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How the Compensation Gap between Median Full-Time Non-Managerial Employees and Executives Affects Audit Quality: Evidence from the Big 4 Accounting Firms

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ABSTRACT

Purpose:
Studies have relied on full-time non-managerial employees' average compensation to measure pay disparities. However, this approach can be distorted by outliers. Instead, median compensation has the potential to more accurately reflect employee compensation. This study examines how the gap between full-time non-managerial time employees' average compensation and executive compensation affects Taiwanese public companies' audit quality. Additionally, it analyzes how this relationship is influenced by the type of accounting firm and management team stability.

Design/methodology/approach:
This study focuses on publicly listed companies in Taiwan from 2019 to 2023. It investigates whether a greater gap between the median compensation of full-time NMEs and executive compensation—indicating a compensation structure favoring higher-level employees—correlates with higher audit and non-audit fees. Data were obtained from the Market Observation Post System and Taiwan Economic Journal financial database. For STATA statistical software to simplify the computations in ordinary least squares.

Findings:
In companies audited by the Big 4 accounting firms, a wider gap between full-time non-managerial employees' median compensation and executive compensation is associated with higher audit fees. Thus, such companies have greater operational complexity and more advanced risk management, which in turn raises audit costs. Specifically, these companies may have higher earnings management risk, thus necessitating more extensive audit resources. Furthermore, the Big 4 firms' strong brand reputation, higher audit quality, and larger market share allow them to charge premium rates. This illustrates the differentiated pricing strategies and competitive dynamics within this market segment. Additionally, companies with stable management teams—where executives have remained in position for at least three years—tend to more effectively implement professional development programs. They also demand a higher level of both audit and non-audit services, demonstrating a willingness to invest in substantial audit and non-audit fees to ensure professionalism and integrity in the auditing process.

Research limitations/implications:
The findings carry significant practical implications for audit firm pricing strategies, and for companies in choosing auditors and allocating resources. Companies should consider their own operational complexity, risk management level, and management stability to select the most suitable audit services and Big 4 accounting firm.

Originality/value:
This study offers several key contributions. It innovatively uses median, not average, non-managerial employee compensation to measure the pay gap, thus avoiding distortion from outliers. The impact of this refined measure on both audit and non-audit fees is examined, providing a more comprehensive understanding of audit pricing. Furthermore, it distinguishes between Big 4 and non-Big 4 firms, revealing firm-specific pricing strategies. Finally, management stability is included as a moderator, highlighting its role in the relationship between compensation structure, audit quality, and organizational stability. The findings offer valuable insights for audit firms, companies, and stakeholders concerning

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pricing, auditor selection, and the importance of fair compensation for corporate social responsibility.

1. Introduction

Employees are a company's most valuable strategic resource and deserve fair compensation. The Financial Supervisory Commission (FSC) in Taiwan encourages public companies to increase employee compensation as appropriate and share the rewards of business success with employees, thus demonstrating their commitment to corporate social responsibility and sustainable development. In 2015, the U.S. implemented a provision under the Dodd-Frank Wall Street Reform and Consumer Protection Act requiring companies to disclose the median annual total compensation of all its employees, except the chief executive officer (CEO), and compare this figure with the CEO's annual total compensation. Fair employee compensation is especially relevant given Taiwan's ongoing issue with relatively low wage in recent years. Moreover, although executive compensation has been extensively examined, discussions have extended beyond social equity to consider its influence on executives' decisions regarding corporate resource allocation (Lazear and Rosen, 1981; Holmstrom, 1979; Jensen and Meckling, 1976). Numerous studies have demonstrated a strong correlation between executive compensation and company performance (Huang, 2016; Lin et al., 2013; Armstrong et al., 2010; Kim, 2010; Sun and Cahan, 2009; Ozkan, 2007).

Employees often do not see any wage growth even if their company posts very high revenue. In response to the persistent low-wage issue in Taiwan, the FSC introduced a mandatory disclosure in 2019 requiring public companies to report the median compensation of full-time non-managerial employees (NMEs)[1], increasing transparency across industries. These NME compensation data are crucial for understanding Taiwanese workers' compensation. Crucially, such data are being directly reported by each public company and certified by authorities for the first time. However, given income inequality, average compensation can be skewed upward by a few exceptionally high figures and may be less representative for the majority of workers. Consequently, many advocate for using the median as a more accurate measure of income distribution.

In late 2001, the Enron scandal sparked widespread public distrust in the effectiveness of audit work, questioning whether certified public accountants (CPAs) were receiving appropriate fees to maintain their independence. Audit fees have consistently been identified as an important factor affecting CPA independence. With frequent financial fraud incidents, CPAs' independence is increasingly scrutinized as they audit financial statements. Besides providing audit services of financial statements, CPAs sometimes deliver non-audit services (through affiliated entities), creating a distinction between audit and non-audit fees. The Enron case highlighted how excessive non-audit fees could compromise CPA independence. Therefore, Taiwan's regulatory authorities mandate public companies to disclose fee information so that if investors notice abnormally high fees, they may suspect a threat to CPA independence and, in turn, question the accuracy of the company's financial statements (Craswell and Francis, 1999; Lai, 2009). Similarly, the U.S. enacted the Sarbanes-Oxley Act in July 2002, aiming to strengthen corporate governance, enhance the accuracy and reliability of financial information, and ensure greater transparency in corporate operations and financial reporting. The act also established the Public Company Accounting Oversight Board (PCAOB), and outlined stringent financial disclosure and accounting standards.

To prevent cases similar to the Enron scandal in Taiwan, the FSC's Securities and Futures Bureau revised the Regulations Governing the Preparation of Financial Reports by Securities Issuers in 2002[2]. This amendment mandates disclosing audit fee information within financial statements. This regulation in Taiwan and the Sarbanes-Oxley Act's restrictions in the U.S. essentially aim to limit non-audit services' impact on audit quality. Audit fees cover essential services, such as financial report audits, reviews, financial forecast reviews, and tax certification. Non-audit services refer to other services outside these core audit functions. By limiting non-audit services and requiring fee disclosures, these regulations intend to mitigate the potential negative effect of non-audit services on audit quality. Additionally, when auditors perceive high earnings management risks due to significant pay dispersion, they may increase audit efforts and fees to account for the higher potential litigation risk. Audit fees comprise audit costs, normal profit, and litigation and non-litigation risks (Huang et al., 2012; Houston et al., 2005; Simunic, 1980). Client size and client complexity positively correlated with audit fees. Besides covering audit costs and standard profits, audit fees also include anticipated business risk costs (Hay et al., 2006; Simunic, 1980). Huang (2020) indicated that larger pay differences between executive compensation and NMEs' average compensation suggest a compensation structure favoring higher-level employees with substantial pay, resulting in increased audit fees. However, average compensation can be skewed upward by a few outliers of high compensation, making them unrepresentative of most

[1] In June 2019, the Market Observation Post System established a section under "Corporate Governance" dedicated to "Corporate Social Responsibility Information/Employee Benefits and Compensation Statistics/ompensation Information for Full-time Non-managerial Employees." This allows investors to search and sort information by stock code, industry classification, or according to the average salary expenses. You can access this section through the following: https://mops.twse.com.tw/mops/web/t100sb15

[2] Since January 2007, information regarding audit fees provided by accountants has been regulated under the 'Regulations Governing Information to be Published in Annual Reports of Public Companies.

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employees' actual income levels. To the best of our knowledge, no studies have examined income disparity using the median compensation metric. This study utilizes executive compensation disclosed in annual shareholder reports and compares it with full-time NMEs' median compensation. It demonstrates that a wider pay gap indicates a compensation structure heavily favoring higher-level employees. This compensation structure can motivate employees to excel in their roles, potentially improving overall company performance. Consequently, companies with larger sizes, higher risk profiles, and greater operational complexity prompt auditors to invest more audit effort, and increase both audit and non-audit fees, thereby accurately reflecting the company's actual circumstances.

2. Literature Review

Following the global financial crisis, investors and lenders began placing greater emphasis on corporate governance, with governments enacting regulations to mandate internal information disclosures. Compensation structures have been consistently treated as business secrets in many companies to prevent potential negative effects and high turnover rates stemming from employee comparisons internally or with other firms. Labor market and demand theory suggests that when a company seeks outstanding performance by hiring top managerial talent, it must provide competitive compensation. The level of managerial pay effectively reflects the supply and demand for talent within the company, motivating managers to align their interests with those of the shareholders (Chalmers et al., 2006). Executive compensation has also received constant attention in the capital markets not only because of its relevance to social equity but also its impact on executives' decisions regarding corporate resource allocation (Lazear and Rosen, 1981; Jensen and Meckling, 1976). Additionally, since compensation systems form a core corporate governance mechanism, a sound compensation structure can boost morale, improve work quality and productivity, and, ultimately, positively affect the company.

Executives hold the highest positions within a company, serving as decision-makers in organizational leadership. The U.S. Securities and Exchange Commission (SEC) has considered executive pay an important corporate governance issue since 2006, requiring public companies to disclose detailed information about compensation for executives and board members. Executive compensation is influenced by company size and financial performance metrics. In Taiwan, the FSC mandated that public companies establish compensation committees by the end of 2011 to oversee the reasonableness and transparency of compensation distribution, viewing it as a crucial policy for ensuring fair pay practices. Through its "2018–2020 Corporate Governance Blueprint and Implementation Plan," the FSC promoted five key aspects of corporate governance: enhancing corporate governance culture; strengthening board functionality; improving information disclosure; promoting shareholder engagement; and strengthening regulatory compliance. These initiatives aim to drive both companies and investors to prioritize corporate governance. To further improve the quality of corporate governance disclosures and strengthen social responsibility, the Taiwan Stock Exchange Corporation (TSEC) and Taipei Exchange, in 2019, added the items "Employee Benefits and Compensation Information To Be Disclosed in Notes to Financial Reports" and "Compensation Information of Full-time NMEs" for the first time under the "Corporate Governance" tab of the c/"Employee Benefits and Compensation Statistics." This mandatory disclosure aims to support fair compensation structures and benefits, thus boosting employee loyalty, and reinforcing corporate governance and social responsibility. Huang (2020) had examined NMEs' average compensation in this context. However, the average compensation can be skewed upward by a few extremely high figures, making it unrepresentative of most employees' situations. To our knowledge, no study has examined median compensation. To address this gap, this study uses full-time NMEs' median compensation, and the pay gap between it and executive compensation as the dependent variable based on compensation data disclosed in the annual reports to general shareholder meetings of public companies.

Meanwhile, due to frequent financial statement fraud incidents domestically and internationally, CPAs' independence in conducting audits has come under intense scrutiny. Audit fees and their components are generally thought to impact CPA independence. Audit fees are agreed upon between the auditor and client. Empirical studies consistently find that client characteristics, such as company size, expertise requirements, operational complexity, and costs, increase audit fees (Hay et al., 2006; Chang and Tsao, 2005; Cobbin, 2002; Simunic and Stein, 1987). Since audit quality is not directly observable to external parties, audit firms rely on their brand and reputation to signal higher audit quality, which enable them to charge higher audit fees. Additionally, Defond et al. (2002) argued that the SEC considers non-audit services to be detrimental to auditor independence, leading to regulations that mandate the disclosure of both audit and non-audit fees to investors. However, research also shows that providing both audit and non-audit services to clients can create knowledge spillover effects, enhancing audit efficiency, audit judgment, and ultimately, improving audit quality (Hay, 2013; Wallman, 1996; Simunic, 1984; Goldman and Barlev, 1974).

On the demand side, the literature on the choice of CPA firm type is often based on agency cost theories. Specifically, companies with higher agency costs tend to appoint Big 4 accounting firms, which have superior audit quality, brand reputation, and lower economic dependence on individual clients. Consequently, they serve a more effective informational role and charge higher audit fees (Choi et al., 2010a; Francis and Wang, 2008; Francis et al., 1999; Becker et al., 1998). This arrangement helps companies achieve higher audit quality and mitigates agency costs through higher audit fees. Research indicates that the size of CPA firms and auditors' industry expertise affect audit quality levels (Hay and Jeter, 2011; Causholli et al., 2011; Hay, 2011). Su (2000) and Chen and Wu (2004) also found that large CPA firms in Taiwan command an audit fee premium. Furthermore, providing both audit and non-audit services to clients fosters knowledge exchange. This allows auditors to benefit from knowledge spillover effects,

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which enhance audit efficiency and judgment, thereby improving audit quality (Goldman and Barlev, 1974; Wallman, 1996; Arruñada, 1999).

According to the tournament theory proposed by Lazear and Rosen (1981) and Rosen (1986), corporate compensation structures mirror real-world conditions where wage differentials influence employee effort levels. Their theoretical model suggests that the wage gap among senior management teams incentivizes top executives to exert maximum effort, driven by the prospect of high compensation upon promotion. Tournament theory not only explains CEO compensation determinants but also underscores the significance of high executive pay relative to others and how salary gaps across organizational levels can motivate senior managers to compete for promotion by investing significant effort. As the management hierarchy expands, the salary gap between management levels also widens, providing sufficient incentives for senior managers to increase their effort. Numerous studies (Eriksson, 1999; Leonard, 1990) have examined the impact of salary differentials among managerial levels on managerial effort and company performance, showing that using tournament theory to design compensation structures positively affects company performance. Additionally, Bloom and Michel (2002) found that greater salary dispersion in management compensation structures reduces employee turnover and motivates employees to work more diligently. Thus, this study explores whether a larger gap between the median compensation of full-time NMEs and executive compensation create differences in audit and non-audit fees. The sample is further divided into companies audited by Big 4 and non-Big 4 firms, while using audit and non-audit fee metrics as audit quality indicators.

3. Methodology

3.1 Sample Selection

In 2019, the Market Observation Post System publicly disclosed the "median compensation of full-time NMEs" for the first time. This study focuses on publicly listed companies in Taiwan from 2019 to 2023. It investigates whether a greater gap between the median compensation of full-time NMEs and executive compensation—indicating a compensation structure favoring higher-level employees—correlates with higher audit and non-audit fees. Data were obtained from the Market Observation Post System's "Corporate Social Responsibility Information/Employee Benefits and Compensation Statistics," including "Employee Benefits and Compensation Information To Be Disclosed in Notes to Financial Reports" and "Compensation Information of Full-time NMEs" disclosed by Taiwan public companies. Data for audit fees, non-audit fees, executive compensation, accounting firm, and related financial variables were sourced from the Taiwan Economic Journal financial database.

Panel A of Table 1 shows the distribution of audited companies by CPA firm type. Companies audited by Big 4 CPA firms comprise 92.66% of the sample across the sample period (3,145 out of 3,394). Thus, most Taiwanese companies have a high degree of trust in the audit quality of Big 4 firms. Panel B shows that Deloitte & Touche was chosen by the highest proportion of companies (37.52% in the Big 4 group). Deloitte & Touche's significant industry expertise in fields like technology, manufacturing, and financial services makes it a preferred choice for many companies. Additionally, among companies audited by Big 4 CPA firms, 70.14% did not experience CEO turnover. The high proportion of companies with no CEO turnover reflects a preference for stability in management, as maintaining consistent leadership helps sustain business strategies and build internal trust over the long term.

Table 1: Sample Distribution

Panel A: Yearly distribution and distribution of CPA firms

Year \ CPA firm	Big 4 CPA firms	Non-Big 4 PA firms	Total
2019	502(14.79%)	37(1.09%)	539(15.88%)
2020	516(15.20%)	36(1.06%)	552(16.26%)
2021	687(20.24%)	60(1.77%)	747(22.01%)
2022	714(21.04%)	58(1.71%)	772(22.75%)
2023	726(21.39%)	58(1.71%)	784(23.10%)
Total	3,145(92.66%)	249(7.34%)	3,394(100.00%)

Panel B: Distribution of Big 4 CPA firms and CEO Turnover

CEO Turnover [a] \ Big 4 CPA firms	Deloitte & Touche	PwC	KPMG	Ernst & Young	Total
CEO Turnover	373(11.86%)	262(8.33%)	208(6.61%)	96(3.05%)	939(29.86%)
Non-CEO Turnover	807(25.66%)	594(18.89%)	568(18.06%)	237(7.54%)	2206(70.14%)
Total	1,180(37.52%)	856(27.22%)	776(24.67%)	333(10.59%)	3,145(100.00%)

[a] Managerial turnover within three years.

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3.2 Research Design and Proxies

3.2.1 The Empirical Models

This study draws from Whisenant et al. (2003), taking the natural logarithm of audit and non-audit fees as dependent variables to address the non-linear relationships and heteroscedasticity issues with the independent variables. The objective is to test whether as the gap (G_MN) between the median compensation of full-time NMEs and executive compensation increases for Taiwanese public companies, the higher compensation for senior-level employees is associated with increased company size and complexity, requiring auditors to invest more effort, and thereby raise audit (LogAF) and non-audit fees (LogNAF). The regression models are as follows:

$$LogAF_{i.t} = \beta_0 + \beta_1 G\_MN_{i,t} + \beta_2 SIZE_{\ i,t} + \beta_3 EPS_{i,t} + \beta_4 ROA_{i,t} + \beta_5 Growth_{i,t} + \beta_6 LR + \beta_7 BNum_{i,t} + \beta_8 BHold_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$LogNAF_{i.t} = \beta_0 + \beta_1 G\_MN_{i,t} + \beta_2 SIZE_{\ i,t} + \beta_3 EPS_{i,t} + \beta_4 ROA_{i,t} + \beta_5 Growth_{i,t} + \beta_6 LR + \beta_7 BNum_{i,t} + \beta_8 BHold_{i,t} + \varepsilon_{i,t} \quad (2)$$

where:

LogAF	= Natural logarithm of audit fees;
LogNAF	= Natural logarithm of non-audit fees;
G_MN	= Compensation gap between media full-time NMEs and executives;
SIZE	= Company size, measured as the natural logarithm of total assets;
EPS	= Earnings per share;
ROA	= Return on assets;
Growth	= Revenue growth rate;
LR	= Leverage ratio;
BNum	= Number of board seats;
BHold	= Board shareholding percentage; and
ε	= Residual term.

3.3 Related Variables and Operational Definitions

3.3.1 Dependent Variable: LogAF and LogNAF

Audit fees include all payments to CPAs, the audit firm, and their affiliates for services related to the audit, review, re-examination, financial forecast review, and tax certification of financial reports. Factors determining audit fees are associated with auditor attributes. Meanwhile, demand-side factors relate to client attributes, including client size, operational complexity, and financial stress. Non-audit fees refer to payments for other services, including governance framework development, business registration, human resource service, and other services (e.g., financial and tax consulting, and internal controls review). Hay et al. (2006) noted that client size, risk, and complexity are related to audit fees. Defond et al. (2002) indicated that U.S. regulations require public companies to disclose audit and non-audit fees to investors, which promotes transparency. Meanwhile, when auditors provide both audit and non-audit services, a knowledge spillover effect occurs, enhancing audit efficiency and judgment, and thereby improving audit quality (Hay, 2013; Wallman, 1996; Simunic, 1984; Goldman and Barlev, 1974). This study similarly takes the natural logarithm of non-audit fees. As G_MN increases, indicating a compensation structure favoring higher-level employees, client size, risk, and complexity also rise, thereby increasing LogAF and LogNAF. Therefore, G_MN is expected to have a positive coefficient.

3.3.2 Independent Variable: G_MN

To enhance the quality of corporate governance information disclosure and strengthen social responsibility, in 2019, the Market Observation Post System added the item "Median Compensation of Full-time NMEs" under the "Corporate Governance" tab, retrievable with the following directory: "Corporate Social Responsibility Information"/"Employee Benefits and Compensation Statistics"/"Median Compensation of Full-time NMEs." Thereafter, public companies have reported full-time NMEs' median compensation information for the prior year, starting with 2018. Consistent with international standards and after consulting with public companies on operational feasibility, the TSEC adopted median compensation reporting as it better reflects the true state of employee compensation. It mitigates the skewing effect of extremely high salaries on the average value, which can misrepresent most employees' earnings. While Huang (2020) previously used the average, studies have not yet examined compensation using the median. Therefore, this study uses the compensation gap between full-time NMEs and executives (G_MN) as the independent variable.

3.3.3 Control Variables

To prevent other factors from affecting the estimates of audit and non-audit fees, this study includes company size (SIZE), earnings per share (EPS), return on assets (ROA), revenue growth rate (Growth), leverage ratio (LR), number of board seats (BNum), and board shareholding percentage (BHold) as control variables. Company size is measured by the natural logarithm of total assets (SIZE) (Goncharov et al., 2014). Research indicates that larger companies have higher operational complexity, and require more extensive control and substantive test procedures, naturally leading auditors to demand higher audit fees (Lin et al., 2015; Goncharov et al., 2014; Whisenant et al., 2003; Chen et al.,

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2003; Su, 2000; Craswell et al., 1995; Palmrose, 1986b; Francis, 1984). Additionally, when a client's financial health and profitability are poor, financial risk increases, as reflected by a higher leverage ratio (LR). This increases audit risk and prompts auditors to charge higher audit fees (Whisenant et al., 2003; Francis, 1984). Finally, following Lin et al. (2015), board structure is controlled for using the number of board seats (BNum) and board shareholding percentage (BHold).

4. Empirical Results

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics, while comparing the sample companies audited by Big 4 (n = 3,145) and Non-Big 4 CPA firms (n = 249). Companies audited by Big 4 CPA firms show higher audit (LogAF) and non-audit fees (LogNAF), indicating higher fee standards. Additionally, companies audited by Big 4 CPA firms have a larger G_MN, with larger SIZE, ROA, and BNum, and lower LR. This suggests that companies audited by Big 4 CPA firms generally exhibit a compensation structure that rewards higher-level employees with more substantial pay. Consequently, these companies are often larger and more complex, leading auditors to incur greater audit costs.

Table 2: Descriptive Statistics

Distribution of Big 4 CPA firms									
	Total (n=3,394)			**Big 4 PA firms (n=3,145)**			**Non-Big 4 PA firms (n=249)**		
Variables [a]	**Mean**	**Median**	**Std. Dev**	**Mean**	**Median**	**Std. Dev**	**Mean**	**Median**	**Std. Dev**
LogAF	14.97	14.90	0.56	15.00	14.92	0.56	14.55	14.56	0.41
LogNAF	13.02	13.06	1.21	13.09	13.12	1.19	12.11	2.43	1.17
G_MN	5552528	3320500	8645121	5762935	3429000	8912447	2894976	2058000	2807928
SIZE	15.51	15.26	1.53	15.59	15.32	1.52	14.54	14.53	1.27
EPS	4.04	2.12	9.36	4.25	2.27	9.65	1.36	0.65	2.83
ROA	0.05	0.05	0.08	0.06	0.05	0.08	0.02	0.03	0.09
Growth	0.07	0.02	1.32	0.07	0.02	1.36	0.04	-0.01	0.49
LR	0.41	0.41	1.69	0.41	0.41	0.17	0.40	0.41	0.18
BNum	7.97	7.00	1.60	8.00	7.00	1.62	7.66	7.00	1.35
BHold	0.21	0.16	0.16	0.21	0.16	0.16	0.19	0.15	0.12

[a] *LogAF:* Natural logarithm of audit fees; *LogNAF:* Natural logarithm of non-audit fees; *G_MN:* Compensation gap between media full-time NMEs and executives; *SIZE:* Company size, measured as the natural logarithm of total assets; *EPS:* Earnings per share; *ROA:* Return on assets; *Growth:* Revenue growth rate; *LR:* Leverage ratio; *BNum:* Number of board seats; *BHold:* Board shareholding percentage.

4.2 Correlation Matrix

Table 3 presents the Pearson correlation coefficients between the dependent and independent variables, and among the independent variables. LogAF and G_MN, and LogNAF and G_MN have significant positive correlations with coefficients of 0.43 and 0.31, respectively. This indicates that companies with higher G_MN are willing to pay higher LogAF and LogNAF for audit services. Among control variables, LogAF and LogNAF significant positive correlations with SIZE, EPS, ROA, Growth, LR, and BNum, and a significant negative correlation with Bhold. All variance inflation factor values are below 10, indicating that multicollinearity is within an acceptable range and is not a serious concern.

Table 3: Correlation Matrix

Variables [a, b]	***LogAF***	***LogNAF***	***G_MN***	***SIZE***	***EPS***	***ROA***	***Growth***	***LR***	***BNum***	***BHold***
LogAF	1.00									
LogNAF	0.51*	1.00								
G_MN	0.43*	0.31*	1.00							
SIZE	0.73*	0.50*	0.54*	1.00						
EPS	0.15*	0.16*	0.44*	0.36*	1.00					
ROA	0.05*	0.08*	0.25*	0.21*	0.47*	1.00				
Growth	-0.02	0.01	0.01	-0.02	0.03	0.09*	1.00			
LR	0.30*	0.15*	0.06*	0.30*	-0.03*	-0.15*	0.01	1.00		
BNum	0.25*	0.20*	0.17*	0.35*	0.06*	0.07*	-0.01	0.08*	1.00	
BHold	-0.22*	-0.12*	-0.12*	-0.19*	-0.04*	-0.01	-0.00	-0.05*	-0.01	

[a] *LogAF:* Natural logarithm of audit fees; *LogNAF:* Natural logarithm of non-audit fees; *G_MN:* Compensation gap between media full-time NMEs and executives; *SIZE:* Company size, measured as the natural logarithm of total assets; *EPS:* Earnings per share; *ROA:* Return on assets; *Growth:* Revenue growth rate; *LR:* Leverage ratio; *BNum:* Number of board seats; *BHold:* Board shareholding percentage.

[b] Pearson correlations in the lower diagonal. * Indicates significance at the 5 percent level.

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4.3 Multivariate Analysis

4.3.1. Regression Analysis of G_MN and CPAr Audit Quality-distribution of CPA firms

This study employs multivariate regression analysis to examine whether a larger G_MN correlates with higher LogAF and LogNAF. The empirical results are presented in Table 4. First, companies audited by Big 4 and Non-Big 4 CPA firms are analyzed separately to determine the association between G_MN and CPA firm audit quality. In Panel A, the results show that for companies audited by Big 4 CPA firms, the estimated coefficient for G_MN is 0.59 (t = 7.90) and significant at the 1% level. The adjusted R^2 of the model is 57.65%, indicating that the selected explanatory variables have a substantial explanatory power for audit fees. Thus, audit pricing, influenced by perceived and evaluated audit service quality, benefits from the brand reputation and informational role of Big 4 CPA firms[3]. Given the Big 4 CPA firms' dominance in the audit market, companies with a larger G_MN audited by these firms tend to incur higher audit fees. Conversely, for Non-Big 4 CPA firms, the estimated coefficient for G_MN is -0.81 (t = -2.58) and significant at the 1% level. This may suggest that under certain circumstances, Non-Big 4 CPA firms offer relatively lower-cost services. Companies audited by Non-Big 4 CPA firms may place less emphasis on executive compensation during audits and opt for more affordable audit services. Additionally, smaller or less complex companies, which typically choose Non-Big 4 CPA firms, may allocate more resources to executive compensation and have simpler audit needs. While these companies have a high G_MN, the audit requirements are simple, resulting in low audit costs. Among the control variables for companies audited by Big 4 CPA firms, SIZE, EPS, ROA, LR, and BNum are all significant. Thus, CPAs charge higher audit fees for companies with better corporate governance mechanisms, greater operational complexity, lower short-term solvency, and higher operational risks. This is because these companies require more extensive audit procedures, consuming more time and resources, leading to higher audit fees.

Panel B further reports whether larger G_MN correlates with higher LogNAF. G_MN is significantly positively associated with LogNAF for both Big 4 and Non-Big 4 CPA firms. Thus, regardless of the auditor type, public companies generally engage in complex business activities that necessitate higher non-audit service expenditures, such as tax consulting and legal services. Companies with substantial pay gaps often provide higher executive compensation to attract and retain talent. G_MN is generally larger in competitive and high-tech industries. Companies operating in these industries have greater need for non-audit services to support business development and risk management. Furthermore, companies may increase non-audit services to strengthen governance and compliance; for instance, companies with a larger G_MN may require non-audit services for internal controls, risk management, and regulatory compliance. Additionally, many Taiwanese public companies operate as multinational corporations, with complex operational strategies and structures that demand greater non-audit fees. They often have a larger G_MN consistent with their global business needs.

Table 4: Regression Analysis of G_MN and CPA Audit Quality-distribution of CPA firms

Panel A: G_MN and LogAF

		Big 4 PA firms		Non-Big 4 PA firms	
Variables [a]	**Pred. Sign**	**Coef.**	***t*-value** [b]	**Coef.**	***t*-value**
CONSTANT		11.08	134.82***	12.35	36.42***
G_MN	- / +	0.59	7.90***	-0.81	-2.58***
SIZE	- / +	0.25	42.89***	0.13	5.23***
EPS	- / +	-0.01	-8.54***	-0.01	-0.50
ROA	- / +	-0.41	-4.49***	-0.06	-0.14
Growth	- / +	0.00	0.36	-0.11	-2.25**
LR	- / +	0.22	5.28***	0.36	2.49***
BNum	- / +	-0.00	-0.32***	0.04	2.01**
BHold	- / +	-0.33	-7.87	0.09	0.46
Adj. R^2		57.65%		19.62%	
Nobs.		3.145		249	

Panel B: G_MN and LogAF

		Big 4 PA firms		Non-Big 4 PA firms	
Variables	**Pred. Sign**	**Coef.**	***t*-value**	**Coef.**	***t*-value**
CONSTANT		7.07	30.64***	11.53	10.73***
G_MN	- / +	0.42	2.93***	0.58	1.75**
SIZE	- / +	0.38	22.83***	-0.03	-0.46
EPS	- / +	-0.00	-1.42	-0.03	-0.67
ROA	- / +	-0.50	-1.96**	0.42	0.32
Growth	- / +	0.02	1.59	0.14	0.87

[3] Previous studies have found a correlation between the brand of audit firms and audit fees (Francis 1984; Palmrose 1986).

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LR	- / +	-0.07	-0.60	0.80	1.75**
BNum	- / +	0.02	1.93**	0.07	1.13
BHold	- / +	-0.09	-0.75	0.58	0.92
Adj. R^2		26.09%		1.43%	
Nobs.		3.145		249	

[a] *G_MN:* Compensation gap between media full-time NMEs and executives; *SIZE:* Company size, measured as the natural logarithm of total assets; *EPS:* Earnings per share; *ROA:* Return on assets; *Growth:* Revenue growth rate; *LR:* Leverage ratio; *BNum:* Number of board seats; *BHold:* Board shareholding percentage.

[b] Asterisks *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively.

4.3.2 Regression Analysis of G_MN and CPAr Audit Quality-Consider different Big 4 CPA Firms

Audit quality differences may emerge due to varying customer bases and distinct market positioning strategies among CPA firms. Therefore, this study further examines Big 4 CPA firms individually— Deloitte & Touche, PWC, KPMG, and Ernst & Young—to analyze whether G_MN affects LogAF and LogNAF differently across these firms. Panel A of Table 5 shows show that in the Deloitte & Touche and PWC sub-samples, the estimated coefficients for G_MN are 0.59 (t = 4.36) and 0.64 (t = 3.30), respectively, and significant at the 1% level. Hence, companies audited by these two firms—the top two Big 4 firms in terms of market share—exhibit higher LogAF as their G_MN increases. Thus, the audit service quality provided by Deloitte & Touche and PWC is recognized and valued by companies.

Panel B explores whether different Big 4 CPA firms show variations in LogNAF. The results reveal that in the KPMG and Ernst & Young sub-samples, the estimated coefficients for G_MN are 0.61 (t = 2.15) and 0.53 (t = 4.32), respectively, and significant at the 5% level. Thus, to expand their market share, KPMG and Ernst & Young may actively invest in specific technical or value-added services for companies with larger pay gaps, attracting clients who require high-level financial consulting, tax advisory, internal control review, and non-audit services. Although their market share is not as large as their competitors (Deloitte & Touche and PWC), KPMG and Ernst & Young can still attract companies willing to pay higher LogNAF within specific business domains.

Table 5: Regression Analysis of G_MN and CPAr Audit Quality-Consider different Big 4 CPA Firms

Panel A: G_MN and LogAF

		Deloitte & Touche		PWC		KPMG		Ernst & Young	
Variables [a]	**Pred. Sign**	**Coef.**	***t*-value** [b]	**Coef.**	***t*-value**	**Coef.**	***t*-value**	**Coef.**	***t*-value**
CONSTANT		10.55	86.65***	11.19	66.39***	11.36	67.85***	11.79	41.28***
G_MN	- / +	0.59	4.36***	0.64	3.30***	0.39	2.13**	2.08	0.65***
SIZE	- / +	0.29	32.29***	0.24	20.34***	0.22	18.09	0.22	11.41
EPS	- / +	-0.01	-2.52***	-0.01	-4.37***	-0.00	-4.20***	-0.03	-7.70***
ROA	- / +	-0.63	-4.19***	-0.04	-0.17	-0.59	-2.74***	1.12	3.74***
Growth	- / +	0.02	1.29	0.00	0.29	-0.08	-1.36	-0.13	-1.84**
LR	- / +	0.02	0.24	0.42	5.17***	0.46	5.34***	0.20	1.64*
BNum	- / +	0.01	1.35	0.00	0.40	0.01	0.74	-0.04	-3.33***
BHold	- / +	-0.25	-4.20***	-0.50	-5.63***	-0.33	-3.81***	-0.43	-3.10***
Adj. R^2		63.53%		56.92%		55.94%		60.80%	
N		1180		856		776		333	

Panel B: G_MN and LogNAF

		Deloitte & Touche		PWC		KPMG		Ernst & Young	
Variables	**Pred. Sign**	**Coef.**	***t*-value**	**Coef.**	***t*-value**	**Coef.**	***t*-value**	**Coef.**	***t*-value**
CONSTANT		7.14	19.55**	6.68	14.19***	7.10	15.36***	8.77	12.96***
G_MN	- / +	0.67	1.39	0.61	-0.70	0.61	2.15**	0.53	4.32**
SIZE	- / +	0.37	13.77***	0.43	13.04***	0.34	9.97***	0.27	5.89***
EPS	- / +	0.00	0.38	0.00	0.11	-0.00	-1.30*	-0.02	-1.85**
ROA	- / +	-0.47	-1.04	-0.80	-1.35*	-0.52	-0.87	1.03	1.46*
Growth	- / +	0.06	1.30	0.01	0.95	-0.09	-0.58	0.01	0.06
LR	- / +	0.03	0.13	-0.05	-0.22	0.13	0.55	-0.50	-1.73**
BNum	- / +	0.00	0.05	0.03	1.36	0.06	2.58***	-0.00	-0.17
BHold	- / +	-0.00	-0.00	-0.74	-2.98***	0.43	1.78**	0.43	1.30
Adj. R^2		23.77%		30.05%		27.36%		28.51%	
N		1180		856		776		333	

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[a] *G_MN:* Compensation gap between media full-time NMEs and executives; *SIZE:* Company size, measured as the natural logarithm of total assets; *EPS:* Earnings per share; *ROA:* Return on assets; *Growth:* Revenue growth rate; *LR:* Leverage ratio; *BNum:* Number of board seats; *BHold:* Board shareholding percentage.

[b] Asterisks *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively.

4.4. Additional Tests: Regression Analysis of G_MN and CPAr Audit Quality-NCEO Turnover and Non-CEO Turnover

Studies (Huson et al., 2004; Davidson III et al., 1990; Furtado and Rozeff, 1987) have shown a correlation between managerial turnover and operational performance. Since management changes may introduce uncertainty regarding the company's future prospects, this study includes an additional test to examine whether the impact of G_MN on audit quality differs depending on managerial turnover within three years. Table 6 indicates that for companies with no managerial changes within three years (With No CEO Turnover), the estimated coefficients for G_MN are 0.87 (t = 8.12) and 0.27 (t = 2.73), and significant at the 1% level. Thus, companies with stable management teams, as reflected by no CEO turnover, benefit from continuity in corporate culture and professional development advocacy. A stable management team is more effective in fostering professional growth and development initiatives, leading to a greater awareness and emphasis on the need for audit and non-audit services. As professional talent matures and develops, the company recognizes the importance of strengthening the role of auditing, motivating it to invest more in LogAF and LogNAF to ensure integrity and professionalism in audit processes.

Table 6 Regression Analysis of G_MN and CPAr Audit Quality-NCEO Turnover and Non-CEO Turnover

Panel A: G_MN and LogAF

		CEO Turnover		Non-CEO Turnover	
Variables [a]	**Pred. Sign**	**Coef.**	***t*-value** [b]	**Coef.**	***t*-value**
CONSTANT		11.16	39.14***	11.06	128.81***
G_MN	- / +	0.29	1.17	0.87	8.12***
SIZE	- / +	0.25	12.40***	0.25	41.17***
EPS	- / +	-0.00	-1.47*	-0.01	-8.88***
ROA	- / +	-0.35	-0.96	-0.39	-4.09***
Growth	- / +	0.04	0.38	0.00	0.33
LR	- / +	0.25	1.71**	0.22	4.95***
BNum	- / +	-0.01	-0.52	-0.00	-0.22
BHold	- / +	-0.33	-2.19**	-0.33	-7.52***
Adj. R^2		57.54%		57.75%	
Nobs.		262		2,883	

Panel G_MN and LogNAF

		CEO Turnover		Non-CEO Turnover	
Variables	**Pred. Sign**	**Coef.**	***t*-value**	**Coef.**	***t*-value**
CONSTANT		5.83	5.16***	7.15	30.27***
G_MN	- / +	0.18	1.11	0.27	2.73***
SIZE	- / +	0.45	5.78***	0.37	22.03***
EPS	- / +	-0.01	-0.83	-0.00	-1.25
ROA	- / +	-1.50	-1.14	-0.34	-1.30*
Growth	- / +	-0.54	-1.48*	0.02	1.64*
LR	- / +	-0.06	-0.10	-0.06	-0.52
BNum	- / +	0.02	0.42	0.02	1.86**
BHold	- / +	0.19	0.34	-0.11	-0.90
Adj. R^2		25.68%		26.15%	
Nobs.		198		2,947	

[a] *G_MN:* Compensation gap between media full-time NMEs and executives; *SIZE:* Company size, measured as the natural logarithm of total assets; *EPS:* Earnings per share; *ROA:* Return on assets; *Growth:* Revenue growth rate; *LR:* Leverage ratio; *BNum:* Number of board seats; *BHold:* Board shareholding percentage.

[b] Asterisks *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively.

5. Conclusion

The FSC's push in Taiwan for public companies to pay attention to employee compensation and corporate social responsibility, and the Pay Ratio Disclosure Rule's implementation in the U.S. in 2015—requiring companies to disclose the median employee compensation relative to CEO compensation—highlight the importance of fair internal pay distribution and corporate governance. This study examines the relationship between the compensation gap between full-time NMEs, and audit and non-audit fees. The sample includes publicly listed companies in Taiwan from 2019 to 2023, with data sourced from the Market Observation Post System and Taiwan Economic Journal financial

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database. The findings reveal that for companies audited by Big 4 firms, a larger compensation gap correlates with relatively higher audit fees. This correlation reflects the contribution of increased operational complexity and enhanced risk management to higher audit costs. Other important contributing factors include Big 4 CPA firms' brand reputation, higher audit quality, and greater market share. Conversely, the relationship between the compensation gap and audit fees for Non-Big 4 CPA firms suggests differing pricing strategies and competitive mechanisms in this market segment. Overall, the study underscores the critical role of brand reputation and market share in Big 4 CPA firms' pricing strategies, with companies recognizing the quality of audit services offered by the top two firms, Deloitte & Touche and PWC. Moreover, for companies with no managerial turnover within three years, a larger compensation gap indicates a stronger ability to retain senior talent. Thus, stable management teams are better able to understand and prioritize the need for high-quality audit and non-audit services. Consequently, they allocate resources more readily, and pay higher audit and non-audit fees to ensure audit integrity and professionalism.

This study offers a new perspective and practical insights into understanding the complex mechanisms that influence audit quality. Future research should expand the sample to include companies from more countries to validate the generalizability of the findings and explore differences across management environments. Additionally, qualitative research methods, such as interviews with senior executives and auditors, can provide deeper insights into the internal mechanisms and implicit factors affecting audit fee decisions. Additionally, longitudinal studies on long-term trends in audit and non-audit fees can reveal their dynamic relationships more clearly. Finally, industry-specific analyses can more accurately capture differences across sectors.

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