risk for the audited entity.

From one perspective, minority shareholders are beneficial to corporate governance ,which is equivalent to the monitors both for the managers and controlling shareholders(Strickland *et al.*, 1996), and this also stands in the institutional background of China. Consistent with this argument, there is already evidence to suggest the positive impact of minority shareholders from various perspectives empirically. Bebchuk (2005) suggests that minority shareholders can inhibit the hollowing out of controlling shareholders and enhance firms' value significantly. Specially, the greater minority shareholders' effects on corporate value, the more likely the controlling shareholders will make value concessions in advance(Jia *et al.*, 2018). With the improvement of investors protection system in China, the rights and interests of minority shareholders have been strengthened, including the opening of online voting and the disclosure of AGMs, which forms the supervision, motivation and regulation for managers(Bebchuk, 2005; Cai *et al.*, 2023). For instance, the availability of online voting facilitates shareholders' active exercise of rights, especially for minority shareholders with relatively lower status, which leads to promote the corporate environment performance, thus highlighting the importance of minority shareholders in guiding the managers to concern for the long-term value like the increasing awareness of listed firms' environment risk(Yao *et al.*, 2023). Wang and Qiu (2023) shed light on how minority shareholders influence the creation of executive compensation agreements. Cao et al. (2022) find that the online voting can reduce the firms' leverage through the channels of the internal control quality and overconfidence of the managers for minority shareholders. The above studies indicate that minority shareholders' activism, regardless of voting and attendance, can effectively supervise management and controlling shareholders, which brings firms with higher value, lower leverage, higher internal control quality, higher level of transparency and lower risk to some extent(Bebchuk, 2005; Shen *et al.*, 2023; Yao *et al.*, 2023). Furthermore, better internal governance, and stronger financial conditions reduce audit effort, thus, reduces the audit fees paid by the listed companies.

What's more, social media aggregates the monitor effect of the minority shareholders at the AGMs, which reduces the complexity and effort of auditors. Cai *et al.* (2023) point out that when the minority shareholders fails to veto a proposal at the AGMs, the likelihood of participation and voting by these dissenting minority shareholders is even lower in the subsequent year, which, in turn, they use the social media as the tool to collaborate and aggregate their power(Ang *et al.*, 2021). Social media provides minority shareholders with the opportunity for real-time communication at almost zero cost, which is a free and instantaneous platform for minority shareholders to show the dissatisfaction about the proposals and informally signaling their intent to take subsequent actions against corporate decisions that harm their interests at the AGMs (Barron, Harris, and Stanford, 2005; Chen *et al.*, 2014; Ang *et al.*, 2021).The wisdom of crowd through social media aggerates the monitor effect, which weakens the power of management and controlling shareholders, including reducing the activities of earnings management and deterring insiders' entrenchment incentives(Mao and Renneboog, 2015; Wang, Wang, and Liu, 2021; Chen *et al.*, 2024). These consequences reduce the auditors' efforts to analyze how managers attempt earnings management and enhance financial statement accuracy by mandating adjustments (Nelson, Elliott, and Tarpley, 2002),thus reducing the audit fees of listed companies. Hence, we forecast that the active minority shareholders' participation at AGMs achieves positive governance effects, which improves the financial factors and regulatory level, thus reducing the effort of auditors' and audit fees.

H1a. Minority shareholders' activism is negatively associated with audit fees of listed companies.

From the other perspective, minority shareholders' participation has the possibility to be confirmed as a signal of higher risk and needing more effort which brings negative effect for the external auditors. The first perspective is higher risk of auditors. With the opening of online voting at AGMs, minority shareholders tend to oppose to express their dissatisfaction(Cai *et al.*, 2023). Specially, Lin *et al.* (2023) find that the likelihood and frequency of regulatory penalties being imposed are likely to increase, which aligns with the rise in minority shareholders voting against dividend proposals at AGMs. Auditors may perceive this activism as a heightened engagement risk factor, potentially impacting audit results(Guo *et al.*, 2021). Guo *et al.* (2021) suggest that when minority shareholders engage in activism, the increased public scrutiny raises auditors' worries about potential reputational damage and litigation risks. As for the expression of minority shareholders on social media, another view supports that media attention has exposed auditors to excessive public scrutiny, especially the negative coverage of media(Burke *et al.*, 2019), which leads to heightened risks for auditors and consequently results in increased audit fees (Frost *et al.*, 2022). Wu and Ye (2020) point out that the negative client exposure may lead to regulatory review of audited financial statements and political risk for auditors, which drives them to abide by the principle of prudence to some extent. Confronting with the increasing risks, auditors respond by increasing audit workload and charging higher for the residual risks that cannot be fully resolved by the additional work(Bae, Choi, and Lee, 2021). To sum up, auditors increase audit fees when they are confronted with firms of potential risk and extra work stemming from minority shareholders, which aligns with auditors stepping up their efforts in reaction to client and activist requests, or due to escalated concerns regarding the engagement(DeFond, Raghunandan, and Subramanyam, 2002).

The second perspective is the effort of auditors, which is supported by the opinion that the participation of minority shareholders does not always exert positive governance effects. For example, the supervision of minority shareholders has obvious limitations, which is significantly weakened in the firms where the power of management expands that of controlling shareholders (Shen *et al.*, 2023). Therefore, it cannot form a strong constraint on managers earnings management. At the same time, minority shareholders are often regarded as irrational investors due to information barriers and poor professionalism, which may interfere with the normal decision-making. The minority shareholders' activism , along with consequent excessive public attention (Chen *et al.*, 2014; Mao and Renneboog, 2015), brings pressure to the management, which promotes them to make decisions in pursuit of short-term interests(He and Tian, 2013; Irani and Oesch, 2014). Managers have the pressure to cater to minority shareholders and demonstrate the performance. At the same time, managers have the motivation to spread positive news, create good performance records, and conceal themselves as much as possible, thus, increase the investment of auditors (Abbott *et al.*, 2006; Liu and Lu, 2007; Dimitrov and Jain, 2011). So, we anticipate that auditors are highly likely to raise audit fess when confronted with firms with minority shareholders' activism, which increases the effort and risk premium compensation.

H1b: Minority shareholders' activism is positively associated with audit fees of listed companies.

2 Sample, data, and methodology

2.1 Sample and data

Typically, firms schedule their Annual General Meetings (AGMs) following the finalization of their annual reports, with the majority taking place between April and July. Subsequently, within two days post the AGM, they release the "Announcement of Annual General Meeting Resolutions" as a separate document. Annually, we retrieve these announcements for individual firms from the WIND database and proceed to manually gather data on shareholding patterns and Involvement of minority shareholders, which starts at 2015 and ends at 2020, and make a coverage of all A-share listed companies in SZSE. The attendance of minority shareholders is manually collected by consulting the resolutions announcements of the AGMs of listed companies, we obtained corporate governance and related financial data from the CSMAR, online news reports of listed companies from the CNRDS, and internal control index from the DIB Internal Control and Risk Management Database (DIB).

Our sample commences with all A-share listed companies on the SZSE, which starts at 2015 and ends at 2020, encompassing 12,479 firm-year observations spanning 2,959 companies. Following this, we exclude (1) firms in financial industry; (2) firms under special treatment status (ST); and (3) firm-years with insufficient data for the control variables. In the end, our final research sample consists of 1,685 companies with a total of 5,949 firm-year observations. The sample selection process from original samples to final data processing is shown in Table 1.

Table 1 Sample Selection

	Firm-year obs.	Firm obs.
All A-share listed firms in SZSE during 2015–2020	12,479	2,959
minus:		
Firms in the financial industry	202	42
Firms-years in special treatment status	488	109
Firms-years with missing variables	5,840	1,123
Final sample	5,949	1,685

2.2 Research design

We set the foundational model to examine how auditors adjust audit fees when confronted with firms of minority shareholders' activism.

$$AUDITFEE_{i,t} = \alpha_0 + \alpha_1 ACTIVISM_{i,t-1} + \alpha_2 CONTROLS_{i,t-1} + FIRM\&YEAR \cdot FE + \varepsilon_{i,t} \quad (1)$$

Where i refers to firm i, and t refers to year t. Following Guo *et al*. (2021), this paper defines *AUDITFEE* as the explained variable, which is the representative of the audit fees and is calculated according to the natural logarithm of the audit fees paid by the enterprise in the current period (Gandía and Huguet, 2021; Ling, Xia, and Liu , 2024, Gotti *et al*., 2024).

The independent variable is *ACTIVISM*. The independent variable is calculated by using the proportion of the number of minority shareholders attending AGMs multiplied by 100, divided by the overall number of shareholders at the end of the listed company, according to Wang and Qiu (2023). Consistent with existing literature, we also account for firm characteristics and other factors that could impact audit fees., including firm size (*SIZE*), leverage (*LEV*),profitability (*ROA*), growth of operating income (*GROWTH*), share ratio of the largest shareholder (*TOP1*), separating extent of ownership and controlling right (*SEP*), turnover of account receivable (*ART*), number of board meetings (*BOARD*), CEO/chair duality (*DUAL*), the state of firm(*STATE*), Big Four audit firms(*BIG4*), change of audit firm (*CHANGE*), current ratio *(CURRENT*), major litigation cases (*ILLEGAL*). Furthermore, we incorporate firm and year fixed effects to make the model more accurate and robust. Specific definitions of each variable can be found in Table A.

In Model (1), the coefficient α_1 quantifies the effect of minority shareholder activism on the audit fees, and we anticipate α_1 to be greater than zero, suggesting increasing audit fees.

2.3 Summary Statistics

The summary statistics for the key variables under analysis are displayed in Table 2, Panel A , All continuous variables are winsorized at the 1st and 99th quantiles. In Panel A, the 75th percentile value of *AUDITFEE* is 14.078, the 25th percentile value is 13.305, and the standard deviation is 0.549, which indicates that there is a apparent difference in the audit fees, and the audit fees paid is related to the actual operation status and scale of the firm. The mean value of the total number of minority shareholders attending the AGMs are 0.079 and the median value is 0.031 respectively, indicating that minority shareholders are unwilling to forgive the opportunity to attend AGMs, with both their willingness and actual attendance being significant, a trend supported by data from over 50% of companies. Then, the standard deviation of *ACTICISM* is 0.169, which demonstrates that significant variation in minority shareholders' willingness and actual attendance across companies, with the 75th percentile value being 0.072 and the 25th percentile value being 0.014. Regarding to the firm-specific characteristics outlined in Panel A , the *ROA* is 3.9%, and *LEV* is 37.9%. The mean value of *STATE* is 0.201, indicating that 20% of the enterprises in the sample are state-owned enterprises during the sample period. The mean value of *BIG4* is 0.024, indicating that 2.4% of the enterprises in the sample are audited by the Big Four audit firms, which is relatively small. In addition, there is no abnormal situation in the value distribution of other control variables.

Table 2, Panel B, reports the univariate test of the high and low groups of minority shareholders' attendance based on individual grouping mean values. As for the test for differences in the mean of the two groups, the mean value of *AUDITFEE* for the treatment group is 13.760, while the corresponding value is 13.731 for the control group, and the difference is statistically significant at the 5% level. As for the test for differences in the median value of the two groups, the median value of *AUDITFEE* for the treatment group is 13.710，while the corresponding value is 13.650 for the control group, and the difference is statistically significant at the 10% level. Therefore, the null hypothesis is rejected and we conclude that there are significant differences in the mean and median values of the dependent variables. These findings indicate the positive relationship.

Table 2 Descriptive Statistics

Panel A: Summary Statistics						
Variables	No.	Mean	Median	Std.	P25	P75
AUDITFEE	5,949	13.746	13.688	0.549	13.305	14.078
ACTIVISM	5,949	0.079	0.031	0.169	0.014	0.072
SIZE	5,949	21.836	21.741	1.053	21.059	22.506
LEV	5,949	0.379	0.360	0.194	0.220	0.517
ROA	5,949	0.039	0.041	0.067	0.016	0.071
GROWTH	5,949	0.212	0.127	0.461	-0.000	0.299
TOP1	5,949	0.326	0.302	0.137	0.219	0.415
SEP	5,949	0.042	0.000	0.069	0.000	0.060
STATE	5,949	0.201	0.000	0.401	0.000	0.000
ART	5,949	24.379	4.328	100.852	2.496	8.566
BMEET	5,949	9.992	9.000	3.870	7.000	12.000
CHANGE	5,949	0.090	0.000	0.287	0.000	0.000
CURRENT	5,949	2.718	1.866	2.468	1.287	3.172
DUAL	5,949	0.343	0.000	0.475	0.000	1.000
BIG4	5,949	0.024	0.000	0.154	0.000	0.000
ILLEGAL	5,949	0.195	0.000	0.396	0.000	0.000

Panel B: Univariate Test by ACTIVISM						
	Treatment group		Control group		t-test for difference in means	Wilcoxon test for difference in medians
Variables	Mean	Median	Mean	Median.		
AUDITFEE	13.760	13.710	13.730	13.650	0.030**	0.060*
SIZE	21.880	21.800	21.800	21.700	0.080***	0.100***
LEV	0.384	0.365	0.375	0.355	0.009*	0.010
ROA	0.032	0.035	0.044	0.044	0.012***	-0.009***
GROWTH	0.194	0.116	0.224	0.135	0.030**	-0.019***
TOP1	0.323	0.300	0.328	0.303	0.005	-0.003
SEP	0.042	0.000	0.042	0.000	0.000	0.000
STATE	0.205	0.000	0.198	0.000	0.007	0.000
ART	22.970	4.366	25.400	4.278	2.430	0.088
BMEET	9.999	9.000	9.988	9.000	0.011	0.000
CHANGE	0.089	0.000	0.091	0.000	0.002	0.000
CURRENT	2.671	1.839	2.753	1.910	0.082	-0.071*
DUAL	0.343	0.000	0.343	0.000	0.000	0.000
BIG4	0.026	0.000	0.023	0.000	0.003	0.000
ILLEGAL	0.202	0.000	0.190	0.000	0.012	0.000
Obs.	2,504		3,445		5,949	

3 Empirical results

3.1 Multivariate tests

Table 3 presents the main regression findings which uses Model (1) and *AUDITFEE* is the dependent variable for all columns. Column (1) displays the regression result with control variables but without setting the firm and year fixed effects. The regression model in column (2) adds time fixed effect comparing to column (1). At the same time, column (3) takes the minority shareholders' activism, which is measured by the proportion of participation, as the key independent variable, and controls the firm and year fixed effects as well as the control variables, which is the complete regression results consistent with Model (1). It is apparent that the estimated coefficients of *ACTIVISM* are significantly positive across the three columns. In column (1), the coefficient of *ACTIVISM* is 0.053 and significant positive at 10% level with t-statistics of 1.68. In column (2), the coefficient of *ACTIVISM* is 0.064 and significant positive at 5% with t-statistics of 2.05. In column (3), the coefficient of *ACTIVISM* is 0.057 and significant at 1% with t-statistics of 2.67, which is just the model used to verify Hypothesis 1. These findings suggest that the more minority shareholders participate, the higher the audit fees of listed companies, which is consistent with the assumption of Model (1). For each standard deviation increase in the proportion of minority shareholders, the audit fees increase by 1.8% (=0.057×0.169/0.549×100%), indicating that the conclusion that auditors increase audit fees when confronted with firms of the potential risk and extra workload stemming from minority shareholders' activism is valid.

Table 3 Regression Results

	(1)	(2)	(3)
Variables	*AUDITFEE*	*AUDITFEE*	*AUFITFEE*
ACTIVISM	0.053*	0.064**	0.057***
	(1.68)	(2.05)	(2.67)
SIZE	0.319***	0.311***	0.184***
	(51.18)	(49.83)	(17.95)
LEV	-0.095**	-0.083**	0.010
	(-2.33)	(-2.05)	(0.24)
ROA	-0.585***	-0.566***	-0.171***
	(-6.71)	(-6.51)	(-2.70)
GROWTH	0.041***	0.042***	0.014**
	(3.51)	(3.59)	(1.97)
TOP1	-0.079**	-0.059	0.049
	(-1.99)	(-1.50)	(0.70)
SEP	0.200***	0.236***	-0.088
	(2.59)	(3.08)	(-0.75)
STATE	-0.128***	-0.124***	0.002
	(-9.06)	(-8.82)	(0.08)
ART	-0.000***	-0.000***	-0.000
	(-5.32)	(-4.88)	(-1.01)
BMEET	0.011***	0.012***	0.006***
	(7.62)	(8.19)	(5.41)
CHANGE	0.005	-0.009	-0.014
	(0.29)	(-0.51)	(-1.34)
CURRENT	-0.019***	-0.019***	0.003
	(-6.64)	(-6.66)	(1.27)
DUAL	0.023**	0.021*	0.003
	(2.04)	(1.83)	(0.24)
BIG4	0.549***	0.540***	0.239***
	(15.95)	(15.81)	(5.93)
ILLEGAL	0.039***	0.041***	0.002
	(2.92)	(2.98)	(0.23)
Company FE	NO	NO	YES
Year FE	NO	YES	YES
Obs.	5,949	5,949	5,949
Adj R^2	0.479	0.486	0.877

Among the control variables, the coefficients of *SIZE is* positive at 1% level, which is consistent with the result of Carson and Fargher (2007) that greater client size is anticipated to result in higher audit fees due to the need for additional audit services. The coefficients of *BMEET* is positive at 1% as expected, which is consistent with the study of Bliss (2011) that the more board meetings held demand higher audit quality and effort The coefficients of *BIG4* is positive at 1%, which is consistent with the results of Choi *et al.* (2010) and Goodwin-Stewart and Kent (2006), indicating that the audit fee is closely related to the professionalism and reputation of audit firms The coefficient of *ROA* is significantly negative at the 1% level, which suggests that auditors are more optimistic about enterprises with better performance. Excellent profitability can effectively attract favorable funding in the market, which in turn boosts investor sentiment and reduces auditor risk assessments.

3.2 Robustness tests

3.2.1 Instrumental variable estimation

In this segment, we adopt the growth rate of shareholders (*Shareholders Growth*) as the IV variable and need to ensure its exogeneity. The higher the growth rate of shareholders, the faster the growth of minority shareholders. Considering that the overall participation of minority shareholders is relatively low, the proportion of attendance at shareholder meetings will be lower (Lin *et al*., 2023). However, the growth rate of shareholder itself does not have the possibility to affect audit fees. Therefore, the growth rate of the number of shareholders become the ideal instrument for minority shareholders, which is the same for the minority shareholder attending online and offline. Due to the lagging effect of the independent variable caused by the growth rate of shareholders, our study measures the growth rate of shareholders by calculating the fixed base growth rate of minority shareholders' attendance with a lag of one quarter from the year the shareholder meeting is held.

The findings from the two-stage least squares (2SLS) analyses are summarized in Table 4. When it comes to the first stage, we conduct a regression analysis of the minority shareholders' activism variable, *ACTIVISM* against the IV, *Shareholders Growth*, as well as variables in Table 4, which is displayed in column (1). Notably, in column (1), the coefficient of *Shareholders Growth* is positive and significant at 1%. Furthermore, the Anderson canonical correlation LM statistic of 1483.38 in the under-identification test demonstrates statistical significance at 1%, suggesting that the IV (Shareholders Growth) is indeed an endogenous variable. The Cragg-Donald Wald F statistic in the Weak identification test of *ACTIVISM* is 2264.04, exceeding the weak instrument cutoff value of 10 as suggested by Stock, Wright, and Yogo (2002), thereby confirming the IV (Shareholders Growth) is not weak. In summary, after examination, the shareholders growth rate is confirmed to be an effective exogenous variable, thus can be used to reaffirm our conclusion that auditors increase audit fees when confronted with firms of potential risk and extra workload.

When it comes to the second stage, we conduct a regression of *AUDITFEE* on the predicted value of minority shareholders, *ACTIVISM_Pr*, along with the control variables. Column (2) demonstrates that the estimated coefficients of *ACTIVISM_Pr* are notably positive, confirming the main regression findings in Table 3. Therefore, with the aid of instrumental variables, we can unequivocally affirm the conclusion that auditors charge higher audit fees when confronted with firms of potential risk and extra workload because of minority shareholders' activism.

3.2.2 Propensity-Score Matching (PSM)

Second, A Propensity Score Matching (PSM) approach is adopted to mitigate the potential selection bias in minority shareholders' attendance may not be randomly distributed among listed companies. Ideally, we want to compare enterprises that are exactly the same except for the size of minority shareholder attendance and the other is not.

Table 4 Robustness Tests: IV Estimation

Variables	*ACTIVISM*	*AUDITFEE*
Shareholders Growth	0.069***	
	(47.58)	
ACTIVISM		0.080**
		(1.99)
SIZE	-0.013**	0.185***
	(-2.22)	(10.89)
LEV	0.092***	0.006
	(3.65)	(0.10)
ROA	0.144***	-0.178**
	(3.91)	(-2.14)
GROWTH	0.003	0.014
	(0.67)	(1.55)
TOP1	0.141***	0.041
	(3.48)	(0.37)
SEP	0.118*	-0.089
	(1.71)	(-0.50)
STATE	0.017	0.002
	(0.94)	(0.05)
ART	0.000	-0.000
	(1.35)	(-0.84)
BMEET	-0.000	0.006***
	(-0.54)	(4.67)
CHANGE	0.014**	-0.015
	(2.34)	(-1.26)
CURRENT	-0.001	0.003
	(-0.43)	(1.04)
DUAL	0.018***	0.002
	(2.75)	(0.15)
BIG4	0.017	0.238***
	(0.72)	(3.90)
ILLEGAL	0.004	0.002
	(0.58)	(0.20)
Company & Year FE	YES	YES
Obs.	5,949	5,949
Underidentification test (Anderson canon. corr. LM statistic)	1483.376(0.000)	
Weak identification test (Cragg-Donald Wald F statistic)	2264.04	

Following Rosenbaum and Rubin (1985), we conduct PSM tests on the main regression step by step. First, we classify observation data of enterprises that are greater than the average number of minority shareholders in the sample period as the "high group", and the observation data of enterprises that are lower than the average as the "low group". We then estimate the probit model for the sub-sample containing the two groups. The predicted value of the probit model gives the propensity score of the companies in the high group of minority shareholders in the current year. The control variables are selected as the matching covariate for one-to-one nearest neighbor matching with a caliper of 0.001. Subsequently, we create the ultimate PSM subsample by incorporating the treated and matched firm-year pairs. This matching process yields a matched sample of 4264 observations. Finally, we use the final PSM subsample to run the regression of Model (1).

The results of the validity tests of PSM and the regression after PSM are reported in Table 5. The probit regression results using the samples before and after PSM are exhibited in columns (1) and (2). The results in column (1) indicate significantly positive coefficients for *ROA, GROWTH, ART*, and *BIG4*, along with a significantly negative coefficient for *TOP1*, suggesting that firms with stronger profitability, faster growth, stronger liquidity, and higher audit quality are more likely to have more minority shareholder attendance. The coefficient of *ROA* is still significant after PSM according to column (2), which indicates that the likely selection bias stemming from the observed characteristics can be largely eradicated through PSM. The regression outcomes for the subset selected through PSM are reported in column (3). The estimated coefficient of *ACTIVISM* is still significantly positive at the level of 5% after PSM. The results show that after controlling the potential selection bias of the activism of minority shareholders' attendance, there is still a positive relationship between the activism of minority shareholders attendance and audit fees of listed companies.

Table 5 Robustness Tests: Propensity Score Matching (PSM)

	Validity of PSM		Regression after PSM
	Before PSM	After PSM	
	(1)	(2)	(3)
Variables	*ACTIVISM-HIGH*	*ACTIVISM-HIGH*	*AUDITFEE*
ACTIVISM			0.061**
			(2.50)
SIZE	0.019	0.021	0.175***
	(0.35)	(0.35)	(13.72)
LEV	0.488	0.059	0.010
	(1.46)	(0.16)	(0.18)
ROA	8.524***	4.721***	-0.157*
	(11.92)	(5.92)	(-1.78)
GROWTH	0.244***	0.050	0.027***
	(3.06)	(0.56)	(3.06)
TOP1	-0.664*	0.199	-0.014
	(-1.87)	(0.51)	(-0.15)
SEP	0.921	0.061	-0.192
	(1.36)	(0.08)	(-1.31)
STATE	-0.069	0.047	-0.011
	(-0.54)	(0.34)	(-0.27)
ART	0.001*	-0.000	-0.000
	(1.96)	(-0.51)	(-0.96)
BMEET	-0.005	0.003	0.007***
	(-0.47)	(0.27)	(5.01)
CHANGE	-0.036	-0.030	-0.001
	(-0.29)	(0.21)	(-0.10)
CURRNT	0.087***	0.002	0.007**
	(3.82)	(0,10)	(2.21)
DUAL	0.132	0.083	-0.006
	(1.45)	(0.81)	(-0.39)
BIG4	1.161***	0.234	0.284***
	(3.68)	(0.66)	(4.87)
ILLEGAL	0.061	-0.013	-0.002
	(0.60)	(-0.11)	(-0.13)
Company FE	YES	YES	YES
Year FE	YES	YES	YES
Obs.	5,949	4,264	4,264

3.2.3 Alternative measures of minority shareholders activism and audit fees

Third, in order to alleviate the concerns about the measurement errors of minority shareholders and audit fees, we revisit Model (1) by utilizing a different set of measures. To begin with, we alter the way the independent variables are measured. The AGMs of listed companies in the previous year is generally held in the first half of the second year, concentrated between March and June. Following Bell, Landsman, and Shackelford (2001), audit fees can be assessed both in terms of total outlay and by dissecting the components, specifically referring to the domestic. We then target the dependent variable, since it mainly focuses on the domestic related business and choose transaction expenses paid by the audited unit responsible for domestic reporting as *AUDITFEE2*.Table 6, column (1) shows the regression results using alternative measures different from those in the main regression, indicating that the regression coefficient of *ACTIVISM* is still significantly positive at 10%. Column (4) shows the regression result using alternative measures different from those in the main regression.

Table 6 Robustness Tests: Alternative of independent and dependent variables

	(1)	(2)
Variables	*AUDITFEE*	*AUDITFEE2*
ACTIVISM		0.041**
		(1.98)
ACTIVISM2	0.081*	
	(1.96)	
SIZE	0.182***	0.182***
	(17.81)	(18.11)
LEV	0.018	0.021
	(0.42)	(0.49)
ROA	-0.159**	-0.133**
	(-2.53)	(-2.14)
GROWTH	0.014*	0.015**
	(1.94)	(2.16)
TOP1	0.070	0.044
	(1.01)	(0.65)
SEP	-0.092	-0.048
	(-0.79)	(-0.42)
STATE	0.004	-0.013
	(0.13)	(-0.44)
ART	-0.000	-0.000
	(-1.02)	(-1.25)
BMEET	0.006***	0.006***
	(5.27)	(5.21)
CHANGE	-0.014	-0.013
	(-1.28)	(-1.27)
CURRENT	0.003	0.002
	(1.19)	(0.86)
DUAL	0.003	-0.001
	(0.28)	(-0.10)
BIG4	0.241***	0.223***
	(5.99)	(5.66)
ILLEGAL	0.003	-0.000
	(0.25)	(-0.03)
Company FE	YES	YES
Year FE	YES	YES
Obs.	5,949	5,949
Adj R^2	0.912	0.913

The regression coefficient of *ACTIVISM* is still significantly positive at 5%, confirming the reliability and robustness of our main assumption. These findings support the hypothesis that our main finding is robust under different measures of independent and dependent variables.

3.3 Cross-sectional tests

To shed the changes in audit risk and audit input brought by the attendance of minority shareholders, this paper further conducts sub-sample analysis to examine how auditors adjust the audit fees when confronted with firms with active minority shareholders' participation in different enterprises and external supervision. Specifically, we explore grouping situations under key audit matters, the number of following analysts, and internal control quality.

3.3.1 Key Audit Matters

Initially, we anticipate that auditors increase audit fees in firms with fewer key audit matters. Following, the key audit matters are windows for risk-oriented audits because most studies have found that increasing key audit matters can enhance stakeholders' oversight of auditors as well as increase the information value of audit reports (Gimbar, Hansen, and Ozlanski, 2016; Backof, Bowlin, and Goodson, 2022; Rousseau and Zehms, 2023). The fewer key audit matters documented by auditors, the more likely it is that auditors will have additional communication with management regarding those matters outside of the audit report. With an increase in the activism of minority shareholders, it provides management with a relatively larger space to cater to the demands of minority shareholders and engage in earnings management. This increases the risks faced by auditors. The key audit matters is calculated by the logarithm of the total number of key audit matters plus one, which is a reflection of the extent of their disclosure. We primarily focus on the significance and direction (positive or negative) of the interaction coefficient between minority shareholders' activism and the count of key audit matters(*ACTIVISM*×*KAMN*), which can be referred back to Table 7, Column 1.

In this study, we explored the relationship *AUDITFEE* and *ACTIVISM*, with a particular focus on the moderating role of key audit matters (*KAMN*). We found that after controlling for the KAMN variable, the impact of *ACTIVISM* on *AUDITFEE* is significant. Specifically, with an average value of *KAMN* at 0.912, it indicates that at this average level of disclosure detail, each unit increase in *ACTIVISM* is associated with an average increase of 0.2036 units in *AUDITFEE*. This result is statistically very significant, with a P-value close to zero, well below the 0.001 level of significance, leading us to reject the null hypothesis and confirm that *ACTIVISM* has a significant positive impact on *AUDITFEE*. In column (1), it is apparent that the estimated coefficients of *ACTIVISM*×*KAMN* is significantly negative at the level of 1%. Therefore, this result indicates that the increase in audit risk and audit effort is particularly significant when the disclosure of key audit matters is less detailed. Therefore, in the sample with fewer key audit matters disclosed, auditors charge higher.

3.3.2 Number of Following Analysts

Second, we expect that the positive effect of minority shareholder size on audit fees be more pronounced in firms with fewer analysts following them. Frankel and Li (2004) empirically demonstrate that analysts mainly play two functions in corporate governance: one is to alleviate the information asymmetry between minority shareholders and major shareholders through on-the-spot information investigation and disclosure; the other is to supervise the management through external governance mechanisms. With an increasing participation of minority shareholders in the AGMs, a decrease in the number of analysts covering the company signifies a heightened information barrier among shareholders with varying levels of voting rights. This also implies that external oversight of the management by minority shareholders is not sufficiently strong. When the demands of minority shareholders are not met, there is an increased likelihood that they tend to voice their concerns online, thereby increasing audit risk and audit expenditure. According to Chen, Harford and Lin (2015), we measure the transparency of company information using the number of analysts tracking the company, which is based on the logarithm of the current year's number of analysts tracking the company plus one. Table 7, Column (2) presents the results.

In this scholarly work, we delved into the relationship between *AUDITFEE* and *ACTIVISM*, placing a spotlight on the modulating impact of analyst engagement (*ANALYST*). Our analysis revealed that the influence of *ACTIVISM* on *AUDITFEE* is statistically significant when the variable *ANALYST* is held constant. Specifically, with the mean value of *ANALYST* at 1.358, an increment of one unit in *ACTIVISM* corresponds to an average rise of 0.1233 units in *AUDITFEE*. This finding is markedly statistically significant, boasting a P-value of 0.001, which is considerably lower than the alpha level of 0.001. Consequently, we reject the null hypothesis, affirming a significant positive association between *ACTIVISM* and *AUDITFEE*. Column (2) shows that the estimated coefficients of *ANALYST*×*ACTIVISM* is significantly negative at the 1% level respectively, which represents that for enterprises with less analysts following, the scale of minority shareholders brings more audit risks and audit investment, which further confirms our hypothesis that auditors will increase the audit fees when confronted with firms with minority shareholders' activism in response to potential increased risks. The information transmission and supervision function of the analyst tracking number can indeed alleviate the audit risk and audit investment increase caused by the increase in the number of minority shareholders. In effect, analysts also assume the role of external monitoring which can not be ignored.

3.3.3 Internal Control Quantity

Third, we expect that the behavior of auditors raising audit fee when confronted with firms with minority shareholders' activism can be more apparent for firms with worse internal control quality. Doyle, Ge and McVay (2007) believe that the information asymmetry between internal management and external users of accounting information provides significant opportunities for rent-seeking by the management. Internal control, as a crucial component of corporate governance, assists in rectifying institutional shortcomings, enhancing oversight of management, and elevating audit standards. We can infer that companies with poor internal control quality are unable to effectively prevent the risks associated with an increase in the number of minority shareholders, including risks related to executive misconduct and compromised audit quality. Following Chen *et al.* (2017). We measure the quality of internal control in enterprises by internal control index, which is based on DIB Internal Control and Risk Management Database. It is based on the degree of achievement of five major objectives: internal control compliance, reporting, asset security, operations, and strategy which can reflect the internal control level and risk management capabilities of listed companies.

In this analysis, we have observed that both *ICO* and *ACTIVISM* are continuous variables. Statistically, the average value of *ICO* is determined to be 615.9191. Under these conditions, the marginal effect is interpreted such that for each one-unit increase in *ACTIVISM*, there is an average increase of 0.1898 units in *AUDITFEE*. With a P-value of 0.003, which is below the 0.05 level of significance, we can reject the null hypothesis and conclude that the marginal effect of *ACTIVISM* is statistically significant. This finding underscores the impact of minority shareholders' activism on audit fees, particularly when the level of internal control quality (*ICO*) is held constant at its mean value. As column (3) shows, the estimated coefficient of *ICO*×*ACTIVISM* is significantly negative at the 1% level, which more intuitively reflects the effect of the level of corporate internal governance on our hypothesis. This shows that the increase in audit fees caused by the activism of minority shareholders attendance in enterprises with worse internal control quality is more obvious, indicating that the internal control can effectively supervise the internal activities of enterprises, thus restraining audit risks and reduce audit investment.

Table 7 Cross-sectional tests

	(1)	(2)	(3)
Variables	*AUDITFEE*	*AUDITFEE*	*AUDITFEE*
KAMN×ACTIVISM	-0.184***		
	(-3.18)		
ANALYST×ACTIVISM		-0.046***	
		(-2.62)	
ICO×ACTIVISM			-0.000**
			(-2.02)
ACTIVISM	0.204***	0.026***	0.190***
	(4.31)	(5.42)	(2.99)
KAMN	0.030		
	(1.63)		
ANALYST		0.026***	
		(5.42)	
ICO			-0.000
			(-0.22)
SIZE	0.162***	0.180***	0.182***
	(13.89)	(17.51)	(17.63)
LEV	0.021	0.006	0.017
	(0.46)	(0.14)	(0.40)
ROA	-0.133**	-0.209***	-0.143**
	(-2.09)	(-3.24)	(-2.24)
GROWTH	0.009	0.012*	0.016**
	(1.21)	(1.73)	(2.19)
TOP1	0.039	0.040	0.072
	(0.48)	(0.59)	(1.03)
SEP	-0.286**	-0.069	-0.109
	(-2.18)	(-0.59)	(-0.93)
STATE	-0.046	0.012	0.005
	(-1.51)	(0.40)	(0.17)
ART	-0.000	-0.000	-0.000
	(-1.40)	(-1.08)	(-1.12)
BMEET	0.006***	0.006***	0.006***
	(4.90)	(5.31)	(5.06)
CHANGE	-0.002	-0.013	-0.015
	(-0.23)	(-1.25)	(-1.40)
CURRENT	0.001	0.003	0.003
	(0.43)	(1.28)	(1.20)
DUAL	-0.004	0.005	0.004
	(-0.33)	(0.46)	(0.32)
BIG4	0.173***	0.240***	0.239***
	(3.92)	(6.01)	(5.94)
ILLEGAL	-0.005	0.003	0.003
	(-0.51)	(0.29)	(0.27)
Company FE	YES	YES	YES
Year FE	YES	YES	YES
Obs.	5,248	5,906	5,887
Adj.R^2	0.927	0.913	0.912

3.4 How does minority shareholders activism increase audit fees

This paper will further discuss the specific path of which how auditors increase audit fees when confronted with firms with minority shareholders' activism. We mainly propose two possible paths: one is media attention and the other is earnings management.

3.4.1 Media Attention

First, we believe that the first influence path is through media attention. The collective opinions of minority shareholders can be aggregated and amplified on social media platforms, which can effectively alleviate information asymmetry and correct corporate violations and opportunistic behaviors (Elliott, Grant, and Hobson, 2020; Zhou *et al.*, 2021). According to Tetlock (2007), minority shareholders' emotional expression on the online platform can cause pressure and litigation risk to listed companies. Too much negative online media attention increases the reputational risk of listed companies that auditors face, thus increasing audit fees. To confirm whether media attention is a possible pathway in the situation where auditors increase audit fees when confronted with firms of minority shareholders' activism, we propose the following model for verification:

$$\mathrm{MEDIA}_{i,t} = \beta_0 + \beta_1 ACTIVISM_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + FIRM\&YEAR \cdot FE + \varepsilon_{i,t} \quad (2)$$

$$AUDITFEE_{i,t} = \gamma_0 + \gamma_1 ACTIVISM_{i,t-1} + \gamma_2 MEDIA_{i,t} + \gamma_3 CONTROLS_{i,t-1} + FIRM\&YEAR \cdot FE + \varepsilon_{i,t} \quad (3)$$

Compared with positive and neutral media reports, negative media reports are more likely to bring reputation risks to listed companies. Therefore, *MEDIA* is calculate by the quantities of negative news reported in network news plus 1 to take the logarithm (An *et al.*, 2022). Model (2) is used to assess whether negative coverage by the media increases with the level of activism by minority shareholders. Model (3) adds *MEDIA* to the benchmark regression to test whether media attention plays part of the mediating effect in the impact of minority shareholders' attendance ratio on audit fees. Both year fixed effects and firm individual fixed effects are controlled.

Table 8, columns (1) and (2) reports the regression test results of media attention as a mediating variable. Column (1) respectively shows the regression results of independent variables on media attention. The regression coefficient of *ACTIVISM* is significantly positive at the level of 1%. Column (2) shows the regression results after adding *MEDIA* to the original model. The coefficient of *ACTIVISM* in column (2) is significantly positive at the 10% level, and the coefficient of *MEDIA* is still significantly positive at 5%. After adding *MEDIA*, the significance of the independent variable decreases compared with the base model in Model (1), which shows that the increase in minority shareholders' activism significantly increases the number of negative reports reported by network media, and media attention plays a part of the mediating effect, which also confirms that media is still an important pathway for minority shareholders to voice for themselves. It is valid for our hypothesis.

Meanwhile, we also report the significance results, z-values of Goodman tests as well as Sobel tests in the last second to fifth lines, which are all significant at the 1% level. The tests further confirm our conclusion and emphasize that the media attention is valid for one of the possible channels that push auditors to raise up the audit fees when confronted with firms with minority shareholders' activism in response to the potential risks and input.

3.4.2 Earnings Management

Second, we infer that the second influence path is through earnings management. Studies of Baker and Wurgler (2006)and El Diri, Lambrinoudakis and Alhadab (2020) have shown that management may engage in earnings management for contractual motives, political cost motives, and pandering motives, which is helpful to minority shareholders' activism. In order to cater to minority shareholders, senior executives conduct earnings management, which makes the overall quality of accounting information deteriorate, and therefore audit investment needs to be increased to increase audit fees.

To confirm whether earnings management is a possible pathway in the situation where auditors increase audit fees when confronted with firms of minority shareholders' activism, we propose the following model for verification:

Table 8 How do minority shareholders activism affects audit fees

	(1)	(2)	(3)	(4))
Variables	*MEDIA*	*AUDITFEE*	*DA*	*AUDITFEE*
ACTIVISM	0.302***	0.054**	0.017*	0.054**
	(4.58)	(2.54)	(1.89)	(2.53)
MEDIA		0.009*		
		(1.82)		
DA				0.187***
				(5.19)
SIZE	0.038	0.184***	-0.031***	0.188***
	(1.18)	(17.92)	(-7.10)	(18.19)
LEV	0.272**	0.008	0.004	0.010
	(2.04)	(0.18)	(0.19)	(0.23)
ROA	-1.237***	-0.160**	0.053*	-0.198***
	(-6.31)	(-2.51)	(1.95)	(-3.11)
GROWTH	-0.031	0.014**	0.000	0.015**
	(-1.43)	(2.01)	(0.16)	(2.14)
TOP1	-0.916***	0.057	-0.026	0.039
	(-4.26)	(0.82)	(-0.86)	(0.57)
SEP	-0.207	-0.086	0.035	-0.083
	(-0.57)	(-0.74)	(0.70)	(-0.70)
STATE	-0.239**	0.005	-0.011	0.007
	(-2.55)	(0.15)	(-0.88)	(0.23)
ART	0.000	-0.000	-0.000	-0.000
	(0.60)	(-1.03)	(-0.42)	(-1.20)
BMEET	-0.000	0.006***	0.000	0.006***
	(-0.04)	(5.41)	(0.09)	(5.24)
CHANGE	-0.020	-0.014	-0.003	-0.012
	(-0.61)	(-1.32)	(-0.69)	(-1.11)
CURRENT	0.016*	0.003	-0.003***	0.004
	(1.95)	(1.21)	(-2.58)	(1.60)
DUAL	-0.041	0.003	0.006	0.000
	(-1.18)	(0.27)	(1.19)	(0.04)
BIG4	-0.215*	0.240***	-0.028*	0.245***
	(-1.72)	(5.98)	(-1.65)	(6.11)
ILLEGAL	0.057*	0.002	0.008*	0.001
	(1.75)	(0.18)	(1.77)	(0.11)
Company FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Obs.	5,949	5,949	5,887	5,887
Adj.R^2	0.729	0.912	0.366	0.913
Sobel test	0.000***(Z=4.353)		0.001***(Z=3.302)	
Goodman test1	0.000***(Z=4.338)		0.001***(Z=3.271)	
Goodman test2	0.000***(Z=4.369)		0.001***(Z=3.335)	
% of mediation effect	4.77%(=0.302×0.009/0.057)		5.58%(=0.017×0.187/0057)	

$$DA_{i,t} = \beta_0 + \beta_1 ACTIVISM_{i,t-1} + \beta_2 CONTROLS_{i,t-1} + FIRM\&YEAR \cdot FE + \varepsilon_{i,t} \quad (4)$$

$$AUDITFEE_{i,t} = \gamma_0 + \gamma_1 ACTIVISM_{i,t-1} + \gamma_2 DA_{i,t} + \gamma_3 CONTROLS_{i,t-1} + FIRM\&YEARF \cdot E + \varepsilon_{i,t} \quad (5)$$

We set Model (4) and model (5) to verify the mediating effect of earnings management, linking to Model (1). *DA* is consistent with Jones (1991) and Dechow, Sloan and Sweeney (1995). Model (4) is used to assess whether management engage in catering to the earnings manipulation behavior of minority shareholders. Model (5) tests whether earnings management plays a partial mediating role in the impact of the proportion of minority shareholders' attendance on audit fees.

Table 8, columns (3) and (4) report the regression test results of earnings management as a mediating variable. The coefficient of *ACTIVISM* is significantly positive in column (3), which displays the regression results of *ACTIVISM* on *DA*. Column (4) shows the regression results after adding *DA*. The coefficient of *ACTIVISM* in column (4) is significantly positive at the 5% level, and the coefficient of *DA* is still significantly positive at 1%. After adding *DA*, the significance of the independent variable decreases compared with the base model in Model (1), which indicates that the increase in minority shareholders' activism will indeed increase the possibility of executives manipulating earnings management. Earnings management is a possible pathway for the intermediary effect in the impact of auditors raise up the audit fees when confronted with firms with minority shareholders' activism.

Based on the testing procedures above, the results of bootstrap are also shown in Panel 5. We also report the significance results and z- values of Goodman tests and Sobel tests in the last second to fifth lines, which are all both yield significant results. The tests further confirm our conclusion and emphasize that the earnings management is valid for one of the possible channels that push auditors to raise up the audit fees when confronted with firms with minority shareholders' activism in response to the potential risks and input.

4 Conclusions

Attending shareholder meetings is an important channel for shareholders to vote and express their opinions reasonably, especially for minority shareholders which is in a relatively disadvantaged position. We investigate how auditors adjust audit fees when confronted firms with the existence of minority shareholders' activism. According to our research findings, there is a positive relationship between minority shareholders' participation and audit fees, as it increases the possibilities of executives manipulating earnings under pressure and the reputation impact from media coverage, which can be identified by the auditors as potential sources of audit risk. Meanwhile, the higher the degree to which auditors raise audit fees when confronted with firms of minority shareholders' activism, especially among firms with less key audit matters, less analysts following and worse internal control qualities.

We make contributions to explore the economic consequences and role of minority shareholders. In particular, we observe that the activism of minority shareholders can yield adverse outcomes that might have been overlooked. In company decisions, minority shareholders may potentially bring about more inherent risks from the perspective of external third party, and the unintended risks can be deepened by the less disclosure of key audit matters, poorer internal governance quality, and less analyst coverage. Our findings provide theoretical and practical significance for scholars and regulators concerned with the protection and education of minority shareholders all over the global capital markets, which is helpful to establish a sound system and environment for the participation of minority shareholders both in developing and developed countries.

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