REVISTA DE CONTABILIDAD

SPANISH ACCOUNTING REVIEW

revistas.um.es/rcsar

CAE Remuneration and Financial Reporting Quality

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ARTICLE INFO

Article history:
Received 12 March 2019
Accepted 5 November 2019
Available online 1 January 2021

JEL classification:
M41
M42

Keywords:
Internal audit
CAE remuneration
Financial reporting quality
Audit committee
Internal audit objectivity
CEO
Research Paper

ABSTRACT

This paper reports on a study exploring the relationship between the fixed remuneration paid to the Chief Auditing Executive (CAE), and the subsequent financial reporting quality (FRQ). The study argues from the viewpoint that a strategy of compensation provided on the basis of company performance is detrimental to FRQ, and that when the CAE receives fixed remuneration, there is less threat to internal audit (IA) objectivity, and hence, greater FRQ as proxied by accruals quality. Data are obtained via a survey questionnaire, and information offered within annual reports. The findings indicate that when the CAE is compensated according to company performance, objectivity is reduced, with the consequent outcome that FRQ is impaired. Furthermore, when CAE remuneration and compensation are approved by the audit committee, rather than by the CEO, FRQ is higher. Evidence that the effects of IA objectivity are eliminated when the CEO is involved in approving CAE remuneration and compensation is also found. The study provides insights into the question of whether CAE remuneration enhances IA objectivity, and in doing so is of interest to audit committees with responsibility in that direction. Two different estimation methods are used as a means of confirming the robustness of these results.

Remuneración del Director Ejecutivo de la Auditoría y Calidad de la Información Financiera

Códigos JEL:
M41
M42

Palabras clave:
Auditoría interna
Remuneración del CAE
Calidad de la información financiera
Comité de auditoria
Objetividad de auditoría interna
CEO
Artículo de investigación

RESUMEN

En este trabajo se explora la relación entre la remuneración fija pagada al Director Ejecutivo de Auditoría (CAE) y la consiguiente calidad de la información financiera (FRQ). Así, se argumenta que una estrategia de remuneración basada en el rendimiento de la empresa es perjudicial para la FRQ, y que cuando el CAE recibe una remuneración fija, hay menos amenazas para la objetividad de la auditoría interna (IA) y, por lo tanto, una mayor FRQ como aproximación a la calidad de los informes financieros. Los datos se obtienen a través de una encuesta, y la información se recoge de los informes anuales. Los resultados indican que cuando el CAE es compensado de acuerdo con el desempeño de la empresa, la objetividad se reduce, con el consiguiente resultado de que la FRQ se ve afectada. Además, cuando la remuneración y compensación del CAE es aprobada por el comité de auditoría, en lugar de por el CEO, la FRQ es mayor. También se encuentran pruebas de que los efectos de la objetividad de la IA se eliminan cuando el CEO participa en la aprobación de la remuneración y compensación del CAE. El estudio aporta ideas sobre la cuestión de si la remuneración del CAE mejora la objetividad de la IA y, al hacerlo, es de interés para los comités de auditoría con responsabilidad en esa dirección. Se utilizan dos métodos de estimación diferentes para confirmar la solidez de los resultados.

https://www.doi.org/10.6018/rcsar.367981

1. Introduction

Within the IA literature, there is ample testimony to the vital role discharged by Internal Audit (IA) in ensuring good Financial Reporting Quality (FRQ), and hence organisational success (see for example, Carcello, Hermanson, & Raghunandan, 2005; Prawitt, Smith, & Wood, 2009). Proponents of the importance of IA objectivity argue that such objectivity contributes to FRQ. Much is known about the relationship between IA independence and objectivity, and FRQ. Abbott, Daugherty, Parker, and Peters (2016), for example, have explored IA independence and competence, finding these to be necessary conditions for the effective monitoring of financial reporting, and Gramling, Maletta, Schneider and Church (2004) confirm from their analysis of several studies on this topic, that a similar link exists between IA independence and objectivity and FRQ, and that the Internal Audit Function (IAF) is influential in both the quality of corporate governance, and company performance. This study examines how the remuneration paid to Chief Audit Executives (CAE) impacts upon IA objectivity, and hence, the resultant FRQ.

It has been recognised that a basic goal of compensating individuals by means of incentives, is the motivation of those involved to work harder to achieve performance improvements (Chong & Eggleton, 2007). Yet it is argued that such compensation may result in the introduction of performance measures that are biased, as a means of maximising the rewards enjoyed by those who are being incentivised (Watts & Zimmerman, 1990). Hence, it is important to understand whether CAEs' remuneration and incentive compensation influence their ability to remain objective, and therefore impact upon FRQ.

Prior studies highlight the link between the situation where CAEs are compensated on the basis of company performance, and the size of the audit fees the company pays (Chen, Chung, Peters, & Wynn, 2017), it being noted that such a strategy may militate against the independence and objectivity required of the IAF (DeZoort, Houston, & Reisch, 2000). Much of the research related to CAE remuneration has been conducted in the US and has focused on IA incentive compensation, whether cash compensation or company stock, and its impact both on external audit reliance on IA work, and on external audit fees. That said, to date, this remains a neglected area and there has been no attempt to empirically examine the impact of CAE fixed remuneration on IA objectivity, and hence, FRQ in the UK context. The present study seeks to remedy this shortcoming in the literature by examining: (1) the extent to which FRQ is influenced by the two arrangements - whether the CAE receives fixed remuneration, or compensation determined by company performance; (2) the extent to which there is less threat to IA objectivity when the CAE receives fixed remuneration, and to which FRQ is greater; (3) and the extent to which the involvement of the Audit Committee (AC) rather than the CEO in approving CAE remuneration and compensation[1] improves FRQ.

The IAF is increasingly being relied on by ACs seeking to discharge their corporate governance obligations. Specifically, ACs interact with their IAFs to minimise the problem of information asymmetry between themselves and executive managers (Sarens et al., 2009). Moreover, the UK Financial Reporting Council (FRC) highlights the importance of the AC in ensuring the effectiveness of the IAF (FRC, 2016), and greater interaction between these two bodies is known to result in better FRQ (e.g., Alzeban 2018; Prawitt et al., 2009).

The data required to explore the research issues were gathered from 219 UK-listed companies and related to the years 2016-2017. A survey questionnaire, and the annual reports of these companies were the two methods of data collection. Having secured that data, two initial analyses were performed via OLS regression. The first set of regressions examined whether CAE fixed remuneration enhances IA objectivity, while the second set investigated whether CAE fixed remuneration has any influence upon FRQ. In the second regression, the effect of IA objectivity on FRQ when the CAE receives fixed remuneration was tested. Moreover, a regression was also performed to determine whether AC approval of the CAE remuneration and compensation has any impact upon the FRQ. Working capital accruals and discretionary accruals were used as proxies to measure FRQ. Further tests were also performed to confirm the consistency and robustness of the findings. These additional analyses focused on the interaction between CAE fixed remuneration and AC approval of the remuneration. The interaction between IA objectivity and AC approval of the remuneration was also considered in order to establish whether the effect of IA objectivity on FRQ is increased/decreased when it is combined with AC approval of the remuneration. Moreover, to test for any possible endogeneity, a two-stage least squares (2SLS) and a Hausman test were performed, the results revealing the IA variables to be exogenous. Consequently, there is confidence that consistent coefficient estimates are achievable through the use of OLS regressions to test the hypotheses.

This paper is motivated by the limited research effort to date concerned with the influence of CAE fixed remuneration and incentive compensation on FRQ, and the dearth of associated data relating to whether fixed remuneration and/or incentive compensation threaten IA objectivity, and hence impact negatively on FRQ. Consequently, the outcomes of the study make several enriching contributions to the IA literature and practice.

Firstly, as mentioned previously, most studies about CAE remuneration have been conducted in the US, meaning the UK context is largely neglected. However, the UK offers an interesting research environment because unlike in the US where Corporate Law mandates compliance with corporate governance regulations, in the UK such compliance remains optional, it being an issue for individual Boards of Directors to choose what governance arrangements they wish to adopt, according to their companies' circumstances (FRC, 2018). Moreover, while it is compulsory for companies listed on the NYSE (New York Stock Exchange) to have an IAF, there is no such requirement in the UK, it being mandatory only for companies to indicate whether they do or do not have such a department, in their annual reports. Where a company chooses not to have an IAF, there is a requirement for it to provide the reasons for this choice, and there must be annual consideration by the AC of the issue of whether a need has arisen for the establishment of one (FRC, 2018). Another reason for conducting research in the UK is the fact that the equity marker in the UK is one the largest worldwide, and as a result this study's findings are helpful to regulators in providing clarity regarding what types of company opt for the presence of an IAF. Of course, such results may also have value should the London Stock Exchange mandate the presence of IA.

Secondly, the relationship between CAE fixed remuneration and FRQ is a neglected area, and by exploring this relationship, this study offers a new stream of interest that sig-

[1] In this study, 'remuneration' indicates fixed remuneration, whereas compensation means that CAE receives compensation based on company performance.

nals the need to bring the issue of CAE remuneration more prominently into the research arena. It also provides evidence of the link between CAE fixed remuneration and IA objectivity, and hence FRQ. Thirdly, whereas previous studies have focused on IA incentive compensation based on company performance and its impact on audit fees (e.g., Chen et al., 2017; Omar & Stewart, 2015), this study examines the impact of CAE fixed remuneration and IA objectivity on FRQ. Consequently, by empirically exploring CAE remuneration as an antecedent of good/poor FRQ, the study enriches the literature specifically relating to FRQ, and simultaneously offers policy-makers and practitioners, evidence to inform decisions concerning compensation for the CAE. Fourthly, the study outcomes are of value to professional policymakers in respect of the information they bring about IA standards and best practice. Implicitly, the findings suggest the need for AC involvement in determining and monitoring CAE salary, in preference to that of general management.

A fifth contribution is in the study's ability to enhance the current understanding of the determinants of CAE remuneration, in particular, and whether AC approval (or remuneration committee approval) of CAE remuneration enhances FRQ. The study provides evidence that the effects of IA objectivity on FRQ are increased when the AC (or remuneration committee) approves the CAE's remuneration rather than when this approval is the responsibility of the CEO; it also identifies the presence of greater FRQ when CAE fixed remuneration is combined with AC approval of the remuneration, and also confirms through its evidence, that interaction between IA objectivity and AC approval of the remuneration result in increasing the effect of IA objectivity on FRQ. Further, the results extend the literature through their confirmation that CAE fixed remuneration enhances IA objectivity, thereby precipitating greater FRQ, whereas CAE compensation based on company performance not only reduces IA objectivity, but has even been found to eliminate objectivity, and thus lead to lower FRQ.

Given the accounting scandals of the last two decades, this relationship is particularly important as it centres on the notion of transparent accounting and the need for effective IA. The issue of CAE remuneration, is therefore, becoming one of interest.

The paper proceeds to provide a background of related research leading to the development of the hypotheses. Subsequently, in the third section, a discussion of the research methodology is provided. In section four the findings obtained are presented, and section five brings the paper to its conclusion.

2. Related Research and Hypotheses Development

The literature underpinning this study is that concerning IA and FRQ, and IA remuneration, and it is considered in the following three sections, which lead to the hypotheses development.

2.1. Internal audit (IA) remuneration and financial reporting quality (FRQ)

Good corporate governance is known to depend upon the role played by the IAF, which is noted by the Institute of Internal Auditors (IIA) as one of its cornerstones. The roles played by the external auditor, board of directors, AC, and executive management (IIA, 2005) are cited as the other cornerstones, implicit in which is that each of these must be of good quality. The way in which IA makes its contribution towards corporate governance is essentially in its establishment and monitoring of internal controls, the existence of which subsequently enable IA to make transparent and accurate financial reports – hence, IA is well-positioned to have a valuable influence in FRQ (e.g., Christ, Masli, Sharp, & Wood, 2015; Gras-Gil et al., 2015; Kaplan and Schultz, 2007; Prawitt et al., 2009). Characteristic identified by Gras-Gil, Marín-Hernández, and García-Pérez de Lema (2015) is the level of involvement of IA in reviewing financial reporting, since they reveal greater involvement in this respect to lead to enhanced FRQ. Indeed, several researchers showcase the essential role played by IAF in ensuring the accuracy and transparency of the financial reporting process precisely because the quality of such reporting improves with this oversight. Likewise, the responsibility of the IAF in this respect is emphasised by Prawitt et al. (2009) who highlight the need for IA to monitor management's behaviour on a day-to-day basis. Kaplan and Schultz (2007) have also commented on the consensus reached by professionals, scholars and regulators that the role discharged by IA is indeed vital to ensure robust financial reporting, to institute anti-fraud measures, and to promote corporate integrity. At the same time, other studies highlight the value of IA reports and the impact of those reports on financial reporting reliability (Archambeault, DeZoort, & Holt, 2008). Such reliability is noted as being greater when there is a direct reporting channel to the AC rather than to senior management; hence, the presence of fraudulent reporting is less in this scenario (James, 2003).

Incentives compensation is generally seen to take the form of cash payments plus stock options (DeZoort et al., 2000), which in themselves are related not only to corporate performance but to that of IA and of individual staff within it. In the case of compensation plans being founded on corporate performance, it is usually the case that net income, and return on equity form the basis for determination of the compensation. In a subsequent study, also by DeZoort, Houston, and Peters (2001), it was discovered that when CAEs received incentivised compensation, auditors were less inclined to rely on IA work than when they received a fixed salary.

Omar and Stewart (2015) provide evidence that when IAs receive compensation according to company performance, there is a greater propensity for them to make biased decisions in order to achieve those performance targets, than when they receive a fixed amount of remuneration. Consequently, compensation paid in such circumstances leads to the external auditor having less confidence on the decisions made by the IAF (Chen et al., 2017).

Considering the IAF as an important element in improving FRQ, and the fact that performance-related pay (compensation) produces less reliable IA decisions than fixed salary does, it can be expected that FRQ is higher when CAEs receive a fixed salary rather than compensation based on company performance. Therefore, the first hypothesis is formulated:

H1: *Financial reporting quality (FRQ) is higher when the CAE receives fixed remuneration rather than receiving compensation reliant upon company performance*.

2.2. Internal audit (IA) remuneration, objectivity, and financial reporting quality (FRQ)

In the consideration of incentive-based compensation for CAEs, several researchers have also found links between such compensation and both audit fees and company performance. Chen et al. (2017) for instance, exploring the situation in the US, found a positive link between audit fees and incentivised

IA compensation; and in a similar study by Omar and Stewart (2015), which examined the potential impact of IAs' cultural background on their objectivity, it emerged that IAs in both Australia (scoring high on individualism) and Malaysia (scoring high on collectivism), were compromised in their levels of objectivity as a result of the practice of incentivising their salaries. These particular results also reveal that IAs' objectivity is threatened in the scenario where incentive-based compensation determined by company performance is in place, whereas if that compensation is associated with individual performance that threat is less.

This is an important issue since Messier, Reynolds, Simon, and Wood (2011) note that external auditors require IA objectivity as they themselves rely on the work produced by IAs when they assess the integrity of the work they are appointed to scrutinise. Clearly, without objectivity, IAs are susceptible to pressures from senior management not to report transparently if such action is not in the organization's interests (Messier et al., 2011; Norman, Rose, & Rose, 2010).

And this leads to the way in which objectivity is guaranteed, that being via the AC's oversight of the remuneration and compensation provided to the CAE. Indeed, as noted by Bailey (2007), such oversight extends to the nomination and dismissal of the CAE, and substantially reduces senior management's ability to interfere in financial reporting.

Given therefore, the knowledge that IA influences the reliability of financial reporting, that incentivised compensation threatens the objectivity of IAs, and that auditors place less reliance on IA work when CAEs receive performance-related pay, it is argued in this study that when CAEs receive a fixed salary, they have no motives to reduce their objectivity, and therefore, FRQ will be of a high standard. Consequently, the second hypothesis is formulated:

H2: *When the CAE receives fixed remuneration, there is less threat to IA objectivity, and financial reporting quality (FRQ) is greater.*

2.3. Approval of remuneration

It is observed that in many enterprises, the reporting line from the CAE is to the AC in respect of functional issues, and to the CEO in connection with administrative matters (e.g., Christopher, Sarens, & Leung, 2009; IIA, 2017). This implies that the CEO is in a powerful position, and retains the responsibility for hiring and dismissing the CAE, deciding the remuneration s/he receives, and essentially ruling on the composition of the IA department. For example, the budget, staffing plan, audit plan, and decisions on whether to implement the recommendations of IA are all determined by the CEO, meaning that the CAE and the IA department remain under the control of management (Schneider, 2008). Furthermore, it is found that IAs who have aspirations to move up the organisational hierarchy into senior management roles are conditioned to behave in a way that pleases senior management such that their eventual promotion is guaranteed as it is these same personnel within the top managerial layer who will eventually make the promotion decisions (Sarens & Beelde, 2006).

Rose et al. (2013) extend this thinking by highlighting the power of management to settle the compensation, conduct performance appraisals, and bestow professional security upon IAs who are compliant with management's wishes. This study argues that when the remuneration paid to CAEs is removed from the hands of management and placed with the AC to determine, IA personnel do not conduct themselves in such a way as to please management for the sake of increasing their salary, and consequently function with greater objectivity which in turn affects FRQ for the better. This argument reflects that of Burns and Kedia (2006) who suggest that IAs are motivated to prejudice their audit assessments and to misreport via their accounting choices, purely to enhance their own compensation.

Furthermore, returning to the argument that AC control in respect of the hiring, remuneration, and firing of the CAE lends greater objectivity to the entire IA function, it is confirmed by Bailey (2007) that this is a logical outcome of IAs not fearing management manipulation of their salaries or even dismissal should they report fraudulent activities on the part of management. Indeed, the responsibility for CAE remuneration is firmly placed with the AC (CIIA, UK, 2013) for precisely this reason, and researchers support this position showing the dangers to objectivity when salaries are incentivised (Messier et al., 2011), and when promotions are tied to performance outcomes (Norman et al., 2010). Moreover, lower FRQ is found when the CEO approves the appointment of the CAE rather than when this appointment is approved by the AC (Alzeban, 2018). Hence, it is appropriate to suggest that the involvement of the AC in approving the CAE's remuneration enhances IA objectivity, and subsequently produces greater FRQ. Therefore, the third hypotheses is as follows:

H3: *Financial Reporting Quality (FRQ) is higher when the AC approves CAE remuneration and compensation rather than when management does this.*

3. Research Methodology

The methods used for gathering the data, and the measurement of the variables are described in this section, and the proxies used for FRQ are also explained. The study obtains the required data from two sources, the first being via a survey questionnaire focusing on the issue of data related to CAE remuneration, and the second being the annual reports of the participating companies. Some of these reports are available online, others are not but the required information is accessible on the *Datastream* database. These methods were adopted since there is no existing database in respect of CAE remuneration and/or compensation, its influence upon FRQ, and the impact of compensation paid according to performance. As a means of gathering the required data to test the hypotheses, the process employed in previous studies (e.g., Carcello et al., 2005; Goodwin and Yeo, 2001; Nagy and Cenker, 2007) was followed, and the survey questionnaire was sent to CAEs working in UK-listed companies. In total, 272 responses were received, of which 53 were discarded as they failed to indicate the required information concerning the CAE's remuneration, thereby leaving 219 usable responses. The second source of data was the *Datastream* database, from which the annual reports for the years 2016-2017 were scrutinised to gather information related to other variables such as the AC, and other information related to FRQ proxies and control variables.

Ideas for questions came principally from the IIA's standards (IIA, 2017) and from a thorough search of the relevant literature (Ahlawat & Lowe, 2004; Chen et al., 2017; Goodwin & Yeo, 2001; Omar & Stewart, 2015; Rose, Rose, & Norman, 2013; Stewart & Subramaniam, 2010). The survey consisted of questions relating to the overall objectives of the study. Participants were asked about their work experience as CAEs. They were also asked a dichotomous question (single-select question) concerning whether they receive a fixed salary, and compensation based on company perform-

ance.[2] In addition, participants were asked about where the primary responsibility for approval of the CAE's reward package (fixed remuneration or compensation based on performance) lay (e.g., with the audit committee, CEO, remuneration committee, nominating committee). The question regarding objectivity contained five statements as indicators of objectivity, with each being scaled from one (strong disagreement) to five (strong agreement). These statements related to refraining from auditing operations for which the internal auditor was responsible, avoiding the discussion of a possible job offer with an auditee, and avoiding auditing any information provided by an auditee with whom the respondent had a personal relationship.

To ensure validity and reliability, the following procedures and tests were performed. In the first stage, a pre-test of the survey was undertaken to ensure it could be understood by the potential respondents and hence a valid instrument. Content validity was assured by sending the instrument to a number of experts in the field, inviting comments and suggestions, and making certain modifications based on the feedback. These alterations were related to the remuneration of CAE and objectivity. Construct validity was ensured by paying great attention to the design of the survey and to whether the questions formulated were capable of measuring the constructs they were intended to measure. Additionally, as advocated in the literature, the questions were designed to be as simple as possible to encourage completion. The pre-test confirmed that the wording was simple enough to be understood, the questions were presented in a logical order, and the length of the survey was considered acceptable. Consequently, construct validity was also assured. Further, regarding the reliability of the instrument, and to ensure its internal consistency, Cronbach's alphas were calculated, revealing a score of 0.890 for the five items used in the objectivity question. Given the cut-off of 0.7, the internal consistency of the survey is acceptable.

3.1. Model and Measurement of the Variables

The approach used to examine the impact of CAE remuneration on FRQ starts by testing the influence of CAE remuneration on IA objectivity. This test is performed to ensure the result is in line with the findings from previous studies (e.g., DeZoort et al., 2001; Schneider, 2003) to the effect that CAE compensation based on company performance influences IA objectivity. Additionally, the test determines whether CAE fixed remuneration has an impact on IA objectivity. The following model (1) is estimated after also controlling other corporate governance variables that are expected to enhance IA objectivity. The first two variables in the model are CAE fixed remuneration (*CAEREM*), and CAE compensation based on company performance (*CAECOMP*). The other three variables (AC independence, expertise, and board independence) are controlled variables as the literature reveals that these enhance IA objectivity (e.g., Balkaran, 2007; Goodwin & Yeo, 2001; Gramling et al., 2004; Norman et al., 2010).

$$OBJECT = \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 ACINDPN + \beta_4 ACEXPERT + \beta_5 BINDP + Industry + Year + \varepsilon \quad (1)$$

[2] Although information related to CAE remuneration were obtained from survey as there is no existing database related to the CAE remuneration and/or compensation, this study did not capture information related to the amount of the fixed salary and compensation. This may be considered as limitation.

3.1.1. Financial reporting quality (FRQ)

A number of other studies have taken accruals quality (*ACCQUAL*) as a proxy for FRQ (see for example, Cho, Ki, & Kwon, 2017; Francis, LaFond, Olsson, & Schipper, 2005; Gomariz & Ballesta, 2014; Tanyi & Smith, 2015). In this study, the Dechow and Dichev (2002) model, which has been employed extensively in previous studies, is adopted. This makes the assumption that *ACCQUAL* is conditioned by the degree of precision in mapping the current accruals onto past, present and future cash flows (*CASHFO*). Good FRQ is denoted by a high level of precision in this respect. The model regresses current working capital accruals (*WCA*) on *CASHFO* from the previous, current, and subsequent year, using the following model:

$$WCA_{it} = \beta_0 + \beta_1 CASHFO_{i,t-1} + \beta_2 CASHFO_{i,t} + \beta_3 CASHFO_{i,t+1+\varepsilon_{i,t,,}} \quad (2)$$

In this model, $WCA_{i,t}$ represents the company's changes in working capital between the current and prior year. $CASHFO_{i,t-1}$, $CASHFO_{i,t}$ and $CASHFO_{i,t+1}$ represent operating cash flows for company i at year $t1$, t, $t+1$, respectively.

The working capital accruals model is used to strengthen the Dechow and Dichev (2002) model as indicated by McNichols (2002), by the addition of two more variables, these being: change in accounting receivables (*ARECEIV)*, and the level of property plant and equipment (*PROPPE*). The use of the Dechow and Dichev model requires a more powerful approach to the estimation of earnings quality, and the influence of management discretion on earnings quality (McNichols, 2002). In this case, lower quality is denoted by a larger standard deviation of the residuals. The modified model by McNichols (2002) is described below in model (3):

$$WCA_{it} = \beta_0 + \beta_1 CASHFO_{i,t-1} + \beta_2 CASHFO_{i,t} + \beta_3 CASHFO_{i,t+1} + \beta_4 \Delta ARECEIV_{i,t} + \beta_5 PROPPEi, t + \varepsilon_{i,t} \quad (3)$$

3.1.2. Model

The Model (4) – OLS regression – is used to test the association between CAE remuneration and *ACCQUAL* (H1 and H2), used as a proxy of FRQ. Other variables are controlled as these are potentially influential upon *ACCQUAL*.[3]

$$ACCQUAL = \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT + \beta_4 ACINDPN + \beta_5 ACEXPER + \beta_6 BINDP + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD + \beta_9 ROA + \beta_{10} LOSS + \beta_{11} LEVRG + \beta_{12} CAEREM * OBJECT + \beta_{13} CAECOMP * OBJECT + Industry + Year + \varepsilon, \quad (4)$$

[3] Analysis of the data was performed to ensure its compatibility with the underlying assumptions of OLS regression treatment. Such treatment depends upon the issue(s) being investigated and the type of data. If standard residuals are more than 3.3 or less than -3.3 the problem of outliers exists, but as indicated in the scatterplot, the model reports no outlier cases, which is perhaps not unexpected taking into account the character of the scale data gathered in the study. Furthermore, it is important to ensure that there is no high correlation among the variables. Hence, the regression analysis demonstrates that the Variance Inflation Factor (VIF) levels in all the regressions performed are below 10 (acceptable levels) indicating that multicollinearity is not serious issue.

The main variables of interest are *CAEREM* and *CAECOMP*. With regard to *CAEREM*, a value of one is given if the CAE receives only fixed remuneration, otherwise the value is zero.[4] The *CAECOMP* is given a value of one if the CAE receives compensation based on company performance, otherwise it is zero.[5] Moreover, the effect of IA objectivity (*OBJECT*) on *ACCQUAL* (proxy of FRQ) when the CAE receives fixed remuneration is tested (*CAEREM*OBJECT*). Also, the effect of *OBJECT* on *ACCQUAL* when the CAE receives compensation based on company performance (*CAECOMP*) is determined. Based on Hypotheses (H1 and H2), it is expected that FRQ will be higher when the CAE receives fixed remuneration rather than compensation based on company performance. Additionally, based on these hypotheses, it is expected that when the CAE receives fixed remuneration, *OBJECT* will be higher, and consequently, so will FRQ. Following the IIA standards and prior studies (DeZoort et al., 2001; IIA, 2017; Stewart & Subramaniam, 2010), a number of indicators (using the average score) are used to measure IA objectivity (*OBJECT*) using a five-point Likert scale, these being: refraining from auditing operations for which the internal auditor was responsible, avoiding the discussion of a possible job offer with an auditee, and not auditing any information provided by an auditee with whom the respondent had a personal relationship.

The OLS regression (Model 5) is used to examine the third hypothesis (H3). This examines the association between AC approval of the CAE's remuneration/compensation and *ACCQUAL* as a proxy for FRQ.

$$\begin{aligned} ACCQUAL = {} & \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT \\ & + \beta_4 ACINDPN + \beta_5 ACEXPERT + \beta_6 BINDP \\ & + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD + \beta_9 ROA \\ & + \beta_{10} LOSS + \beta_{11} LEVRG + \beta_{12} ACAPPROVAL \\ & + \beta_{13} CEOAPPROVAL + Industry + Year + \varepsilon, \end{aligned} \quad (5)$$

It is anticipated that when the AC approves (*ACAPPROVAL*) the CAE remuneration and compensation, FRQ will be higher, whereas FRQ will be less when remuneration is approved by the CEO (*CEOAPPROVAL*). *ACAPPROVAL* is an indicator given a value of one if the AC approves the CAE's remuneration and compensation, otherwise it is zero. *CEOAPPROVAL* is given a value of one if the CEO approves the remuneration and compensation, otherwise it is zero. Table 1 provides details of the used variables and its descriptions.

3.1.3. Control variables

Several variables were controlled and added to the regression models as they are expected to have an impact on *ACCQUAL* as a proxy of FRQ. The control variables are divided into two categories, the first being other corporate governance variables that are expected to have an impact on FRQ. It is found in earlier research (e.g., Dhaliwal, Naiker, & Navissi, 2010) that *ACCQUAL* is linked to the presence of an AC since that body is responsible for monitoring the internal controls, supervising the financial reporting process, and ensuring the appropriateness of external auditing (Habib & Bhuiyan, 2016b). It is also found by Carcello, Hollingsworth, Klein, and Neal (2006) that AC accounting expertise (*ACEXPERT*) has a significant association with earnings management, and Bilal et al. (2018) find a link between *ACEXPERT* and earnings quality. Furthermore, the UK Financial Reporting Council (FRC, 2016 and 2018) indicates the requirement for relevant financial experience of at least one member of the AC. In addition, in previous research it has been found that lower earnings management results when there is a greater number of *ACEXPERT* (Bédard, Chtourou, & Courteau, 2004), and that the chances of detecting material misstatements are also increased in such circumstances (DeZoort & Salterio, 2001). Indeed, in earlier studies, the independence of AC members (*ACINDPN*) and *ACEXPERT* possessed by them are regarded as the two most valuable conditions for AC responsibilities to be properly discharged. *ACINDPN* is found to enhance FRQ, by for example, being correlated with lower earnings management (Inaam & Khamoussi, 2016). Earnings management is constrained by the presence of *ACINDPN* (Bédard et al., 2004), and hence, the potential for accounting restatements is reduced (Abbott, Parker, & Peters, 2004). The literature also reveals the role of board independence (*BINDP*) in this matter, showing this to reduce earnings management. And Habib and Bhuiyan (2016b) also observe *BINDP* used as an indicator for the strength of corporate governance, to have an influence on earnings management. Likewise, Bravo and Reguera-Alvarado (2018) reach a similar conclusion, pointing to the ability of independent board members to monitor the financial reporting process more effectively than non-independent members. Following prior studies, *BINDP* used as an indicator of the board characteristics (Manzaneque, Priego, & Merino, 2016).

Table 1
Definition of the variables

Variable	Definition
FRQ	Financial reporting quality is measured using two proxies: - ACCQUAL: working capital accruals of Dechow and Dichev (2002), and modified by McNichols (2002), - DISCACCR: discretionary accruals using modified Jones model (1991).
CAEREM	One if the CAE receives only fixed remuneration, and zero else.
CAECOMP	One if the CAE receives compensation based on company performance, and zero otherwise.
OBJECT	IA objectivity is measured by the average of three indicators using a five-point Likert scale (strongly disagree to strongly agree), for example, refraining from auditing operations for which internal auditor was responsible for, avoiding to discuss a possible job offer with auditee, and avoid auditing function for which they have personal relationship with auditee.
ACINDPN	Coded one if all members on the AC are independent, and zero else.
ACEXPERT	The proportion of experts in accounting and auditing on the AC.
BINDP	The proportion of independent directors on the board.
COMPSIZE	Company size is calculated as the log of total assets.
BIGFOURAUD	One if the company is audited by a Big Four, and zero else.
ROA	Return on assets.
LOSS	One if a loss was reported in the previous year, and zero else.
LEVRG	Leverage is the ratio of total debts to total assets.
ACAPPROVAL	One if the AC approves the CAE's remuneration and compensation, and zero else.
CEOAPPROVAL	One if the CEO approves CAE remuneration and compensation, and zero else.
REMAPPROVAL	One if the remuneration committee approves the CAE's remuneration and compensation, and zero otherwise.
CAETENURE	Number of years the CAE has spent in his/her position.
Industry	Industry dummy variable.
Year	Year dummy variable.

In the second category of control variables are those company characteristics that may affect FRQ. It has been found that larger companies have better FRQ (Francis & Yu, 2009), so company size (*COMPSIZE*) is included in the model and calculated as the log of total assets. Auditor quality is also included as this can be influential upon FRQ. The quality of a company's external audit is considered as an essential antecedent of reporting quality (Behn, Choi, & Kang, 2008). The employment of a Big Four auditor (*BIGFOURAUD*) may promote higher audit quality, and hence reduce earnings man-

[4] *CAEREM* and *CAECOMP* are dichotomous variables. This study did not capture data related to the amounts of these variables which can be considered as an important limitation.

[5] With regard to compensation, CAEs were asked whether their companies provide them with fixed remuneration and where there is the possibility of receiving compensation based on performance of the company.

agement (Habib & Bhuiyan, 2016a). This is proxied by *BIGFOURAUD* that serves as one if the company is audited by a Big Four auditor, and zero otherwise. The company's financial condition is also controlled; a positive correlation is expected between Loss (*LOSS*) and discretionary accruals (Carrera, Sohail, & Carmona, 2017). *LOSS* is included as a dichotomous variable, coded one if a loss was reported in the previous year, and zero else (Christ et al., 2015). Prior studies found that leverage (*LEVRG*) is positively associated with discretionary accruals (Krishnan, Yuan, & Wanli, 2011) and positively influenced earnings management (Gombola, Ho, & Huang, 2016; Lazzem & Jilani, 2018). *LEVRG* is included in the model and measured as the ratio of total debts to total assets (Bravo & Reguera-Alvarado, 2018; Méndez, García, & Pathan, 2017). Company performance is captured by Return on assets (*ROA*) (Badolato, Donelson, & Egeal, 2014). A positive relation is reported between *ROA* and discretionary accruals (Carrera et al., 2017), and accruals management is motivated by company's low performance (Abbott et al., 2016).

4. Results

Table 2 reports the descriptive statistics of the whole sample. Column A shows that the majority of the companies provide the CAE with compensation based on company performance – *CAECOMP* – (67%), whereas 33% remunerate with only fixed salaries (*CAEREM*). The results also show that on average, IA objectivity (*OBJECT*) is slightly higher than the mid-point (3.40). Moreover, they reveal that 0.44 of CAE remuneration and compensation are approved by AC, whereas 0.38 are approved by CEO, and 0.18 are approved by remuneration committee. Also, the results indicate that (86%) of the sample companies have ACs on which all members are independent (*ACINDPN*). Additionally, it is shown that 48% of AC members have expertise in accounting (*ACEXPERT*), and the average of non-executive directors on company boards (*BINDP*) is 66%. Moreover, on average 0.16 of the sample companies reported *LOSS*. Column B presents the results of the X^2 tests for companies with fixed salaries and compensation based on company performance. From these it is seen that companies with fixed salaries generally show greater *OBJECT*, *ACINDPN*, and *ACEXPERT* than those offering performance-based compensation. The X^2 test results shows significant differences ($P < 0.01$) between IA objectivity (*OBJECT*) in companies providing fixed salaries, and those adopting the performance-based compensation strategy. With regard to AC independence and expertise, significant differences are shown between companies providing only fixed salaries (*CAEREM*) and those providing compensation based on company performance (*CAECOMP*) – *ACINDPN* $P < 0.01$, and *ACEXPERT* $P < 0.05$. Further, CAE fixed salaries (*CAEREM*) are more likely to be approved by the AC than in companies providing compensation based on company performance (*CAECOMP*), and significant differences are reported between those companies $P < 0.01$.

The results of the correlation (not reported for brevity) between the variables suggest that both *CAEREM* and *OBJECT* are negatively associated with *ACCQUAL* ($P < 0.01$), whereas *CAECOMP* is positive but not significantly related with *ACCQUAL* ($P > 0.05$). The results also imply that while *ACAPPROVAL* is negatively correlated with *ACCQUAL* ($P < 0.01$), *CEOAPPROVAL* has no significant relationship with *ACCQUAL* ($P > 0.05$). Further, *OBJECT* is positively related to the *ACAPPROVAL*, whereas a negative relationship is found between *OBJECT* and *CEOAPPROVAL*. This indicates that involvement of the AC in approving *CAEREM* and *CAECOMP* enhances IA objectivity. Additionally, positive correlations are reported between *OBJECT* and the corporate governance indicators (*ACINDPN*, *ACEXPERT*, and *BINDP*).

Table 2
Descriptive Results

	Column A					Column B		
						Companies with CAEREM	Companies with CAECOMP	
Variable	Max	Min	Mean	Median	S,D.	Mean	Mean	P
ACCQUAL	0.309	0.00	0.078	0.052	0.07	0.077	0.078	0.097
DISCACCR	0.816	0.00	0.062	0.041	0.09	0.060	0.063	0.105
CAEREM	1.00	0.00	0.33	0.00	0.48			
CAECOMP	1.00	0.00	0.67	1.00	0.47			
OBJECT	5.00	1.00	3.40	3.00	1.12	3.70	3.25	0.000
ACINDPN	1.00	0.00	0.86	1.00	0.36	0.89	0.84	0.008
ACEXPERT	1.00	0.25	0.48	0.40	0.73	0.50	0.47	0.021
BINDP	0.87	0.33	0.66	0.50	0.22	0.63	0.68	0.015
COMPSIZE	11.17	7.32	9.20	9.10	0.68	9.16	9.22	0.061
BIGFOURAUD	1.00	0.00	0.89	1.00	0.28	0.87	0.92	0.058
ROA	74.12	-52.14	9.84	8.90	9.75	9.83	9.85	0.312
LOSS	1.00	0.00	0.16	0.00	0.37	0.18	0.15	0.072
LEVRG	1.38	0.07	0.59	0.58	0.25	0.57	0.59	0.131
ACAPPROVAL	1.00	0.00	0.44	0.00	0.50	0.49	0.40	0.002
CEOAPPROVAL	1.00	0.00	0.38	0.00	0.49	0.31	0.44	0.000
REMAPPROVAL	1.00	0.00	0.18	0.00	0.38	0.20	0.16	0.051
CAETENURE	17.00	9.00	12.50	12.00	3.86	12.45	12.52	0.054
N						73	146	

ACCQUAL is working capital accruals; *DISCACCR* is discretionary accruals; *CAEREM* one if the CAE receives fixed remuneration, and zero else; *CAECOMP* one if the CAE receives compensation based on company performance, and zero otherwise; *OBJECT* is IA objectivity measured by three indicators using a five-point Likert scale; *ACINDPN* coded one if all members on the AC are independent, and zero else; *ACEXPERT* is proportion of experts in accounting and auditing on the AC; *BINDP* is proportion of independent directors on the board; *COMPSIZE* is company size calculated as the log of total assets; *BIGFOURAUD* one if the company is audited by a Big Four, and zero else; *ROA* is return on assets; *LOSS* one if a loss is reported in the previous year, and zero else; *LEVERG* is the ratio of total debts to total assets; *ACAPPROVAL* one if AC approves CAEs remuneration and compensation, and zero else; *CEOAPPROVAL* one if the CEO approves CAE remuneration and compensation, and zero else; *REMAPPROVAL* one if the remuneration committee approves the CAEs remuneration and compensation, and zero otherwise; *CAETENURE* equals to the number of years the CAE has spent in his/her position.

Firstly, tests are conducted before including the variables tested in the study (Model 1). Table 3 presents the results of the regression. The impact of CAE fixed remuneration (*CAEREM*) and CAE compensation based on company performance (*CAECOMP*) on IA objectivity (*OBJECT*) was the first test. Column A reports that *OBJECT* is positively correlated with *CAEREM* (*Coef*. 0.869 and *t* 3.14), whereas *CAECOMP* is negatively associated with *OBJECT* (*Coef*. -0.102 and *t* -2.31), thereby indicating that *OBJECT* is enhanced when the CAE receives fixed remuneration. These results are consistent with prior findings (e.g., DeZoort et al., 2001; Schneider, 2003) that *OBJECT* is threatened when the CAE receives compensation based on company performance. The three corporate governance variables (*ACINDPN*, *ACEXPERT*, and *BINDP*) are positively associated with *OBJECT* implying consistency with previous findings (e.g., Gramling et al., 2004; Norman et al., 2010) to the effect that these elements enhance IA objectivity.

Secondly, it is seen from Column B where the results of testing the impact of CAE fixed remunerations on FRQ (H1), and the extent of the effect of fixed remuneration on IA objectivity (*OBJECT*), and hence FRQ (H2), are reported. In respect of Hypothesis 1, these do confirm that CAE fixed remuneration (*CAEREM*) is significantly and negatively associated with accruals quality (*ACCQUAL*), and hence higher FRQ ($P < 0.01$), whereas there is no significant association between *ACCQUAL* and CAE compensation according to company performance (*CAECOMP*). These findings suggest that lower *ACCQUAL*, and hence higher FRQ are more likely to occur when CAEs receive only fixed remuneration compared to when receiving compensation based on company performance, thus supporting H1. They also indicate that *ACCQUAL* is significantly and negatively associated with *OBJECT* ($P < 0.01$), and that the effect of *OBJECT* on *ACCQUAL* is increased when the

CAE receives fixed remuneration (*CAEREM*OBJECT*) (significant at $P < 0.01$). However, this effect of *OBJECT* on *ACCQUAL* is eliminated when the CAE receives compensation (*CAECOMP*OBJECT*) $P > 0.05$. These findings provide support for H2 and suggest that CAE fixed remuneration is more likely to increase IA objectivity and thus raise FRQ, whereas IA objectivity is impaired when company performance becomes the basis for CAE compensation, and FRQ is reduced. In terms of the control variables, the coefficients for AC independence (*ACINDPN*), and board independence (*BINDP*) are significant at $P < 0.01$, and AC expertise (*ACEXPERT*) is significant at $P < 0.05$. Regarding the control variables related to company characteristics, company size (*COMPSIZE*) is significant at $P < 0.01$, whereas Big 4 (*BIGFOURAUD*), leverage (*LEVRG*), and return on assets (*ROA*) are significant at $P < 0.05$.

The results of the tests relating to H3, determining whether FRQ is higher when the AC (*ACAPPROVAL*) rather than the CEO approves (*CEOAPPROVAL*) CAE remuneration and compensation, are shown in Column C. In this connection, it is found that a significant and negative relationship exists between *ACCQUAL* and *ACAPPROVAL* at $P < 0.01$, whereas there is a positive association between *ACCQUAL* and *CEOAPPROVAL* ($P < 0.05$), indicating that while FRQ is more likely to be higher when the AC approves CAE remuneration and compensation, CEO approval of the remuneration and compensation can create a negative effect on FRQ, thereby providing support for H3.

Table 3
Regression results

	Column A (Model 1)		Column B (Model 4)		Column C (Model 5)	
Variables	Coef.	t	Coef.	t	Coef.	t
CAEREM	0.869	3.14**	-0.964	-3.32**	-0.955	-4.17**
CAECMOP	-0.102	-2.31*	0.038	1.75	0.032	1.20
OBJECT			-1.001	-3.91**	-1.033	-4.30**
ACINDPN	1.283	4.90**	-1.158	-4.84**	-1.122	-5.27**
ACEXPERT	0.221	2.12*	-0.392	-2.35*	-0.401	-2.43*
BINDP	1.034	3.82**	-0.683	-4.31**	-0.760	-4.55**
COMPSIZE			-0.466	-3.72**	-0.472	-3.81**
BIGFOURAUD			-0.314	-2.49*	-0.326	-2.62*
ROA			0.160	2.03*	0.159	2.15*
LOSS			0.061	1.86	0.056	1.64
LEVRG			0.182	2.25*	0.192	2.36*
CAEREM*OBJECT			-1.281	-5.14**		
CAECOMP*OBJECT			0.021	0.76		
ACAPPROVALE					-0.642	-3.96**
CEOAPPROVAL					0.077	2.14*
Industry	Yes		Yes		Yes	
Year	Yes		Yes		Yes	
N	219		219		219	
P	< 0.001		< 0.001		< 0.001	
Adj. R^2	0.588		0.622		0.671	

$^{*}P < 0.05$, $^{**}P < 0.01$; *CAEREM* one if the CAE receives fixed remuneration, and zero else; *CAECOMP* one if the CAE receives compensation based on company performance, and zero otherwise; *OBJECT* is IA objectivity; *ACINDPN* coded one if all members on the AC are independent, and zero else; *ACEXPERT* is proportion of experts in accounting and auditing on the AC; *BINDP* is proportion of independent directors on the board; *COMPSIZE* is company size calculated as the log of total assets; *BIGFOURAUD* one if the company is audited by a Big Four, and zero else; *ROA* is return on assets; *LOSS* one if a loss is reported in the previous year, and zero else; *LEVERG* is the ratio of total debts to total assets; *ACAPPROVAL* one if AC approves CAEs remuneration and compensation, and zero else; *CEOAPPROVAL* one if the CEO approves CAE remuneration and compensation, and zero otherwise. *Industry* is dummy variables; *Year* is dummy variables.

These findings provide support to the study hypotheses, offering evidence that FRQ is more likely to be higher in companies where the CAE receives fixed remuneration than in those where company performance is the determinant of CAE compensation. Moreover, findings indicate that while IA objectivity has an effect on FRQ, this effect is eliminated when CAEs receive compensation based on company performance, suggesting that such an arrangement compromises IA objectivity and consequently reduces FRQ. Further, these results provide support for the findings from previous studies, such as that by Chen et al. (2017) who found a positive correlation to exist between external audit fees and IA company-based compensation, and the research conducted by DeZoort et al. (2001) who found that less reliance was placed on IA work by external auditors when internal auditors received an incentivised rather than a fixed salary. This situation arises because external auditors give more credence to IA work which they believe has been produced independently of management interference (via salary incentivisation attempts), in which there is potential for IA independence and objectivity to be undermined. Hence, properly-structured and transparent pay scales can serve to prevent conflicts of interest, and in this situation, external auditors are more likely to expect higher FRQ. Further, IA objectivity effects on FRQ is increased when the CAE receives fixed remuneration – providing support for Schneider (2003) who reported that IA objectivity is threatened when the company provides compensation based on stock, and also providing support for Chen et al. (2017), who argue that compensation tied to performance influences the external auditor's assessment of IA objectivity, and hence, results in higher audit fees. Therefore, it can be argued that as IA objectivity increases when the CAE receives fixed remuneration, the external auditor will place greater reliance on IA work, and therefore, audit fees might be less.

With regard to financial reporting quality (FRQ), Gras-Gil et al. (2015) find that the quality of IA, in terms of independence and qualified staff, enhances FRQ, and Prawitt et al. (2009) report the importance of the quality of IA in reducing earnings management. Hence, this study offers more empirical evidence on the effect of IA on FRQ, and how CAE fixed remuneration has a significant positive impact on FRQ in contrast to CAE compensation based on performance which reduces IA objectivity. The findings also bring evidence of the value of IA as a key factor of corporate governance in improving FRQ.

4.1. Robustness and additional tests

Further investigations to confirm the robustness of the results obtained were also made. A number of moderations tests were performed between IA objectivity (*OBJECT*) and approval of CAE remuneration and compensation, and also between CAE fixed remuneration (*CAEREM*) and AC involvement in approving the remuneration (*ACAPPROVAL*). The FRC (2016) highlights the role of the AC in reviewing IA effectiveness including the work plan, receiving a report of IA findings, and the involvement of the AC in approving the appointment of the CAE. Moreover, involvement of the CEO in the selection of the CAE negatively impacts upon IA independence and competency, and hence, it lowers FRQ (Alzeban, 2018). Prior studies highlight the impact of the IA reporting line to the AC in enhancing FRQ (Alzeban, 2018), the number of meetings between the CAE and AC in reducing earnings management (Alzoubi, 2019), the interaction between the AC and IA in terms of reviewing and increasing the budget allocated to IAF (Barua, Rama, & Sharma, 2010), and the informal interaction between the AC and IA in enhancing IA quality (Zaman & Sarens, 2013). Additionally, correlation results of this study (as mentioned previously) indicate

a positive relationship between *OBJECT* and *ACAPPROVAL*. Consequently, two moderations tests were performed. Firstly, it is expected that AC approval (*ACAPPROVAL*) of the CAE's remuneration and compensation will enhance IA objectivity (*OBJECT)*, and therefore, generate better FRQ, whereas in companies where the CEO approves remuneration and compensation, *OBJECT* will be threatened and FRQ will be lower. Hence, model (6) is produced to test whether the effect of *OBJECT* on FRQ is increased or decreased when it is interacted with *ACAPPROVAL* and *CEOAPPROVAL*. Secondly, an investigation was also carried out to determine whether the effect of the *CAEREM* on FRQ is increased/decreased with the interaction with *ACAPPROVAL*. For this purpose model (7) is estimated:

$$\begin{aligned} ACCQUAL = {} & \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT \\ & + \beta_4 ACINDPN + \beta_5 ACEXPER + \beta_6 BINDP \\ & + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD \\ & + \beta_9 ROA + \beta_{10} LOSS + \beta_{11} LEVRG \\ & + \beta_{12} ACAPPROVAL + \beta_{13} CEOAPPROVAL \\ & + \beta_{14} OBJECT * ACAPPROVAL \\ & + \beta_{15} OBJECT * CEOAPPROVAL \\ & + Industry + Year + \varepsilon, \end{aligned} \tag{6}$$

$$\begin{aligned} ACCQUAL = {} & \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT \\ & + \beta_4 ACINDPN + \beta_5 ACEXPER + \beta_6 BINDP \\ & + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD \\ & + \beta_9 ROA + \beta_{10} LOSS + \beta_{11} LEVRG \\ & + \beta_{12} ACAPPROVAL + \beta_{13} CEOAPPROVAL \\ & + \beta_{14} CAEREM * ACAPPROVAL \\ & + \beta_{15} CAEREM * CEOAPPROVAL \\ & + Industry + Year + \varepsilon, \end{aligned} \tag{7}$$

Table 4 Column A reports the results of Model (6) determining whether the effect of *OBJECT* on FRQ increases when it is combined with *ACAPPROVAL* and *CEOAPPROVAL*. The findings reveal that IA objectivity (*OBJECT*) effects on FRQ are eradicated ($P > 0.05$) when the CEO approves CAE remuneration and compensation, while the FRQ is more likely to be higher when there is an interaction between *OBJECT* and *ACAPPROVAL*. The significance level is $P < 0.01$, thereby supporting the results reported in Table 3(Column C – Model 5). Consequently, evidence is offered that CEO involvement in approving CAE remuneration impairs IA objectivity, with the result that FRQ is lower, whereas AC approval of the remuneration prevents conflicts of interest, enhances IA objectivity, and allows for greater FRQ. Furthermore, this evidence indicates that AC approval of CAE remuneration is one of the ingredients of the strategy to secure good FRQ. Moreover, the suggestion is that AC approval of CAE remuneration enhances IA independence and objectivity, and that higher FRQ results from this since IAs are not threatened by management repercussions via manipulation of their salaries or indeed, dismissal. The AC's approval of CAE remuneration prevents steps being taken by management to incentivise undesired outcomes, and thus, potentially harmful influences. Column B of Table 4 reports the results of the *CAEREM* effects on FRQ when it is combined with *ACAPPROVAL* (Model 7). It shows that *CAEREM* has a greater impact on FRQ when it interacts with *ACAPPROVAL* (significant association at $P < 0.01$), whereas the *CAEREM* effect upon FRQ is eliminated when the *CAEREM* is combined with *CEOAPPROVAL* ($P > 0.05$). These findings are supported by the results of model 6, implying the need for AC involvement, rather than management involvement, in determining and monitoring CAE salary. Overall, these findings confirm the main findings (shown from the application of Models 4 and 5), and they provide indications that the IAF and the AC play a significant role in enhancing FRQ. Companies with higher quality ACs are more likely to support the IAF in terms of enhancing IA objectivity, and approving CAE remuneration, which together underpin higher levels of FRQ. Further, these findings support arguments concerning the importance of the interaction between IA and the AC as a pre-requisite for the integrity of the work produced by the IAF, and the subsequent greater levels of FRQ (e.g., Barua et al., 2010; Carcello et al., 2005; Zaman & Sarens, 2013).

Table 4
Moderation results

	Column A (Model 6)		Column B (Model 7)	
Variables	Coef.	t	Coef.	t
CAEREM	-0.951	-4.14**	-0.940	-4.01**
CAECMOP	0.029	1.16	0.030	1.22
OBJECT	-1.057	-4.42**	-1.024	-4.35**
ACINDPN	-1.126	-5.18**	-1.228	-5.23**
ACEXPERT	-0.405	-2.41*	-0.413	-2.61*
BINDP	-0.785	-4.63**	-0.793	-4.80**
COMPSIZE	-0.470	-3.75**	-0.459	-3.60**
BIGFOURAUD	-0.336	-2.65*	-0.306	-2.36*
ROA	0.167	2.19*	0.154	2.13*
LOSS	0.052	1.62	0.055	1.71
LEVRG	0.190	2.33*	0.176	2.20*
ACAPPROVALE	-0.630	-3.81**	-0.637	-3.90**
CEOAPPROVAL	0.073	2.11*	0.070	2.04*
OBJECT*ACAPPROVAL	-1.419	-5.72**		
OBJECT*CEOAPPROVAL	0.056	1.77		
CAEREM*ACAPPROVAL			-1.036	-5.03**
CAEREM*CEOAPPROVAL			0.042	1.39
Industry	Yes		Yes	
Year	Yes		Yes	
N	219		219	
P	< 0.001		< 0.001	
Adj. R^2	0.693		0.681	

Furthermore, additional analysis was performed to test whether the type of compensation has an effect on FRQ. Schneider (2003) found IA objectivity to be negatively influenced when IAs receive compensation via company stock, and Chen et al. (2017) report that compensation as stock is the main driver of audit fees. Thus, it is expected that the type of compensation may have an impact on FRQ. Therefore, regression model (4) is extended to include cash bonus and stock as compensations based on company performance. Unreported results (for brevity) indicate that both cash bonus and stock have no significant impact on FRQ. And significance levels of other variables in the model remain the same. These findings support those reported previously in Table 3.

4.1.1. Remuneration committee

It was noted that some participants in the study confirmed the presence of a remuneration committee with responsibility for approving CAE remuneration and compensation. Hence,

the AC approval variable (*ACAPPROVAL*) is replaced with the variable of remuneration committee (*REMAPPROVAL*) in Models 5, 6 and 7. The unreported results indicate that when replacing *ACAPPROVAL* with *REMAPPROVAL*, the findings remain significant although the adjusted *R* square is slightly lower (0.664). Further, a re-run of the regression was conducted to examine the interaction between IA objectivity (*OBJECT*) and *REMAPPROVAL*. It was found that the results remain robust and in line with the main findings, suggesting that the involvement of a remuneration committee in approving CAE remuneration and compensation enhances IA objectivity, and hence FRQ.

4.1.2. Endogeneity

In order to address the concern about possible endogeneity bias, a sensitivity analysis was conducted. This particular concern has been reported in other studies (e.g., Carcello et al., 2011; Hermalin & Weisbach, 2003; Larcker & Rusticus, 2007 and 2010) as resulting from the endogeneity problem that pervades governance-related archival-empirical research. Larcker and Rusticus (2010) raised three possible reasons for endogeneity, one being the omission of correlated variables. This represents a serious issue for researchers generally, and raises the point that variables which are correlated may have been omitted from the models generated in this study. That said, it is recognised by Larcker and Rusticus (2007) that there is a huge difficulty in achieving instruments suitable for the first stage that are exogenous to the second stage. In order to test for the potential of endogeneity, a 2SLS regression, and a Hausman test were undertaken to try to find any instrumental variable with a strong relationship to CAE fixed remuneration (*CAEREM*) but no such correlation with *ACCQUAL*. Both conditions were met by CAE tenure (*CAETENURE*), hence suggesting the validity of *CENTENURE* as an instrument variable. Firstly, the *CAEREM* is regressed on the same independent variables, and the unreported results show that *CAETENURE* is highly related to the *CAEREM,* suggesting no likelihood that the model is weak. In the second stage, the predicted *CAETENURE* is used in the *ACCQUAL* models (4 and 5). The unreported results indicate the robustness of the findings which remain significant, thereby confirming the main findings presented in Table 3. Furthermore, the Hausman test was used to establish whether endogeneity was present, and the results (Durbin 0.1123; and Wu–Hausman 0.1302) show all independent variables to be exogenous, thus removing all doubt that endogeneity might be evident.

4.1.4. Second proxy for financial reporting quality (FRQ)

As a second proxy for FRQ, and to guarantee the robustness of the results already obtained, the estimation of discretionary accruals (*DISCACCR*) is used, according to the modified Jones (1991) model. In this model, the following model is used to establish the discretionary and non-discretionary components of accruals:

$$TACCR_{i,t}/TASSETS_{i,t-1} = \beta_0(1/TASSETS_{i,t-1}) + \beta_1(\Delta REVEN_{i,t}/TASSETS_{it-1}) + \beta_2(PROPPE_{i,t}/TASSETS_{i,t-1}) + \varepsilon_{i,t}, \quad (8)$$

In amending this model, Dechow et al. (1995) made an adjustment to account for the argument that managers show more tendency to manipulate account receivable (*ARECEIV*) amounts than cash sales. Consequently, a $\Delta ARECEIV$ was introduced for the test period in respect of the estimation of non-discretionary accruals. With this particular adjustment, the new model is shown (Model 9) as follows:

$$TACCR_{i,t}/TASSETS_{i,t-1} = \beta_0(1/TASSETS_{i,t-1}) + \beta_1[(\Delta REVEN_{i,t} - \Delta ARECEIV_{i,t}/TASSETS_{it-1}] + \beta_2(PROPPE_{i,t}/TASSETS_{i,t-1}) + \varepsilon_{i,t} \quad (9)$$

$TACCR_{i,t}$ is total accruals in year t for company i; *TACCR* is net income after extraordinary items (-) net cash flow from operations; $TASSETS_{i,t\text{-}1}$ is total assets in year *t-1* for company i; $\Delta REVEN_{i,t}$ is revenues in year t less revenues in year *t-1* for company *i*.

Models 4 and 5 are used to investigate how FRQ (proxied by *DISCACCR* of the adjusted Jones model 1991) is affected by *CAEREM* and *CAECOMP*. On this occasion, the second proxy for FRQ discretionary accruals (*DISCACCR*) is used:

$$DISCACCR = \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT + \beta_4 ACINDPN + \beta_5 ACEXPER + \beta_6 BINDP + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD + \beta_9 ROA + \beta_{10} LOSS + \beta_{11} LEVRG + \beta_{12} CAEREM * OBJECT + \beta_{13} CAECOMP * OBJECT + Industry + Year + \varepsilon, \quad (10)$$

$$DISCACCR = \beta_0 + \beta_1 CAEREM + \beta_2 CAECOMP + \beta_3 OBJECT + \beta_4 ACINDPN + \beta_5 ACEXPER + \beta_6 BINDP + \beta_7 COMPSIZE + \beta_8 BIGFOURAUD + \beta_9 ROA + \beta_{10} LOSS + \beta_{11} LEVRG + \beta_{12} ACAPPROVAL + \beta_1 CEOAPPROVAL + Industry + Year + \varepsilon, \quad (11)$$

Table 5 Column A presents the results from the test of the influence of CAE remuneration on *DISCACCR* as a proxy of FRQ (Model 10). It shows a significant and negative association between CAE fixed remuneration (*CAEREM*) and *DISCACCR* (*Coef*. -0.773 and *t* -2.97), whereas there is no significant relationship with CAE compensation based on company performance (*CAECOMP*) (*Coef*. 0.045 and *t* 1.40). These results suggest that in companies where the CAE receives fixed remuneration, there is a lower *DISCACCR*, and hence, higher FRQ; however, *DISCACCR* is seen to be higher in companies where the CAE receives performance-based compensation. Moreover, it shows that the effect of IA objectivity (*OBJECT*) on *DISCACCR* is increased in companies where the CAE receives fixed remuneration (*CAEREM*OBJECT*) (*Coef*. -1.335 and *t* -5.37) reporting lower *DISCACCR*. Column B reports that *DISCACCR* is lower in companies where the AC (*ACAPPROVAL*) approves CAE remuneration and compensation rather than where the CEO (*CEOAPPROVAL*) has this responsibility (*Coef*. -0.650 and *t* -3.91). These results are in line with the main findings reported in Table 3 (Models 4 and 5), thereby providing a good robustness check in respect of the main findings. Higher FRQ is more likely to be present in companies where the CAE receives fixed remuneration that is approved by the AC, rather than in those where the remuneration is approved by the CEO.

Table 5
Regression results

	Column A (Model 10)		Column B (Model 11)	
Variables	Coef.	t	Coef.	t
CAEREM	-0.773	-2.97**	-0.789	-3.16**
CAECMOP	0.045	1.40	0.025	1.11
OBJECT	-1.117	-4.96**	-1.143	-4.52**
ACINDPN	-1.006	-3.88**	-0.992	-3.89**
ACEXPERT	-0.368	-2.55*	-0.371	-2.61*
BINDP	-0.815	-4.57**	-0.813	-4.27**
COMPSIZE	-0.410	-3.66**	-0.398	-3.58**
BIGFOURAUD	-0.329	-2.60*	-0.341	-2.64*
ROA	0.075	1.81	0.085	2.06*
LOSS	0.047	1.53	0.039	1.41
LEVRG	0.144	2.08*	0.148	2.33*
CAEREM*OBJECT	-1.335	-5.37**		
CAECOMP*OBJECT	0.026	0.83		
ACAPPROVALE			-0.650	-3.91**
CEOAPPROVAL			0.088	2.39*
Industry	Yes		Yes	
Year	Yes		Yes	
N	219		219	
P	< 0.001		< 0.001	
Adj. R^2	0.607		0.629	

5. Conclusions

This study has the main goal of examining the argument that CAE fixed remuneration enhances IA objectivity, and thus promotes greater FRQ. Taking as its data, the responses from a survey of CAEs, and the annual company reports from the organisations represented by those CAEs, the study finds that when the CAE is rewarded with fixed remuneration, there is an accompanying positive impact on FRQ. Additionally, it finds that IA objectivity when combined with CAE fixed remuneration has a positive effect upon FRQ. On the other hand, IA objectivity is itself impaired in situations where the CAE receives performance-based compensation. In these circumstances, FRQ suffers.

The findings also indicate that CEO approval of the remuneration and compensation has a negative impact on FRQ, and it also negatively affects FRQ through the reduction in IA objectivity that occurs as a result of the involvement of the CEO in approving financial reward. From the results obtained, it is possible to identify several contributions to the literature and implications for practitioners. Firstly, the study adds to our current appreciation of the influence brought by a policy of fixed remuneration to the eventual FRQ. Secondly, it contributes to the literature in the realms of AC approval of CAE remuneration and compensation by referring to the value of that strategy in diminishing the opportunities for conflicts of interest, and in upholding independence and objectivity of IA, both of which help to produce higher FRQ. Previous studies (e.g., Chen et al., 2017) have found a positive correlation between CAE performance-based compensation and audit fees, showing that external auditors rely less on IA in these circumstances, and thus charge more. Furthermore, it has been reported by Schneider (2003) that the objectivity of IAs is hampered when they are given a bonus according to the company's stock price since this practice may encourage IAs to take decisions in their own self-interest (DeZoort et al., 2000). The lack of confidence amongst external auditors springs from the belief that IA objectivity is likely to be impaired with the CEO approves CAE remuneration and compensation. Consequently, this study provides additional evidence of the effects of AC approval on CAE remuneration and compensation, and of how such approval increases the IAF's objectivity, and thus enhances FRQ. It also extends the existing literature by demonstrating the effects of the remuneration committee approval on CAE remuneration and compensation on FRQ. Further, the information obtained provides insight for policymakers, who can use the results to inform their deliberations about best practices and standards for IAs. The findings should also be of interest to the AC and the Remuneration Committee that are charged with determining the CAE remuneration.

Further, in considering the influence of CAE fixed remuneration on FRQ which is largely ignored in the literature, the study throws up insights regarding the comparative value of fixed and performance-based reward, which are important in the context of the potential effects upon FRQ.

Moreover, this study adds more evidence on the issue of remuneration in the UK, which is under-researched, as much of the work undertaken to date focuses on the US (e.g., Chen et al., 2017; DeZoort et al., 2001). In this addition, the study highlights IA practices in the UK, and produces insights for regulators, ACs, organisations generally, and IA as a profession, all of which is valuable in the development of the IA discipline.

At the same time, it should be noted that certain limitations exist within the study, the first being the measurement of CAE remuneration (fixed salary) and compensation (performance-based). In this study fixed salary and compensation based on company performance are dichotomous variables, and these measures (dichotomous variables) may not be good indicators of fixed salary and compensation. Questions related to the amount of compensation are difficult to ask of respondents, and they may avoid answering them. Therefore, dichotomous questions were asked rather than collecting data related to the amount of amount of compensation. Consequently, results of this study should be interpreted bearing in mind this particular shortcoming, but bearing in mind also that a small amount of compensation may not have the same effects as a large amount. Moreover, this study did not capture some other variables related to IA, for example IA competency and IA reporting line, both of which have been found in previous research to have an impact on FRQ.

Another limitation relates to the literature in as much as some of the latest ideas concerning the theory of compensation and performance that are coming from the discipline of business organisation and human resource management are not discussed in this paper. However, with the inclusion of these, the focus on IA remuneration and FRQ may be diluted, and this leaves the way open for a study which is slightly more nuanced, taking in the contemporary trends generally in the manner of reward for CAEs.

These limitations serve as areas for future study, in which respect IA remuneration might be used as a variable to investigate the relationship between that and the attraction of good quality IA staff, who are sufficiently professional to be above partisan actions which may be expected of general management. It would also be useful for future research to consider the individual performance of IAs, and the more general performance of the IA department. Although the remuneration committee was included in the additional analysis as a potential influencer of the strategy for approving the CAE remuneration, there was no focus on the remuneration committee membership, for example on whether this committee was 100% independent. Indeed, in some companies, the CEO may be a member of this committee. Clearly, future research could explore the situation in companies that have independent remuneration committees, and to consider whether CEO tenure as this may be more or less influential

according whether the CAEs were appointed prior to the current CEO's tenure.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Conflict of interests

The author declare no conflict of interests.

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