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# Low-cost trends in audit fees and their impact on service quality

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# ABSTRACT

The 2008 financial crisis has transformed the business environment. The number of audited firms has fallen considerably since the crisis, leading to a reduction in the cost of auditing services as a result of fierce competition among auditors. This drop in audit fees is of great concern for audited firms because it may be correlated with a fall in audit service quality. Such a fall in quality ultimately harms the prestige of audited firms and therefore negatively affects their profits. Based on an application of fuzzy-set qualitative comparative analysis (fsQCA), this paper analyzes the quality of audit services following a drop in the fees charged by auditors. The factors analyzed in the empirical study were audit fees, other fees charged by the auditor, and the inclusion of explanatory paragraphs, qualified opinions, and emphasis of matter in audit reports. The EBITDA of the audited firms was chosen as an indicator of the quality of the service. The results of the analysis reveal that the quality of the auditing service has remained steady despite the fall in audit fees, as confirmed by the fact that the EBITDA has evolved positively without being affected by the fall in fees.

# 1. Introduction

The 2008 economic crisis has drastically reduced the number of large firms. In Spain, for example, the number of large firms fell from 36,763 in 2008 to 26,210 in 2015. This 28.7% reduction reflects the fact that many affected firms are no longer considered large. Such firms might not necessarily have had to close, but their sales income might have dropped below the 6,000,000 Euro threshold above which firms are considered large.

Understandably, this reduction in the number of large firms has had a major negative impact on auditors. According to data from the Instituto de Contabilidad y Auditoría de Cuentas (ICAC), the Spanish equivalent of the Public Company Accounting Oversight Board (PCAOB) in the USA, audit firms experienced a 13.15% drop in the volume of audits performed between 2009 and 2015. The reason for this drop is that many firms are no longer obliged to audit their annual accounts as a result of the 2008 financial crisis.

These reductions in both the number of large firms and the volume of audits have intensified the competition among audit firms, which has caused these firms to cut the price of audits to capture as large a share of the market as possible. The fall in audit fees has been so drastic that it is even reasonable to use the concept of low-cost to refer to current audit fees.

This research explores whether the drop in the price of audits has affected the quality of these audits. This issue is important because a decline in the quality of auditing services not only harms auditors, but also negatively affects audited firms and, as a result, their image and prestige, ultimately damaging their market value and financial and asset structure. Note that the credibility of annual accounts depends on the auditor's report, which is especially important among listed companies because these firms must convey a spotless image to investors.

Fuzzy-set qualitative comparative analysis (fsQCA) was used in this study because it offers a causally complex perspective, addressing asymmetric relationships among observations, and because it enables analysis of a small number of cases (Fiss, 2007). In this study, the dataset consisted of data on 37 audited firms that were listed on the IBEX 35 between 2004 and 2015. These firms provide accessible, reliable data on auditor's reports because these firms are regulated by the Comisión Nacional del Mercado de Valores (CNMV), the government agency responsible for the financial regulation of the Spanish securities markets.

This paper makes a valuable contribution to the literature. Although numerous studies have examined audit fees (Alexeyeva & Svanström, 2015; Charrakh & Sharifi, 2016; Evans & Schwartz, 2014; Huang, Chang, & Chiou, 2016; Stewart, Kent, & Routledge, 2015), they have all focused on high fees. This study, in contrast, is one of the very few

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<sup>&</sup>lt;sup>1</sup> According to the report *Ventas, Empleo y Salarios en las Grandes Empresas* from November 2016, published by the Spanish Inland Revenue (Agencia Tributaria). Available at: http://www.agenciatributaria.es/static\_files/AEAT/Estudios/Estadisticas/Informes\_Estadisticos/Informe\_VESGE/VESGE.pdf.

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studies to examine low-cost audits (Kuo & Lee, 2016).

This paper is organized as follows. Section 2 presents the literature review. Section 3 describes the fsQCA method and explains its suitability for this study. Section 4 discusses the results of the analysis. Finally, Section 5 presents the conclusions of the study.

#### 2. Theoretical framework

## 2.1. Audit fees and audit quality

DeAngelo (1981) showed that large auditors receive higher fees than their smaller counterparts do because the customers of these large firms perceive a higher level of quality. In contrast, Jones and Sasser (1995) found that, in competitive environments, customer satisfaction was more important than service quality when choosing an auditor. Similarly, Ribeiro Soriano (2001) highlights a customer preference for satisfaction over quality and low audit fees.

For Evans and Schwartz (2014), the concentration of the audit market, which essentially comprises the Big Four accounting firms, has had a non-appreciable effect on major customers. Huang et al. (2016), however, studied the relationships among market concentration in the audit sector, audit fees, and audit quality, reporting that market concentration has increased audit fees and indirectly improved audit quality. Huang et al. (2016) conclude that legal constraints regarding the price of this service may reduce its quality, although they did not confirm that this was the case.

In the 1980s, Danos and Eichenseher (1986) and Kinney (1986) confirmed the existence of increasing competition in the audit sector. Studying the same period, Maher, Tiessen, Colson, and Broman (1992) found a significant reduction in audit fees during the 1980s. The same effect has been observed in Spain as a result of the 2008 financial crisis. The consequences of the crisis have caused substantial changes in the size of Spanish businesses and, consequently, an increase in competition among auditors. These changes in the business environment have led to a drop in audit fees, giving rise to the emergence of low-cost audits. The aim of these low-cost audits is to capture market share, foster customer loyalty, and build client portfolio.

According to the annual reports published by ICAC, the hourly rate charged by auditors in Spain fell from 67.52 Euros in 2008 to 64.53 Euros in 2015. This reduction in the hourly rate corresponds to a price drop of 4.43% in the major auditing firms. Likewise, small auditing firms have been forced to reduce their hourly rates from 56.93 Euros in 2008 to 55.08 Euros in 2015, which corresponds to a 3.25% price drop. Note that in Spain, the financial crisis effectively began 2009, intensifying from 2010 onwards. This clear decline in the hourly rate charged by auditors can be extrapolated to the Spanish economic environment because the root of this price drop lies in the 2008 financial crisis, which affected countries around the world.

Nevertheless, the literature discussing these price drops following the 2008 financial crisis is scarce. For example, Mande and Son (2015) examined the association between auditor fees and accrual quality. Kuo and Lee (2016) also studied the reduction in audit fees, albeit exclusively in the domain of increasing book-tax conformity.

We must therefore consider the following questions: Has the fall in prices due to the intensification in competition been accompanied by a reduction in the time spent performing these audits? Are auditors employing a high proportion of interns to conduct these audits as a means of offsetting lower profits? And, ultimately, is this situation leading to a fall in the quality of the auditing service?

We must also consider whether the converse is true: Were audit prices before the financial crisis (i.e., during the period of economic prosperity) excessive? And, although the hourly rate has reduced the profit margin considerably, has this reduction merely aligned the fees with the cost of the service rather than jeopardizing the quality of the auditing service?

#### 2.2. Impact of the auditor's report on business structures

Firth (1980) studied the impact of the auditor's report on lending and credit decisions by banks. The author examined how lending institutions responded to applications for financing depending on the auditor's report on the applying firm. The analysis showed that a negative audit qualification led to a significant drop in the audited firm's credit rating and hence the firm's ability to get credit. Similar findings are reported by Duréndez Gómez-Guillamón and Sánchez Vidal (2008), who found that auditor's reports with a qualified opinion, whether adverse opinion or disclaimer of opinion, undermine lenders' confidence in the firm and therefore negatively affect lending institutions' decisions. Dedman and Kausar (2012) and Duréndez Gómez-Guillamón (2003) have also linked credit ratings to audited financial reports. Similarly, Nicholls (2016) found that an unfavorable auditor's report causes an increase in the audited firm's cost of capital because that firm's future cash flows are considered higher risk.

An audit's effect on the financial structure of the firm can be so great that, according to Piñeiro Sánchez, de Llano Monelos, and Rodríguez López (2012), reports with adverse or qualified opinions can offer reliable measures of credit risk and can predict the likelihood of insolvency. Piñeiro Sánchez et al. (2012) designed an econometric model with a predictive capability of 87%. Schroeder (2015) observed that unqualified audit reports positively affect profit reporting and, accordingly, the share price of the audited firm, hence the importance of the auditor's report in stock market behavior.

In this study, we examined whether a reduction in audit fees negatively affects the quality of the audit service. Furthermore, we assessed whether this decline in quality is captured by the market and, accordingly, whether this decline negatively affects audited firms, tarnishing their prestige and harming their financial and asset structure. Consistent with the aim of this study, the following hypotheses were tested:

**Hypothesis 1.** The reduction in audit fees does not affect the quality of the audit service and, therefore, does not negatively affect the prestige of audited firms.

**Hypothesis 2.** The reduction in audit fees does not affect the quality of the service and, therefore, does not negatively affect the financial and asset structure of audited firms.

# 3. Data and method

# 3.1. Sample

The dataset was built using financial data collected from the SABI database and audit reports and fees gathered from the official website of the Comisión Nacional del Mercado de Valores (CNMV), the government agency responsible for the financial regulation of the Spanish securities markets. Of the initial 45 Spanish firms, which corresponded to all companies that were listed on the IBEX 35 at some time between 2004 and 2015, any firm missing some of the data necessary for the empirical analysis was eliminated from the dataset. Accordingly, the final sample comprised 37 firms, from across all sectors, whose accounting data were considered fully reliable not only because they had been audited, but also because they were tightly regulated by the CNMV.

All firms in the sample had been audited throughout the study period by one of the Big Four. We thereby ensured that the prestige and size were similar for all auditors. Likewise, the drop in the price of the auditing service by these auditors was also similar, according to the data in the reports of the audited firms.

Despite the small number of firms in the dataset, use of the fsQCA method meant that the sample was representative and therefore that the empirical study would yield reliable results. In addition, because the

Table 1
Description of conditions.

Condition/outcome	Description
fs_caud	Audit fees
fs_cos	Other fees charged by the auditor (consulting)
fs_info	Explanatory paragraph
fs_qua	Qualifications
fs_enf	Emphasis of matter
fs_ebitda	EBITDA

analysis was qualitative, the restrictions (e.g., normality) were less strict than they would have been for regression-based models.

#### 3.2. Conditions

The choice of antecedent conditions was based on the aims of the study. The outcome was the change in EBITDA (earnings before interest, taxes, depreciation, and amortization). This outcome was chosen for the following reason: As reported by Calvé Pérez, Labatut Serer, and Molina Llopis (2005), the EBITDA is one of the foremost indicators used by financial analysts because, by measuring the earnings based on continuing operations excluding the effect of depreciation, it corrects for distortions arising from differences in calculations of depreciation and amortization by different firms and offers greater stability over time. The EBITDA is considered a good indicator of a company's financial health. The EBITDA also provides less information asymmetry between managers and stock market participants (Cormier, Demaria, & Magnan, 2017).

It was thus possible to observe whether the EBITDA was affected by the conditions in Table 1. These conditions were audit fees, additional fees charged by the auditor (e.g., consulting fees), explanatory paragraphs, qualified opinion, and emphasis of matter. All data were gathered from the reports of the listed firms in the sample and the auditor's report filed with the CNMV.

We selected these conditions because they offer good indicators of the audit quality. Examples of research that has examined these conditions includes the study by Momparler, Carmona, and Lassala (2015), who included fees as one of the independent variables in the model they used to study the quality of consultancy services. Srinidhi and Gul (2007) and Markelevich and Rosner (2013) also used audit fees in their study of audit quality. Czernkowski, Green, and Wang (2010), Fleak and Wilson (1994), Hsu, Young, and Chu (2011), Martínez-Blasco, García-Blandon, and Vivas-Crisol (2016), and Soltani (2000) explored qualified reports in their studies on auditing. In their audit studies, Bessell, Anandarajan, and Umar (2003) and Pucheta and Vico (2008) considered emphasis of matter, with Bessell et al. (2003) also considering explanatory paragraphs attached to the auditor's report. For each condition, Table 1 shows the code used in the analysis and the description of the condition.

In summary, the aim of the analysis was to determine whether a reduction in audit fees led to a deterioration in service quality. This deterioration would then affect the financial results of the firm, represented by the EBITDA, with possible implications that might compromise the future of the firm.

### 3.3. Method

This study used fuzzy-set qualitative comparative analysis (fsQCA), lending a causally complex focus to the analysis (Roig-Tierno, Huarng, & Ribeiro-Soriano, 2016; Woodside, 2013). Because not all relationships among factors are simple, linear, and complementary, this method has certain advantages over traditional techniques such as multiple regression analysis (Fiss, 2011; Ragin, 2008). FsQCA lets researchers analyze phenomena from a causally complex perspective by considering the existence of asymmetric relations among observations.

FsQCA thus makes it possible to identify which combinations of conditions are best to achieve a certain outcome (dependent variable), which in this study was the positive evolution of the EBITDA. The fsQCA method yields a solution consisting of a set of combinations called configurations (Longest & Vaisey, 2008).

Comparative methods of structural configurations were originally developed to provide valid results even when analyzing small data samples. Accordingly, Fiss (2007, p. 1194) indicates that fsQCA is suitable for a sample of 10 to 50 cases. In this study, 37 Spanish audited firms were analyzed.

To conduct the analyses using fsQCA, we first performed calibration in which the variables were grouped according to their degree of membership to a certain condition set (Ragin, 2008). Next, the truth table was generated. The truth table presented all possible combinations of conditions, also known as structural configurations (Fiss, 2011). Cases were assigned to different combinations depending on the scores displayed in the truth table. Cases with scores above 0.5 belonged to the set, and Boolean logic was used to identify possible combinations associated with the outcome (i.e., positive evolution of EBITDA). Two parameters—coverage and consistency—were considered during this phase.

## 4. Analysis and results

The analysis was conducted using data for the years 2008 and 2015. The study thus examined whether the quality of the audit service changed as a result of the reduction in audit fees. FsQCA 2.5 software (Beynon, Peel, & Tang, 2004; Ragin & Davey, 2014) was used to conduct the analysis.

First, the conditions and the outcome were calibrated. Next, the truth table was generated for the two outcomes (positive and negative evolution of the EBITDA) based on accounting data gathered for 37 audited Spanish firms listed on the Madrid Stock Exchange. To calibrate the data, three anchors were chosen, using the median and the 90th and 10th percentiles for each condition and the outcome in 2008 and 2015. The 10th percentile indicates full non-membership, the median indicates neither membership nor non-membership (maximum ambiguity), and the 90th percentile indicates full non-membership. The data were calibrated following Ragin's (2008) indications. Table 2 shows the anchors used in the calibration process.

Next, for the outcome in 2008 and 2015, analyses of necessary conditions and sufficient conditions were conducted, as explained in the previous section. Tables 3 and 4 present the results of these analyses.

Table 2 Calibration of conditions.

Outcome/condition	Calibration 2008	Calibration 2015
	Anchors:	Anchors:
fs_caud	0.10 → 281	0.10 → 197.2
	$0.50 \rightarrow 1683$	$0.50 \to 1494$
	$0.90 \to 7600$	$0.90 \rightarrow 9476.8$
fs_cos	$0.10 \to 90$	$0.10 \to 33.6$
	$0.50 \to 466$	$0.50 \to 273$
	$0.90 \to 3800$	$0.90 \rightarrow 6304.2$
fs_info	$0.10 \to 0$	$0.10 \to 0$
	$0.50 \to 0.5$	$0.50 \to 0.5$
	$0.90 \to 1$	$0.90 \to 1$
fs_qua	$0.10 \to 0$	$0.10 \to 0$
_	$0.50 \to 0.5$	$0.50 \to 0.5$
	$0.90 \to 1$	$0.90 \to 1$
fs_enf	$0.10 \to 0$	$0.10 \to 0$
	$0.50 \to 0.5$	$0.50 \to 0.5$
	$0.90 \to 1$	$0.90 \to 1$
fs_ebitda (outcome)	$0.10 \rightarrow 12,351$	$0.10 \to 0$
	$0.50 \rightarrow 239,726$	$0.50 \rightarrow 56,188$
	$0.90 \rightarrow 1,614,000$	$0.90 \rightarrow 803,784.8$

Table 3
Analysis of necessary conditions (2008).

Conditions tested:	2008						
	fs_ebitda		~fs_ebitda				
	Consistency	Coverage	Consistency	Coverage			
fs_caud	0.770025	0.677489	0.438283	0.559109			
~fs_caud	0.498889	0.379865	0.747185	0.824892			
fs_cos	0.612805	0.564168	0.464462	0.619984			
~fs_cos	0.587223	0.430607	0.673496	0.716073			
fs_qua	0.044897	0.284052	0.078047	0.715948			
~fs_qua	0.955103	0.416737	0.921953	0.583263			
fs_enf	0.044895	0.568079					
~fs_enf	0.955105		0.023542	0.431921			
fs_info	0.193517	0.402846					
~fs_info	0.806483	0.222606	0.976458	0.597154			
		0.510240	0.466101	0.777394			
			0.533899	0.489760			

Table 4
Analysis of necessary conditions (2015).

Conditions tested:	2015						
	fs_ebitda		~fs_ebitda				
	Consistency	Coverage	Consistency	Coverage			
fs_caud	0.584450	0.678660	0.541957	0.557859			
~fs_caud	0.619237	0.603974	0.687820	0.594692			
fs_cos	0.536840	0.668026	0.589533	0.650298			
~fs_cos	0.718972	0.663974	0.699046	0.572269			
fs_qua	0.000000	0.000000	0.000000	0.000000			
~fs_qua	1.000000	0.530096	1.000000	0.469904			
fs_enf	0.142939	0.400505	0.241364	0.599495			
~fs_enf	0.857061	0.560334	0.758636	0.439666			
fs_info	0.244610	0.479768	0.299217	0.520232			
~fs_info	0.755390	0.548736	0.700783	0.451264			

The analysis of necessary conditions identifies necessary conditions. According to Schneider, Schulze-Bentrop, and Paunescu (2010), for a condition or combination of conditions to be necessary, the consistency must be greater than 0.9.

According to the data in Tables 3 and 4, for both 2008 and 2015, the absence of qualifications was a necessary condition for the outcome to occur. Similarly, for the year 2008, the absence of emphasis of matter was a necessary condition for the outcome to occur. An explanation of this finding is that an auditor's report with qualified opinion and emphasis of matter means that the firm's accounting system is poor, and the accounting data is therefore of a low quality.

Next, for 2008 and 2015, the following model was used to analyze the causal configurations leading to a positive evolution of EBITDA as an indicator of a sustained level of audit quality:

```
2008: fs_ebitda = f(fs_caud, fs_cos, fs_qua, fs_enf, fs_info)
2015: fs_ebitda = f(fs_caud, fs_cos, fs_qua, fs_enf, fs_info).
```

In addition, for 2008 and 2015, the following model was used to analyze the causal configurations leading to a negative evolution of EBITDA as an indicator of a drop in audit quality:

```
2008: ~fs_ebitda = f(fs_info, fs_enf, fs_qua, fs_cos, fs_caud)
2015: ~fs_ebitda = f(fs_info, fs_enf, fs_qua, fs_cos, fs_caud).
```

Table 5 summarizes the results of the analysis of sufficiency using

Feurer, Baumbach, and Woodside's (2015) notation. Thus, Table 5 shows the combinations that must be present for the presence of positive or negative changes in EBITDA between 2008 and 2015.

The analysis of the model presented herein (conditions leading to positive or negative changes in the EBITDA of Spanish firms) yielded two causal configurations that led to positive changes in the EBITDA of audited Spanish firms in 2008. Likewise, two configurations were identified as leading to the outcome of positive changes in EBITDA in 2015. Conversely, the analysis that was conducted to identify configurations leading to negative changes in EBITDA also yielded two configurations for 2008 and two configurations for 2015. Each of these eight configurations had a consistency of more than 0.75, which implied that they were sufficient for the outcome to occur. The cut-off points for all the results were within the recommended range. The lowest cut-off point was 0.76 for positive changes in the EBITDA in 2015. An explanation is now provided for each of the combinations yielded by the analysis for the positive outcome for 2008 and 2015.

When the auditor's report lacked an explanatory paragraph, emphasis of matter, and qualifications and when the audit firm charged no additional fees (e.g., consulting fees) but did charge audit fees, the EBITDA evolved positively

fs\_info\*fs\_enf\*fs\_qua\*fs\_cos\*fs\_caud (2)

Auditor's reports that led to positive changes in EBITDA had audit fees and other additional costs (e.g., for consulting services) and contained explanatory paragraphs, emphasis of matter, and qualifications.

When the auditor's reports contained explanatory paragraphs but did not contain emphasis of matter or qualifications, and the auditor did not charge fees, the EBITDA evolved positively.

When the audit firm charged audit fees but did not charge other fees, and the report did not contain an explanatory paragraph, emphasis of matter, or qualifications, the EBITDA evolved positively.

Table 6 presents the relevance of the conditions and the percentage of cases that were explained. The consistency reflects the percentage of cases that were explained. Accordingly, for the presence of the outcome (positive change in EBITDA) in 2008, 85% of the cases were explained; for the absence of the outcome in 2008, 84% of the cases were explained; for the presence of the outcome in 2015, 76% of the cases were explained; and for the absence of the outcome in 2015, 80% of the cases were explained. The black dots in Table 6 indicate the presence of conditions, and the white dots indicate the absence of conditions. When a cell contains no symbol, the condition is ambiguous.

For the outcome in 2008, the audit fees condition was relevant because it was present in both configurations. Furthermore, configuration 1, which referred to 2008, and configuration 6, which referred to 2015, were identical.

## 5. Conclusions

This paper explores whether the reduction in audit fees due to the 2008 financial crisis has affected audit quality. The factors that were posited as potentially affecting audit quality were the audit fees, other fees charged by the auditor (e.g., consulting fees), explanatory paragraphs, audit report qualifications, and emphasis of matter. The latter three factors may be included in the auditor's report if deemed necessary. The indicator used to represent audit quality was the EBITDA. The empirical study was conducted using fsQCA, which was used to identify the factors that led to positive or negative changes in EBITDA. This method was chosen because it provided a perspective of complex causality, testing asymmetric relations among observations. Using fsQCA also made it possible to obtain valid results with small datasets (Fiss, 2007). This was the case in the present study, in which data for 37 Spanish firms in the IBEX 35 of the Madrid Stock Exchange were analyzed for the years 2008 and 2015.

**Table 5**Possible combinations for the presence and absence of the outcome in 2008 and 2015.

		С		Configurations	RC	UC	Cn	SCv	SCn
2008	EBITDA	0.84	1	~fs_info*~fs_enf*~fs_qua*~fs_cos*fs_caud	0.31	0.31	0.84	0.35	0.85
			2	fs_info*fs_enf*fs_qua*fs_cos*fs_caud	0.04	0.04	0.92		
	$\sim$ EBITDA	0.83	3	fs_info*~fs_enf	0.44	0.35	0.81	0.61	0.84
			4	~fs_enf*~fs_qua*fs_cos*~fs_caud	0.25	0.17	0.96		
2015	EBITDA	0.79	5	fs_info*~fs_enf*~fs_qua*~fs_caud	0.13	0.13	0.71	0.37	0.76
			6	~fs_info*~fs_enf*~fs_qua*~fs_cos*fs_caud	0.24	0.24	0.79		
	$\sim$ EBITDA	0.78	7	~fs_enf*~fs_qua*fs_cos*~fs_caud	0.30	0.20	0.82	0.34	0.80
			8	fs_info*~fs_enf*~fs_qua*fs_cos	0.14	0.04	0.76		

Note: CC = consistency cut-off; RC = raw coverage; UC = unique coverage; Cn = consistency; SCv = solution coverage; SCn = solution consistency.

Table 6
Summary of conditions for changes in EBITDA in 2008 and 2015.

Configuration	Anteced	lent cond						
	fs_info	fs_enf	fs_qua	fs_cos	fs_caud	RC	UC	Cn
1 2 5	0	0	0	0 •	•	0.31 0.04 0.13	0.31 0.04 0.13	0.84 0.92 0.71
6	0	0	0	0	•	0.13	0.13	0.71

The analysis confirmed that, despite a reduction in audit fees, audit quality was unaffected. These results are consistent with those reported by Francis (2004), who suggested that there may be an acceptable level of audit quality at a relatively low cost. The analysis also confirmed that the prestige of the sampled firms was unaffected because the market did not penalize these firms, as shown by the fact that their EBITDA figures did not fall. Finally, we confirmed that the drop in audit fees did not affect the financial and asset structure of the audited firms.

Because the auditor's report shows whether the annual accounts accurately reflect the firm's situation and the risks faced by the firm, the findings of this study have implications for auditors, audited firms, investors, and market regulators. This study should allay any concerns harbored by these groups because the findings show that a reduction in audit fees does not equate to a reduction in the quality of the audit service, and the auditor's report therefore continues to perform its function in validating the reliability of audited firms' annual accounts.

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