The influence of auditor and auditee on mandatory audit fees in France

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Abstract

This study employs a pluralistic theoretical framework, integrating the Resource-Based View, neo-institutional, and governance theories, to identify factors explaining joint audit fees. Utilizing a panel dataset of 116 firms over six years (totaling 696 observations) in France, we apply an extension of generalized linear models to handle non-independent observations. Considering both auditor quality and audited company characteristics, our research expands previous studies on French audit fees, which have predominantly focused on auditor quality. We find that joint audit fees are influenced by firm size, audit team composition, sector of activity, and client company size and director count. However, factors such as the choice of internal control framework, separation of control and management functions, and proportion of independent directors do not significantly impact joint audit fees.

Keywords

Mandatory audit fees, joint audit fees, Big Four/Non Big Four, auditor attributes, auditee attributes, influencing factors.

La influencia del auditor y el auditado en honorarios de auditorías conjuntas en Francia

Resumen

Este trabajo emplea un marco teórico pluralista, integrando las teorías del punto de vista basados en los recursos de la empresa, neo institucional y de gobernanza, para identificar factores que explican los honorarios de auditorías conjuntas. Utilizando data de panel de 116 firmas a lo largo de 6 años (696 observaciones en total) en Francia, aplicamos una extensión de modelos lineales generalizados para manejas observaciones no independientes. Considerando tanto la calidad del auditor como las características de la compañía auditada, nuestra investigación expande lo hallado en estudios previos de honorarios de auditorías conjuntas en Francia, que se han centrado principalmente en la calidad del auditor. Encontramos que estos horarios de auditorías conjuntas son afectados por el tamaño de la firma, la composición del equipo de auditoría, el sector de actividad, y el tamaño de la empresa cliente y el número de directores. Sin embargo, factores como elegir el marco de control interno, separación de funciones de control y gestión, y la proporción de directores independientes no afectan significativamente los honorarios de auditoría conjuntas.

Palabras claves: honorarios auditoría mandatorias, honorarios de auditoría conjuntas, las Cuatro Grandes/no de las Cuatro Grandes, atributos del auditor, atributos del auditado, factores influyentes

Introduction

French studies on audit fees have predominantly focused on two areas: the evolution of these fees (Broye and Schatt, 2012) and the impact of joint audits on quality and/or audit fees (Gonthier-Besacier and Schatt, 2007; Francis et al., 2009; Ben Ali and Lesage, 2013; Le Maux, 2014; Audousset-Coulier, 2015; André et al., 2016; Lobo et al., 2017; Haak et al., 2018; Nekhili et al., 2018).

Building upon Simunic's work (1980), Gonthier-Besacier and Schatt (2007) examined the factors influencing audit fees for French listed companies in 2002 and the impact of auditor choice on these fees in joint audits. They discovered that audit fees are influenced by company size, risk, and the involvement of two "Big Four" auditing firms. Their findings suggest that when two of the Big Four firms conduct audits, the fees charged (adjusted for company size) are significantly lower than in other audit scenarios (Big Four & non-Big Four, or Non-Big Four & non-Big Four).

In contrast, Audousset-Coulier (2015) concluded that, all else being equal, hiring two Big Four firms does not result in a higher premium compared to choosing one Big Four firm and one non-Big Four firm.

Existing research on auditing fees has yielded valuable insights but often lacks robust theoretical underpinnings. Empirical studies frequently draw upon agency theory but fail to provide clearly articulated theoretical frameworks capable of explaining the complex relationships between internal and external determinants and audit fees. Furthermore, discrepancies in empirical findings underscore the need for theoretical clarity and rigor.

Variations in previous findings may stem from methodological differences such as diverse time periods, sample characteristics, or specified theoretical models. Factors beyond company size, risk, and auditor quality cannot fully account for audit fee variations. Additional variables, including auditee quality, industry, internal control frameworks, and governance systems, warrant consideration to establish a comprehensive theoretical foundation for research on audit fee determinants.

To address this gap, we propose a pluralistic theoretical framework integrating Resource Based View (RBV), neo-institutional theories, and governance theories. We aim to develop a theoretical framework that elucidates the determinants of joint audit fees. We subsequently test this framework using a balanced panel of French firms spanning six years (116 company-years, 696 observations) and employ recommended extensions of generalized linear models to account for non-independent observations.

Our study diverges from previous works by Audousset-Coulier (2015) and Gonthier-Besacier & Schatt (2007) in both theoretical orientation and determinant selection. While these authors primarily focus on auditor quality, our study broadens the analytical framework to include auditee quality, industry-specific considerations, internal control frameworks, and governance systems.

We proceed in three main stages: presenting our theoretical framework and research hypotheses, outlining our research methodology, and analyzing and discussing our findings.

Theoretical framework and research hypotheses

Auditor Quality and fees

Audit firms are divided into two categories based on their investment strategies (Francis, 2004), resource mobilization capabilities, and investment in audit technology (Sirois et al., 2016). The "Big Four" (Deloitte, E&Y, KPMG, PWC) possess greater material, technological, and human

resources, providing them with a competitive edge. Consequently, they offer superior audit services and can negotiate higher fees, consistent with RBV literature (Barney, 1991).

French regulations mandate public companies to appoint at least two auditors, leading to potential variations in regulatory co-audit fees based on the auditors' classification as Big Four firms or not. Gonthier-Besacier and Schatt (2007) demonstrate that when regulatory co-audit involves two Big Four firms, the fees (adjusted for company size) are significantly lower than in other scenarios (Big Four/non-Big Four and non-Big Four/non-Big Four). Audousset-Coulier (2015) argues that opting for two Big Four firms does not increase costs compared to selecting one Big Four and one non-Big Four firm for regulatory co-audit, particularly for large international companies.

Andre et al. (2016) observe significantly higher audit fees in France compared to Italy and the United Kingdom, where joint audits are not obligatory. However, the increased fees in France do not necessarily correlate with better audit quality. Bhattacharya & Banerjee (2020) suggest that non-Big Four audit firms may charge a premium when affiliated with a Big Four network or when providing joint audit and non-audit services.

RBV-supported arguments propose that the Big Four firms' reputation and capital enable them to maintain a competitive advantage, justifying higher fees. Hence, our first hypothesis is:

> H1. Allocated co-auditing fees exhibit significant differences depending on the auditor attributes working on the same file.

Auditee quality and auditor fees

Auditee's industry

Neo-institutional theory, a sociological perspective, elucidates why organizations, particularly those operating in the same sector, tend to exhibit similar characteristics. DiMaggio and Powell (1983) view institutions as fundamental elements shaping social and political structures. Consequently, individual preferences and basic cognitive frameworks, such as self-perception, social interaction, and citizenship, are influenced by institutional arrangements, leading to organizational resemblance within a given field, a concept termed isomorphism. This similarity propagates among organizations operating within the same institutional environment through coercion, standardization, and mimicry.

Applied to firms undergoing regulatory audits, they operate within a specific geographical and industrial context. Non-compliance with industry standards signals a reluctance to align with the community, posing risks to survival. Hence, firms within the same industry tend to adopt similar practices or standards to enhance legitimacy and organizational efficiency (Bessire et al., 2010; Savall and Zardet, 2005). This mimetic behavior fosters competition not only for resources and customers but also for political power and institutional recognition.

Isomorphic auditees adhere to industry-specific normative references to gain legitimacy and efficiency, particularly amidst standards harmonization efforts (Causse and Ebondo Wa Mandzila, 2015). Additionally, research suggests that auditors specialized in particular industries deliver higher-quality audits compared to generalists (Gramling and Stone, 2001; Wang, 2002; Gao, 2008; Contessotto et al., 2021). The perceived advantage of specialized auditors in terms of quality justifies the higher audit fees they charge relative to generalists, forming the basis of our second hypothesis:

> H2. Auditors' fees vary significantly depending on the industry.

Internal control systems and audit fees

In the process of certifying accounts, regulatory auditors rely on the internal control procedures established by the audited firm. The auditor's assessment of these procedures determines whether they are deemed reliable, leading to either relaxation or reinforcement of audit consistency and validation tests. This evaluation directly influences audit fees. This phenomenon aligns with the economic perspective of neo-institutional theory, specifically transaction cost theory. Scholars such as Coase (1937), Williamson (1985), and North (1990) argue that the efficiency of economic institutions must be evaluated by analyzing transaction costs and savings.

Within this framework, audited firms aim to minimize operational, informational, and regulatory risks. The quality of the internal control system, as a result, influences the auditor's effort and consequently, the audit fees. Bae et al. (2020) observe that auditors charge a significant premium to clients with weak internal control procedures. Similarly, companies with serious internal control issues and weak governance mechanisms incur higher audit fees. This finding is supported by the work of Hay et al. (2008) and Hay (2013), reinforcing the relationship between internal control quality and audit fees. Furthermore, Lee (2018) contends that public companies with internal control weaknesses prior to their Initial Public Offering (IPO) pay higher audit fees. This suggests that auditors adjust their fees based on the increased risk associated with the auditee's internal control systems.

Therefore, we propose the following hypothesis:

H3. Auditee's internal control systems significantly impact joint mandatory audit fees.

Governance structure and audit fees

In France, companies can opt for either a one-tier system, where general management is exercised through either the separation of the Chairman of the Board of Directors and Chief Executive Officer roles or their combination, or a dualistic system, which involves a clear separation between the supervisory and management boards.

According to agency theory (Jensen and Meckling, 1976), the separation of ownership and control creates potential conflicts. Managers, as agents of the business, may exploit their position to make decisions contrary to the interests of the owners (principals), leading to issues such as fund diversion or unjustified expenses. To address these conflicts, principals incur agency costs to monitor and control the behavior of agents, which do not directly benefit shareholder wealth. Strengthening internal control mechanisms and enhancing governance quality are strategies employed by principals to mitigate these conflicts.

Zhang & Yu (2016) analyze the impact of governance quality on audit fees from two perspectives. Firstly, they suggest that as governance quality improves, auditors encounter fewer risks, resulting in lower audit fees, as proposed by Beasley (1996), Tsui et al. (2001), Muninady (2007), and Bedard and Johnstone (2004). Secondly, they argue that quality governance serves as a signal for decision-making, prompting a more rigorous selection of auditors and consequently increasing audit efforts and fees, as indicated by Carcello et al. (2002), Hay et al. (2008), Lifschultz et al. (2010), Zaman et al. (2011), Bliss (2011), Le Meaux (2014), and Jizi and Nehme (2018).

The separation of control and management functions, endorsed by Fama and Jensen (1983), is believed to reduce information costs and audit effort, thus potentially lowering audit fees. This perspective is supported by the findings of Desender et al. (2011), Niskanen et al. (2011), and Nehme et al. (2020).

Therefore, we hypothesize:

H4.1. Separating control and management functions leads to reduced audit fees.

Corporate governance extends beyond its traditional role of managing conflicts between shareholders and managers to regulate the intricate relationships and sometimes conflicting interests of various stakeholders contributing to the value creation process, whether closely or remotely involved (Bessière and Schatt, 2018). This broader interpretation of governance, rooted in stakeholder theory (Freeman, 1984), suggests that governance systems solely based on the shareholder concept may be constraining and could ultimately lead to the inadvertent destruction of value by neglecting the motivations of other company partners. In this context, boards with a larger number of directors might signify a deliberate effort to incorporate managerial activity into a broader framework where each stakeholder can safeguard their individual interests for the collective benefit. However, while larger boards may enhance their disciplinary function, they also incur coordination and communication costs that could potentially affect their effectiveness (Caby and Hirigoyen, 2001; Ginglinger and L'Her, 2002).

Beasley (1996) and Peel and Clatworthy (2002) suggest that a higher number of directors reduces the risk of fraud, leading to a decrease in audit fees. However, Yatim et al. (2006) and Krishnan & Visvanathan (2009) find no impact of the number of directors on audit quality and fees. Conversely, Bliss (2011), Lajmi and Gana (2011), Le Meaux (2014), Al-Najjar (2018), Jizi & Nehme (2018), and Nehme et al. (2020) argue that companies with numerous directors are willing to pay higher audit fees to bolster oversight capacity and safeguard the interests of all stakeholders.

Therefore, we propose the hypothesis:

H4.2. Audit fees are positively correlated with the number of directors on the board of the audited company.

Emphasizing the importance of independence and relevant skills among board members, good governance practices advocate for an increasing number of independent directors chosen for their competence (AFEP/MEDEF, 2020). This emphasis on competence leads us to adopt cognitive governance (Charreaux, 2013) as a theoretical framework to elucidate the impact of independent directors on audit fees.

In the cognitive perspective of governance, the sources of value creation extend beyond directors' ability to rally stakeholders around a shared vision and reconcile their diverse interests. Instead, value creation hinges on qualitative coordination, the alignment of cognitive frameworks, and anticipation models (Langlois and Foss, 1999). Independent directors contribute cognitive resources such as diverse viewpoints, knowledge construction, network contributions, and expertise, fostering innovation and the identification of new investment opportunities. However, these cognitive resources may also engender conflicts involving representational disagreements, altering the cooperative dynamic positively or negatively (Guéry-Stévenot, 2006).

To comprehensively analyze the impact of the cognitive lever on value creation and audit fees, it is imperative to consider gains, cognitive costs, and agency costs. Cognitive conflicts, while potentially beneficial by stimulating knowledge exchange and productive collaboration, can also incur hidden costs that compromise the common objective of value creation, such as deep disagreements, mistrust, or decision-making delays. Consequently, directors may intensify audit efforts to mitigate these risks, leading to increased audit fees (Beasley, 1996).

Despite Le Meaux's (2014) argument that the presence of independent directors has no effect on audit fees in France, Carcello et al. (2002), Zaman et al. (2011), Zang and Yu (2016), Jizi & Nehme (2018), and Bhattacharya & Banerjee (2020) establish a positive relationship between the proportion of independent board members and audit fees.

Therefore, we posit the hypothesis:

> H4.3. Audit fees are positively correlated with the proportion of independent board members.

Annex 1 provides a comprehensive summary for each variable, outlining the underlying theoretical framework, the arguments advanced, the findings from articles leveraging similar determinants, and our research hypotheses.

Methodology

Theoretical model and data

Dependent variable

To accommodate the wide range of values for our dependent variable, which represents the total fees paid to the two firms engaged in the joint audit, we utilize a natural logarithmic scale for the variable.

Independent variables

Our model encompasses several independent variables: auditor quality, industry, internal control system, governance system, and a control variable indicating the size of the audited company.

Auditor quality is represented by a categorical variable coded 1, 2, and 3, corresponding to the three clusters of paired regulatory audit firms auditing the same client business: Big Four/Big Four (1), Big Four/Non-Big Four (2), and Non-Big Four/Non-Big Four (3).

The audited company's industry is operationalized using the GICS (Global Industry Classification Standard) classification, allowing consideration of fee heterogeneity across different industries.

The internal control system of the audited company is operationalized by a categorical variable with three methods reflecting the COSO (coded 3), AMF (coded 2), and "Other" (coded 1) standards, respectively.

Given the polysemous nature of governance structure, it is operationalized via three variables: the number of individuals on the board of directors or supervisory board, the percentage of independent directors, and the structure of governance. Unified monist systems are coded 0, while dissociated and dualist monist systems are coded 1.

The size of the audited company is represented by the natural logarithm of a continuous variable measuring total assets, due to its wide range of values.

Lastly, we introduced the categorical variable 'year' to control for potential influence on the fees paid by the observation year.

Data Sources and Sample Characteristics

Data sources

To evaluate our hypotheses, we utilized two databases: NRG Metrics and Diane.

The NRG Metrics database furnishes us with information on joint audit fees, firm identities, and data pertaining to the industry and governance system of audited companies (such as the number of directors, proportion of independent directors on boards, and the separation or combination of control and management functions).

Accounting data and internal control guidelines are sourced from the Orbis database and management reports published by companies within our sample, respectively.

Sample characteristics

Our analysis concentrates on companies listed on the CAC All Tradable index between 2015 and 2020. Following the exclusion of financial stocks and companies with incomplete data, we constructed a balanced panel consisting of 116 companies from secondary and tertiary economic sectors. This panel spans a 6-year period, resulting in 696 observations.

Normality tests conducted on the dependent variable indicate that the distribution of fees from joint regulatory auditing firms deviates from a Gaussian distribution. Consequently, appropriate processing methods need to be employed, taking into account the specificity of the collected data.

Data

To address the longitudinal nature of the data spanning a 6-year period, we employed an econometric approach grounded in generalized linear equations (Liang & Zeger, 1986). This methodology extends generalized linear models and is recommended when the dependent variable deviates from a normal distribution and when observations exhibit non-independence. Incorporating this non-independence entails modeling a covariance matrix among the repeated variables.

In our investigation, we selected a matrix that mimics a first-order autoregressive process. The premise is that the covariance varies based on the time interval between two observations: it strengthens as the observations draw closer. This framework, commonly utilized in econometric time series regression models, enables the incorporation of past values' significance in elucidating fee evolution.

Utilizing generalized estimating equation models for estimation facilitates the comparison of alternative models through two relative indicators: QIC (quasi-likelihood under an independence model criterion) and QICC (corrected quasi-likelihood under an independence model criterion). The model effects were examined using Wald's Chi-square statistic.

Results and discussion

After presenting our results, we propose to analyze and discuss them in the light of academic literature.

Descriptive statistics

Tables 1, 2 and 3 present the descriptive statistics of the dependent variable and the group statistics respectively.

Table 1. Information on categorical variables

			N	Percentage
Factor variables	**Clusters**	NBF/NBF	256	36.8%
		BF/NBF	364	52.3%
		BF/BF	76	10.9%
		Total	**696**	**100.0%**
	Industry	Utilities	18	2.6%
		Telecommunications services	6	.9%
		Information technology	84	12.1%
		Energy	30	4.3%
		Industrials	192	27.6%
		Materials	30	4.3%
		Consumer Discretionary	114	16.4%
		Consumer Staples	156	22.4%
		Health care	66	9.5%
		Total	696	100.0%
	Governance structure	Unified monistic system	189	27.2%
		Dissociated monistic and dualistic systems	507	72.8%
		Total	696	100.0%
	Internal control framework	COSO	150	21.6%
		AMF	492	70.7%
		Other frameworks	54	7.8%
		Total	**696**	**100.0%**

BF (Big Four), **NBF** (Non-Big Four)

Table 2. Information on continuous variables

		N	Minimum	Maximum	Mean	S. D
Dependent variables	**Ln (Fees)**	696	11	18	14.95	1.360
Covariates	**Number of directors**	696	3	19	11.03	3.269
	Independent directors (%)	696	0	1	.48	.209
	Ln (Total assets)	696	15	26	21.18	1.749

Table 3. Pearson correlation coefficients

	Ln (Fees)	Ln (Tot assets)	Number of directors	Independent directors (%)
Ln (Fees)	1			
Ln (Total assets)	.674**	1		
Number of directors	.605**	.401**	1	
Independent directors (%)	.272**	.121**	.268**	1

**. The correlation is significant at the 0.01 level

Generalized estimating equation results (GEE)

Table 4, hereunder, presents the outcomes of the GEE model, exhibiting the regression coefficients for each explanatory variable. For categorical and binary variables, the coefficient of each category signifies the disparity observed between the estimated marginal means of the natural logarithm of the respective category and the reference category. For instance, a positive and statistically significant coefficient of 0 associated with the BF/BF category indicates that this cluster incurs higher fees compared to the NBF/NBF reference group.

Likewise, a positive coefficient significantly different from 0 linked with companies in the energy sector suggests that they remunerate audit firms at a higher rate than entities operating within the health sector.

Regarding numerical variables, the coefficients denote the sensitivity of the natural logarithm of fees paid to audit firms to a unit alteration in the specified variable. For instance, a positive coefficient significantly different from 0 indicates that any change in the variable positively impacts the fees paid to audit firms.

Table 4. Results of the GEE model

Independent variables		Coeff.	Std. Err.
Clusters	BF/NBF	0.351**	0.160
	BF/BF	0.347**	0.165
Industry	Consumer Staples	0.979***	0.338
	Consumer Discretionary	1.294***	0.364
	Materials	1.270**	0.509
	Industrials	1.064***	0.334
	Energy	1.547***	0.519
	Information technology	0.372	0.382
	Telecommunications services	2.650***	1.005
	Utilities	2.188***	0.616
Internal control framework	AMF	0.268	0.338
	COSO	0.222	0.379
Governance structure	Dissociated monistic and dualistic systems	0.059	0.072
	Number of directors	0.024***	0.006

Independent directors(%)	0.039	0.066
Ln Total assets	0.170***	0.027
Constant	9.543***	0.703
Year Fixed effect	**Yes**	
QIC (quasi-likelihood under the independence model criterion) : *1018.329*		
QICC (corrected quasi-likelihood under the independence model criterion): *799.449*		
Scale parameter : *0.910*		
Wald Chi2 : *113.46*		
Prob >Chi2 : *0.000*		

Ln : Natural Logarithm

*****p<0.01 ; **p<0.05 ;*p<0.10**

Reference modalities: NBF vs. NBF (for the 'clusters' variable), health care (for the ' Industry' variable), unified monistic system (for the 'governance structure' variable) and other frameworks (for the 'internal control framework' variable).

Table 4 displays that the Wald chi-square statistic significantly deviates from 0, implying a satisfactory overall effect of the model. The majority of explanatory variables exhibit positive regression coefficients that are significantly different from 0, except for those pertaining to the internal control framework and the governance system, specifically the one-tier/dualistic governance structure and the percentage of independent directors.

Table 5 provides a summary of the pairwise comparison tests results for categorical and binary variables, incorporating the sequential Sidak correction to address multiple comparisons.

Table 5. Results of pairwise comparison tests

Clusters (I)	**(J)**	**Difference in means (I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
BF/BF	BF/NBF	-0.004	.044	.917
BF/BF	NBF/NBF	0.347	.165	.035
BF/NBF	NBF/NBF	0.351	.160	.028
No. Industry (I)	**(J)**	**Difference in means (I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
9	8	-0.462	1.091	0.671
	7	**1.816**	**0.598**	**0.002**
	6	0.641	0.688	0.352
	5	**1.124**	**0.567**	**0.048**
	4	**0.918**	**0.690**	**0.064**
	3	**0.894**	**0.583**	**0.085**
	2	**1.209**	**0.575**	**0.036**
	1	**2.188**	**0.616**	**0.000**
8	7	**2.278**	**0.997**	**0.022**
	6	1.103	1.030	0.284
	5	**1.586**	**0.966**	**0.101**
	4	1.380	1.052	0.190
	3	1.356	0.971	0.163
	2	**1.671**	**0.981**	**0.089**

	1	**2.650**	**1.005**	**0.008**
7	6	**-1.175**	**0.506**	**0.020**
	5	**-0.692**	**0.307**	**0.024**
	4	**-0.898**	**0.492**	**0.069**
	3	**-0.922**	**0.343**	**0.007**
	2	**-0.607**	**0.313**	**0.053**
	1	0.372	0.382	0.330
6	5	0.483	0.456	0.290
	4	0.277	0.609	0.649
	3	0.253	0.471	0.590
	2	0.568	0.474	0.231
	1	**1.547**	**0.519**	**0.003**
5	4	-0.206	0.453	0.651
	3	-0.230	0.272	0.399
	2	0.085	0.255	0.738
	1	**1.064**	**0.334**	**0.001**
4	3	-0.024	0.480	0.960
	2	0.291	0.459	0.527
	1	**1.270**	**0.509**	**0.013**
3	2	0.315	0.296	0.288
	1	**1.294**	**0.364**	**0.000**
2	1	**0.979**	**0.338**	**0.004**

Governance structure		**Difference in means**		
(I)	**(J)**	**(I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
1	0	0.059	0.072	0.408

Internal control framework		**Difference in means**		
(I)	**(J)**	**(I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
3	2	-0.046	0.238	0.847
3	1	0.222	0.379	0.558
2	1	0.268	0.337	0.427

BF (Big Four)**, NBF** (Non-Big Four).
Industry: Health care(1- Reference modality), Consumer Staples (2), Consumer Discretionary (3), materials (4), Industrials (5), Energy (6), information technology (7), telecommunications services (8), utilities (9).
Governance structure: Dissociated monistic and dualistic systems (1), Unified monistic system (0 – Reference modality)
Internal control framework: COSO (3), AMF (2), Autres référentiels (1 – modalité de référence).

Sensitivity of Paid Fees to Categorical and Binary Variables

Hypothesis H1 is partially supported. While there are no significant differences in the estimated marginal means between classes BF/BF and BF/NBF, our findings indicate significant overratings

of 0.347 and 0.357, respectively, for these latter two classes compared to the reference modality NBF/NBF.

Hypothesis H2 is confirmed. All sectors, except the reference sector (Health) with the lowest estimated marginal mean, exhibit significantly different fee premiums. Table 6's pairwise comparisons reveal the highest premiums in the first group comprising utilities (2,188), telecommunications services (2,650), and energy (1,547), followed by the second group consisting of materials (1.27), industry (1,064), consumption of current goods and services (1,294), and consumer staples (0.979). The third group, comprising information technology and health (reference modality), occupies the lowest position.

Hypothesis H3 is refuted, indicating that the choice of internal control framework does not influence the fees paid in the joint audit context.

Similarly, Hypothesis H4.1 is also rejected, suggesting that the segregation of control and management functions is not linked to a reduction in audit fees.

Sensitivity of Paid Fees to Continuous Variables

Hypothesis H4.2 is dismissed, indicating no support for a positive relationship between the relative share of independent directors and the amount of audit fees paid.

Conversely, Hypothesis H4.3 is substantiated, affirming a positive correlation between audit fees and the number of directors. Additionally, concerning the control variable, audit fees exhibit a positive association with the size of the audited company.

Discussion

Our study proceeds by sequentially analyzing the impact of variables concerning the auditor's characteristics and then those associated with the auditee on the invoiced audit fees.

Auditor's attributes and audit fees

Our findings align with previous research by Palmrose (1986), Lajmi & Gana (2011), and Beasley (1996), indicating a positive correlation between firm size and audit fees. However, they diverge from the conclusions of Gonthier-Besacier and Schatt (2007), who found significantly lower fees when joint audits are conducted by two Big Four (BF) firms compared to other scenarios (BF/NBF or NBF/NBF). Our results offer a nuanced perspective on the findings of Francis et al. (2009) and Audousset-Coulier (2015), suggesting that the presence of at least one BF in a joint audit may justify higher fees. Echoing Sirois et al. (2016), it is reasonable to assert that audit technology, defined as the expertise and capabilities of the audit firm, could explain the substantial disparity in audit quality and fee levels among firms of varying sizes.

Drawing on the Resource-Based View (RBV) theory proposed by Barney (1991), we argue that large firms (FBs), endowed with diverse resources such as financial, legal, human, organizational, informational, and relational assets, may invest in advanced audit technologies (Sirois et al., 2014), thereby gaining a competitive advantage over smaller firms. These substantial investments not only enhance the quality of audit services but also influence the fees charged compared to firms exclusively comprised of non-BFs (NBFs). However, our results suggest that the mere presence of a single BF could ensure service quality and justify higher combined fees, albeit without guaranteeing fee parity between BFs and non-BFs. Large firms, leveraging their reputational capital and competitive advantage, are likely to converge towards FB fee levels, further emphasizing the impact of advanced audit technologies.

Audit quality axis and audit fees

The influence of the client company's industry on audit fees.

The arguments advanced by neo-institutional theory, particularly in its sociological approach as articulated by Di Maggio and Powell (1983), provide a suitable analytical framework for elucidating the impact of the client company's sector of activity on audit fees.

The most substantial premiums are observed among companies in the telecommunications, utilities, and energy sectors, suggesting a deliberate inclination among firms operating in industries perceived as sensitive and subject to significant institutional pressures to intensify audit efforts. This strategic maneuver aims to enhance legitimacy, manage media exposure, and safeguard reputational capital.

In contrast, the second group, predominantly comprising companies from the industrial sector (e.g., materials, industrial), exhibits noteworthy overratings, albeit to a lesser extent, indicative of mechanisms of mimetic isomorphism. This tendency toward sectoral mimicry underscores a quest for legitimacy and organizational efficiency. Failure to conform to industry norms may result in self-exclusion, exposing firms to reputational risks with potential commercial and legal ramifications.

Compliance with industry standards serves as a signal to audit firms, prompting them to elevate audit efforts, particularly with companies in sectors perceived as sensitive. This link between audit effort and sectoral reputation is underscored by Francis et al. (2005) and Schatt & Raffournier (2011). Moreover, the significance of controls may also be influenced by the assets under management. For instance, the industrial sector, characterized by higher debt and inventories, logically entails increased audit fees due to the extensive controls necessitated. Conversely, the relatively lower fee levels observed in sectors belonging to the latter group may be attributed to minimal inventories and receivables relative to the total balance sheet.

The influence of the client company's internal control framework on audit fees

Neo-institutional theory, in its economic approach grounded in transaction costs, does not appear to validate a contingency effect between invoiced audit fees and the chosen internal control framework utilized by audited companies in the French context.

Although previous studies (Bae et al., 2020; Hay et al., 2008; Matthew et al., 2012; Hay, 2013; Choi et al., 2010; Lee, 2018) have established a correlation between high fees and companies with internal control deficiencies, the selection of the internal control framework seems neutral, devoid of any significant fee surcharge.

This outcome can be attributed to the global impact of the Sarbanes-Oxley Act of 2002 (SOX Act), particularly its sections 302 and 404, operationalized through the COSO internal control framework. Sections 302 and 404 mandate that the Chief Executive Officer and the Chief Financial Officer establish and maintain internal control and provide evidence of its effectiveness.

However, when France enacted the Financial Security Act in 2003, it lacked an internal control framework. Consequently, French companies listed in the United States were compelled to adhere to the SOX law and adopt COSO (Stolowy et al., 2003), leading to a mimicry or contagion effect on French firms solely listed on the French market. The French internal control framework, introduced in 2007 under the auspices of the AMF, drew inspiration from COSO.

The convergence of these two standards in terms of objectives and components may account for the absence of fee discrepancies based on the benchmark utilized by the listed companies in our sample.

The influence of the client's corporate governance system on audit fees

The shareholder approach to governance (Jensen and Meckling, 1976), suggesting that the separation of control and management functions would negatively influence audit fees allocated to firms conducting regulatory joint audit work, does not align with our findings. Our results underscore the intricate nature of the relationships linking the governance structure of client companies to audit fees.

This complexity can be elucidated by the interplay of opposing forces (Zhang & Yu, 2016). Initially, it may seem that governance quality and audit fees are complementary—a notion suggesting that better governance correlates with an augmented role of external auditors and, consequently, higher fees. Conversely, a substitute relationship is plausible, indicating that enhanced governance would supplant the need for external auditor work, thereby reducing audit fees (Beasley, 1996; Tsui et al., 2001; Bedard and Johnstone, 2004; Muniandy, 2007). The aggregation or segregation of control and management functions can yield unexpected outcomes, contrary to conventional wisdom.

Assessing the impact of governance mechanisms on fees should not disregard factors such as weight, practices, social, political, and cultural context, as well as the functioning of the board. Conversely, the assumption upheld by the partnership approach to governance—that audit fees positively correlate with the number of directors on boards—is validated.

The presence of numerous directors can indeed prompt a heightened audit effort to address the concerns of directors striving to reconcile stakeholders' sometimes-conflicting interests. This inclination necessitates an audit effort justifying higher fees, corroborating the findings of Al-Najjar (2018), Bliss (2011), Jizi and Nehme (2018), Lajmi and Gana (2011), and Le Meaux (2014).

Lastly, our hypothesis, grounded in the cognitive approach to governance, positing a positive association between audit fees and the proportion of independent directors, is refuted, consistent with the results of Le Meaux (2014). The lack of vigilance among independent directors, as assessed by the number of meetings held annually and the level of expertise or skills, may elucidate these findings.

The influence of the size of the client company on audit fees

Our findings affirm the presence of a size effect, consistent with the conclusions drawn by Gonthier-Besacier and Schatt (2007), Adousset-Coulier (2015), Sirois et al. (2016), Lobo et al. (2018), and Haak et al. (2018). Additionally, our results align with studies conducted by Chan et al. (1993) in England, Basioudis et al. (2008) in Australia, Simunic (1980), Simon & Francis (1988), Francis et al. (2009), and Hay et al. (2006) on the American continent.

The existence of a positive relationship between size and audit fees can be attributed to the heightened audit effort required to monitor a larger number of transactions (Schatt and Raffournier, 2011) and a substantial volume of intra-group transactions, leading to an increased number of audits to be conducted (Abbott et al., 2003).

Conclusion

Our research aims to investigate the influence of both auditor and auditee qualities on audit fees in France, while employing a theoretical framework to identify explanatory factors of joint audit fees.

Auditor quality is assessed based on material, technological, and human resources dedicated to bearing all direct and indirect costs related to producing and offering quality audit services. These

resources are contingent upon firm size, distinguishing between large (Big Four) and small firms (Non Big Four). Auditee quality, on the other hand, is understood through its sector, internal control framework, and governance structure (separation or cumulation of control and management functions, number of directors, percentage of independent directors).

Our results suggest that while audit quality modestly influences audit fees, factors such as industry, company size, and the number of directors serve as significant levers for the auditee to influence fees. However, the choice of internal control framework, proportion of independent directors, and control and management function separation do not appear to effectively impact audit fees. Nevertheless, a governance system's failure or poor quality may signal negatively to the financial market, which increasingly considers qualitative criteria, albeit not always translating into noticeable fee changes.

Auditor influence on fees hinges on firm size and audit team composition in clusters. Notably, our findings reveal a significant fee premium for classes BF/BF and BF/NBF compared to the NBF/NBF reference, with no significant differences observed between the former two classes.

Our study presents implications across three domains. Theoretically, it significantly contributes to French audit fee literature by proposing a pluralistic theoretical framework integrating Resource-Based View (RBV), neo-institutional theories, and governance theories, enabling a comprehensive explanation of observed complexities. Methodologically, our study employs an econometric approach utilizing generalized estimation equations (Liang & Zeger, 1986), which accounts for non-independent observations. Managerially, our approach distinguishes factors influencing fees from both auditor and auditee perspectives, fostering proactive engagement in fee determination.

However, our research is limited by the nature of employed variables. Expanding analysis to include qualitative contextual variables could enhance understanding, such as specific expertise, organizational structure, gender dynamics among signing partners, and geographical context. Integrating these variables could facilitate deeper insights into factors influencing audit fees and efforts by involved parties.

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Tables and Annex

Tables 1 to 5

Table 1. Information on categorical variables

			N	Percentage
Factor variables	**Clusters**	NBF/NBF	256	36.8%
		BF/NBF	364	52.3%
		BF/BF	76	10.9%
		Total	**696**	**100.0%**
	Industry	Utilities	18	2.6%
		Telecommunications services	6	.9%
		Information technology	84	12.1%
		Energy	30	4.3%
		Industrials	192	27.6%
		Materials	30	4.3%
		Consumer Discretionary	114	16.4%
		Consumer Staples	156	22.4%
		Health care	66	9.5%
		Total	696	100.0%
	Governance structure	Unified monistic system	189	27.2%
		Dissociated monistic and dualistic systems	507	72.8%
		Total	696	100.0%
	Internal control framework	COSO	150	21.6%
		AMF	492	70.7%
		Other frameworks	54	7.8%
		Total	**696**	**100.0%**

BF (Big Four), **NBF** (Non-Big Four)

Table 2. Information on continuous variables

		N	Minimum	Maximum	Mean	S. D
Dependent variables	**Ln (Fees)**	696	11	18	14.95	1.360
Covariates	**Number of directors**	696	3	19	11.03	3.269
	Independent directors (%)	696	0	1	.48	.209
	Ln (Total assets)	696	15	26	21.18	1.749

Table 3. Pearson correlation coefficients

	Ln (Fees)	Ln (Tot assets)	Number of directors	Independent directors (%)
Ln (Fees)	1			
Ln (Total assets)	.674**	1		
Number of directors	.605**	.401**	1	
Independent directors (%)	.272**	.121**	.268**	1

**. The correlation is significant at the 0.01 level

Table 4. Results of the GEE model

Independent variables		Coeff.	Std. Err.
Clusters	BF/NBF	0.351**	0.160
	BF/BF	0.347**	0.165
Industry	Consumer Staples	0.979***	0.338
	Consumer Discretionary	1.294***	0.364
	Materials	1.270**	0.509
	Industrials	1.064***	0.334
	Energy	1.547***	0.519
	Information technology	0.372	0.382
	Telecommunications services	2.650***	1.005
	Utilities	2.188***	0.616
Internal control framework	AMF	0.268	0.338
	COSO	0.222	0.379
Governance structure	Dissociated monistic and dualistic systems	0.059	0.072
	Number of directors	0.024***	0.006
	Independent directors(%)	0.039	0.066
Ln Total assets		0.170***	0.027
Constant		9.543***	0.703
Year Fixed effect		**Yes**	

QIC (quasi-likelihood under the independence model criterion) : *1018.329*
QICC (corrected quasi-likelihood under the independence model criterion): *799.449*
Scale parameter : *0.910*
Wald Chi2 : *113.46*
Prob >Chi2 : *0.000*

Ln : Natural Logarithm

*****p<0.01 ; **p<0.05 ;*p<0.10**

Reference modalities: NBF vs. NBF (for the 'clusters' variable), health care (for the ' Industry' variable), unified monistic system (for the 'governance structure' variable) and other frameworks (for the 'internal control framework' variable).

Table 5. Results of pairwise comparison tests

Clusters (I)	(J)	Difference in means (I-J)	Std. Err.	Sidak Sig. Sequential
BF/BF	BF/NBF	-0.004	.044	.917
BF/BF	NBF/NBF	0.347	.165	.035
BF/NBF	NBF/NBF	0.351	.160	.028
No. Industry (I)	**(J)**	**Difference in means (I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
9	8	-0.462	1.091	0.671
	7	**1.816**	**0.598**	**0.002**
	6	0.641	0.688	0.352
	5	**1.124**	**0.567**	**0.048**
	4	**0.918**	**0.690**	**0.064**
	3	**0.894**	**0.583**	**0.085**
	2	**1.209**	**0.575**	**0.036**
	1	**2.188**	**0.616**	**0.000**
8	7	**2.278**	**0.997**	**0.022**
	6	1.103	1.030	0.284
	5	**1.586**	**0.966**	**0.101**
	4	1.380	1.052	0.190
	3	1.356	0.971	0.163
	2	**1.671**	**0.981**	**0.089**
	1	**2.650**	**1.005**	**0.008**
7	6	**-1.175**	**0.506**	**0.020**
	5	**-0.692**	**0.307**	**0.024**
	4	**-0.898**	**0.492**	**0.069**
	3	**-0.922**	**0.343**	**0.007**
	2	**-0.607**	**0.313**	**0.053**
	1	0.372	0.382	0.330
6	5	0.483	0.456	0.290
	4	0.277	0.609	0.649
	3	0.253	0.471	0.590
	2	0.568	0.474	0.231
	1	**1.547**	**0.519**	**0.003**
5	4	-0.206	0.453	0.651
	3	-0.230	0.272	0.399
	2	0.085	0.255	0.738
	1	**1.064**	**0.334**	**0.001**
4	3	-0.024	0.480	0.960
	2	0.291	0.459	0.527

	1	**1.270**	**0.509**	**0.013**
3	2	0.315	0.296	0.288
	1	**1.294**	**0.364**	**0.000**
2	1	**0.979**	**0.338**	**0.004**

Governance structure (I)	(J)	**Difference in means (I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
1	0	0.059	0.072	0.408

Internal control framework (I)	(J)	**Difference in means (I-J)**	**Std. Err.**	**Sidak Sig. Sequential**
3	2	-0.046	0.238	0.847
3	1	0.222	0.379	0.558
2	1	0.268	0.337	0.427

BF (Big Four)**, NBF** (Non-Big Four).
Industry: Health care(1- Reference modality), Consumer Staples (2), Consumer Discretionary (3), materials (4), Industrials (5), Energy (6), information technology (7), telecommunications services (8), utilities (9).
Governance structure: Dissociated monistic and dualistic systems (1), Unified monistic system (0 – Reference modality)
Internal control framework: COSO (3), AMF (2), Autres référentiels (1 – modalité de référence).

Annex

Annex 1. Summary of framework and research hypotheses

Nature of the determinants	Explanatory theories	Arguments used	Determinants	Examples of articles using the same determinants	Hypotheses
Determinants related to auditor characteristics	Resource based view	Technological and/or competitive advantage that strengthens the BF's competitive position and justifies higher fees.	Auditors- specific characteristics (by size, skills and reputation)	**Palmrose (1986); Sirois & al. (2014)** Positive relationship between firm size and audit fees. **Gonthier-Besacier & Schatt (2007)** When two of the Big Four audit firms audit a company, the fees charged (adjusted for firm size) are significantly lower than in other cases. **Audousset-Coulier (2015)** The use of two BFs does not lead to an increase in fees compared to one BF combined with one NBF. **Francis et al. (2009)** The choice of two BFs adds value in terms of audit quality and justifies the higher fees. **Bhattacharya & Banerjee (2020)** Auditors of BFs charge a higher fee than NBFs. **Beasley (1996); Lajmi & Gana (2011)** A large audit firm is associated with better audit quality and higher fees.	**H1.** Allocated co-auditing fees show significant differences depending on auditor attributes working on the same file.
Determinants related to auditee characteristics	Neo-Institutional Theory (Sociological approach)	The risk of media or reputational exposure, which may have adverse commercial and/or stock market consequences and provide an incentive to strengthen external controls and adopt similar practices in order to gain legitimacy, resulting in higher audit fees depending on the company's industry.	Auditee- specific characteristics (through its industry)	**Francis et al. (2005)** In the US market, these authors find an increase in audit fees in the industrial sectors. **Gao (2008); Gramling & Stone (2001); Wang (2002)** Auditor specialization suggests, for example, that industry specialists produce higher quality audits than non-specialists. **Contessotto et al. (2021)** Client-specific experience of the audit team is associated with higher effort and fees due to additional work and the provision of value-added services.	**H2.** Auditors' fees vary significantly depending on industry.
	Neo-Institutional Theory (Transaction cost approach to economics)	The implementation of an effective internal control system helps to achieve operational, informational and regulatory compliance objectives, reduces employee opportunism and reduces audit effort.	Auditee-specific characteristics (through the company's organization and internal control)	**Bae et al. (2020); Hay et al. (2008); Hay (2013)** High fees associated with firms with internal control deficiencies. **Choi et al. (2010); Lee (2018); Matthew et al. (2012)** Public companies with internal control deficiencies at the time of their IPO continue to pay high fees after their IPO.	**H3**. Auditee's internal control systems impact Joint mandatory audit fees.
	Governance theories (shareholder approach)	Willingness to reduce (in the case of separation of control and management functions) Level I agency conflicts that may justify strengthening internal controls, resulting in lower audit fees.	Auditee-specific characteristics (through the governance structure- unified monistic system or	**Desender et al. (2011)** Separation of functions or the duality of control and management tends to limit external monitoring. **Nehme et al. (2020)** Separation of functions leads to lower audit fees. **Niskanen et al. (2011)**	**H4.1.** Separating control and management functions reduces audit fees.

			dissociated monistic and dualistic systems)	Demand for better audit quality and willingness to pay higher fees decrease with the separation of the chair and CEO functions.	
	Governance theories (partnership approach)	Difficulty in arbitrating between the sometimes contradictory interests of the various stakeholders, leading to an increase in external controls and thus higher audit fees.	Auditee-specific characteristics (through the number of directors)	**Al-Najjar (2018) ; Bliss (2011) ; Jizi & Nehme (2018) ; Lajmi & Gana (2011); Le Meaux (2014)** Positive relationship between the number of directors and audit fees.	**H4.2.** Audit fees are positively associated with the number of directors of the audited company.
	Governance theories (cognitive approach)	Willingness to align thought patterns and reduce cognitive conflicts resulting from knowledge asymmetries that lead to increased external controls and thus audit fees.	Auditee-specific characteristics (through the independence of directors assessed as a percentage of the size of the board)	**Bhattacharya & Banerjee (2020); Carcello et al. (2002); Jizi & Nehme (2018); Zaman et al. (2011); Zhang & Yu (2016)** The presence of independent directors positively affects audit fees.	**H4.3.** Audit fees are positively associated with the proportion of independent board members.