

Nonaudit services provided by incumbent auditors and earnings management: Evidence of auditor independence from an EU country *

La prestación de servicios de consultoría por los auditores y la manipulación del resultado: estudio de la independencia del auditor en un país de la UE

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ABSTRACT This paper examines whether the joint provision of audit and non-audit services undermines auditor independence by testing for an association between the provision of consulting services and auditor independence measured by discretionary accruals. For the most part, previous literature has studied the issue in countries with an Anglo-American business environment. This study analyzes the possible impairment of auditor independence in the context of a continental European Union country (Spain). A cross-sectional regression is estimated to test the relationship between non-audit fees and reporting quality. Based on publicly available information for Spanish listed companies, the evidence suggests that there is no statistically significant association between non-audit fees and earnings management. These findings are consistent with the idea that auditors' objectivity is not impaired by the joint provision of audit and non-audit services.

KEY WORDS Auditor independence; Spanish audit market; Non-audit fees; Disclosure of fees; Abnormal accruals; Financial reporting quality.

RESUMEN En este trabajo se examina si la prestación conjunta de servicios de auditoría y de otros servicios influye en la calidad del trabajo del auditor, analizando la posible relación entre la prestación de servicios de consultoría y la manipulación del resultado contable estimado en base a la magnitud de los ajustes por devengo discrecionales. Las investigaciones previas en este tema se han centrado principalmente en países con una cultura empresarial angloamericana. Este trabajo estudia el posible efecto de la prestación de servicios de consultoría en la independencia del auditor en un país continental de la Unión Europea (España). Para examinar la relación entre los importes satisfechos por servicios de consultoría y la calidad contable se ha recurrido a la estimación de una regresión de corte transversal aplicada a empresas españolas cotizadas. Los resultados obtenidos indican que no existe una relación estadísticamente significativa entre el gasto por servicios de consultoría y los ajustes por devengo discrecionales, por lo que la provisión de servicios adicionales a clientes de auditoría no representaría una amenaza para la independencia del auditor.

* **Acknowledgments:** The authors are grateful for the financial support to University of Valencia of Spain (Research Project UV-AE-24161) and to the Ministry of Science and Technology of Spain (Research Project ECO2009-14457-C04-04). And they gratefully acknowledge comments and suggestions from anonymous reviewers.

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PALABRAS CLAVE Independencia del auditor; Mercado de auditoría en España; Honorarios de consultoría; Información sobre honorarios; Ajustes por devengo anormales; Calidad de la información financiera.

1. INTRODUCTION

This paper aims to examine the effects of the provision of non-audit services to audit clients on auditor independence in the context of a Continental European country like Spain. In recent years, the changing blend of services audit firms provide to clients and the increasing fees charged for non-audit services (NAS) have intensified concerns about statutory auditor independence. This is a relevant question because of auditors' primary role in society as providers of opinions for reliable and relevant information. In addition, this question triggered some legal initiatives in the United States, like the enactment of the Sarbanes-Oxley Act (SOA, 2002), followed by legal reforms in other western countries to strengthen the credibility of financial information, with the ultimate goal of restoring investor confidence lost after some well-known company failures and scandals. Spain has gone along with this regulatory trend by limiting the range of additional consulting services auditors can provide to their customers. This is why it is appropriate to examine empirically whether the provision of additional services has an impact on auditor independence and, therefore, on the quality of financial reporting. Auditor independence is crucial for the credibility of published financial information and hence important for trust in the functioning of capital markets, not only for investors but also for other stakeholders such as creditors and employees.

Over the last decades, researchers have examined issues concerning auditor's provision of NAS. Most Certified Public Accountants (CPA) typically provide NAS such as tax, consulting and financial advisory services. For many CPA firms NAS provide an essential source of income which is originated, to a large extent, by audit clients. Public Accountants may benefit from the provision of NAS to audit clients. Some authors claim that NAS enhances the auditors' knowledge of the client, leading to a more efficient and effective audit (Simunic, 1984; Beck *et al.*, 1988). Other authors (Ryan *et al.*, 2001) argue that restricting NAS can inhibit the auditor's acquisition of task-specific knowledge capital, thereby reducing auditor competence and lowering audit quality. According to Albrecht and Sack (2000), limiting NAS will impact CPA firms' ability to hire and retain highly qualified individuals. However, even assuming these benefits, for CPA firms the value of NAS depends upon the cost/benefit tradeoff, with compromises in auditor independence as one of the most critical potential costs. For example, NAS creates an economic bond between auditor and client, which some claim can cause the auditor to lose objectivity.

The main objective of this paper is to study whether providing NAS undermines auditor independence by testing for an association between the NAS fees and income management. A large number of empirical studies have investigated the influence of NAS on auditor independence. However, most of these studies were performed in the Anglo-American business environment. Cultural, professional and economic differences between Anglo-American and Continental European countries encouraged our empirical investigation of the impact of NAS on auditor independence. In a highly litigious envi-

ronment like that of the USA and the UK (Francis, 2004), auditors are concerned that they may incur both monetary and reputational losses in the event of audit failure (Habib and Islam, 2007). Therefore, it is appealing to observe whether auditors are at all concerned about signaling their quality to the market by constraining clients' earnings management behavior in Continental European countries with negligible litigation risk like Spain (Mora *et al.*, 2004). A positive relationship between NAS fees and earnings management would imply that auditors become more vulnerable to client pressure as the level of NAS fees increases. However, failure to find any such relationship will support empirical evidence from recent studies that NAS provision does not make auditors more submissive to client wishes.

Thus, motivation for this paper comes from the fact that there is little previous empirical research on auditors' independence based on discretionary accruals in Spain, and because the aforementioned differences may actually lead to interesting results. In addition, we take prior studies' mixed results (discussed in the literature review) as an incentive for our research. Furthermore, it is clear that the appropriateness of auditor-provided NAS continues to be controversial and regarded with distrust by regulators. Consequently, it is imperative that ongoing research facilitates well-informed policymaking with respect to the costs and benefits of restricting the scope of NAS to audit clients. Our study complements the empirical evidence found for Spain by Ruiz Barbadillo *et al.* (2006), Monterrey and Sanchez-Segura (2007), and De Fuentes and Pucheta-Martinez (2009), and provides results in somewhat similar but different approach, methodology and time frame.

In our study we take the absolute value of discretionary accruals, that is, the accounting items with no cash compensation (such as depreciations, allowances or inventories) that may be manipulated to obtain the desired accounting outcome. Accordingly, we share the idea, prevalent in the literature, that discretionary accruals is the best proxy for the auditor's degree of tolerance for clients' questionable accounting choices. Our analysis' time frame is likely to be more significant than previous research performed over earlier and shorter time periods as it covers a five-year period (2005-2009) over which most developed countries have experienced a serious economic downturn and financial markets have become rather volatile.

The findings of our research indicate that the weak negative association existing between non-audit fees and discretionary accruals is not statistically significant. Consequently, there is no evidence that auditors' independence is undermined by the provision of NAS to audit clients. The results of our research and previous studies should help regulators define the appropriate legal framework for the provision of NAS.

The remainder of this paper is organized as follows. In the following section the current legal framework both in Spain and the EU is discussed. Then, the literature on the association of NAS to auditor independence is reviewed and the hypothesis is stated. Next, in the research design section, the variables, the model specification, and the data characteristics are discussed. After that, empirical results are explained and a sensitive analysis is performed. Finally, the main conclusions of our study are put forward.

2. THE LEGAL FRAMEWORK IN SPAIN AND THE EU

Over the years, regulators have taken actions in response to concerns over the provision of NAS by auditors. A primary function of auditor independence regulation is to ensure that any financial incentives auditors may have to approve misleading or inaccurate accounting are outweighed by market and regulatory deterrents to compromising an auditor's independence. These concerns were tackled by the 2002 European Union Recommendation on auditor independence (European Commission, 2002). The tenet of this Recommendation was that an auditor should not carry out a statutory audit if there is a financial interest, business, employment or other relationship, including the provision of NAS, with the audit client entity that might threaten audit firm's independence.

Then, to conform with the EU Recommendation, the 2002 Public Accounting Act ⁽¹⁾ (Ley 44/2002) was passed in Spain. The new law required CPA firms to report to the Accounting and Auditing Institute (ICAC) ⁽²⁾ the hours and fees billed to each client, including separate disclosure of audit and NAS. Also, the 2002 Act requires audited companies to include in their annual report the separate disclosure of audit and non-audit fees paid to CPA and associated firms.

The EU took further step to develop the legal framework with the enactment of the Directive 2006/43/EC which required auditors to consider independence threats and risks, as well as the safeguards for mitigating those risks, for each audit engagement. Thus, the legal framework identifies a series of threats to independence and the corresponding safeguards which can be put in place to reduce the independence risk to an acceptable level. Accordingly, auditors should constantly apply safeguards against threats to their independence in order to remain and be seen as independent. The Directive also addresses specific circumstances in the application of the principles-based approach for situations and relationships where auditor independence may be frequently compromised.

Currently, with the recent passing of the Amendment to the Public Accounting Act (Ley 12/2010), Spain complies with the European Union legal framework covering the system of threats and safeguards as well as the set of specific circumstances under which audit engagements are not allowed.

With regard to supervision of CPA firms, it has been performed by institutions of different nature across countries. In Spain, government supervision of public accountant activities has been in place since the enactment of the first Public Accounting Act in 1988. Indeed, motivation for this study comes partly from Spain's distinctive legal framework where control and supervision activities have been traditionally performed by ICAC, a

(1) This Act was passed in response to a number of financial scandals that caused great concern in the international business environment (Enron, Worldcom, Parmalat...) and it attempted to recover economic agents' trust on financial markets. The act also included specific measures such as the requirement for audit team heads to take turns; the setting up of an auditing committee for listed firms; and the extension of the auditors' incompatibilities based on potential conflicts of interest.

(2) ICAC: short for Instituto de Contabilidad y Auditoría de Cuentas.

government institute. Conversely, other western countries had professional associations carry out such regulatory activities.

To better understand the implications of the new legal framework it is essential to know the aforementioned EU Directive 2006/43/EC. All EU countries have been requested to implement a supervision system, alike the one that operated in Spain for the last two decades, in which monitoring activities are carried out by an independent government body. In other EU countries, as well as in the USA, supervision had been traditionally performed by CPA-supported associations, organizations or institutions on the basis of the self-regulation principle. This sort of self-regulation typically covered all matters dealing with public accountant professional development and certification, auditing procedures standardization, work ethics code, and disciplinary proceedings. However, as a result of the last two decades' financial scandals and scams, the efficacy of the self-regulation approach has been questioned.

Therefore, in recent years, a number of governments have gradually retrieved the regulation and supervision functions that were once performed by CPA-controlled institutions. For instance, the aforementioned SOA left public accountants without the shield of its CPA-supported organizations in the USA. Indeed, the Public Company Accounting Oversight Board (PCAOB) was established under the command of the Securities and Exchange Commission (SEC). All things considered, the government goals are to safeguard the functioning of CPA firms and the service of the general interest that public accountants are supposed to fulfill.

3. LITERATURE REVIEW AND HIPOTHESIS

The provision of NAS and its potential threat to the auditors' independence has been examined from different perspectives. The early literature took a behavioural approach. This literature principally surveyed auditors' and third parties' perceptions of the effects of NAS on auditors' independence. The results of this literature indicate diverging perceptions with auditors generally perceiving little or no conflict while third parties perceive threats to audit independence (Schulte, 1965; Titard, 1971; Hartley and Ross, 1972; Shokley, 1981; Pany and Reckers, 1983 and 1984; Knapp, 1985; and Gul, 1991). However, the results of this literature are not compelling because of potential internal validity threats (Schulte, 1965; Pany and Reckers, 1988; and Gul and Windsor, 1994).

Even though it is generally accepted that all fees, audit and non-audit, create economic bonds between auditor and client, debate has typically alleged that the provision of NAS gives incentives for audit firms to allow the clients questionable accounting practices, consequently reducing auditor independence and eventually the quality of financial reporting. According to Ruddock and Taylor (2005), the provision of NAS has been the focus of most recent attention, reflecting the widely accepted view that NAS services are provided at a higher profit margin than audit services.

In his review of the extant literature about conflicts of interest arising between auditor and client, Nelson (2004) subdivides research studies primarily along with the dependent variable they apply, more specifically: abnormal accruals, earnings restatements,

audit outcomes and audit adjustments. Since this paper aims to investigate whether auditors allow more discretionary accruals with the increase in NAS fees, this review primarily focuses on behavior of discretionary accruals.

Evidence of a positive association between the absolute value of a firm's abnormal accruals and the NAS is found by Frankel *et al.* (2002). They understand this connection as evidence that auditors are more willing to tolerate clients' aggressive reporting when the clients pay higher NAS fees to auditors. However, their findings were challenged by Ashbaugh *et al.* (2003). They questioned the use of the fee ratio as the dependent variable in the regression model and instead suggested that the total fee is a more appropriate measure of the auditor-client economic bond. They also argue that since Frankel *et al.* (2002) do not adjust the discretionary accruals for past performance, their earnings management proxy results in a biased estimate of the actual intensity of earnings management. After adjusting for these shortcomings in Frankel *et al.*, Ashbaugh *et al.*, (2003) fail to find any relationship between earnings management and non-audit fees. Chung and Kallapur (2003) argue that auditors' incentives to compromise their independence should be related to the economic theory of auditor independence. They proxy client importance as the ratio of client fees and NAS fees divided by audit firm's revenue whilst earnings management is proxied by Jones (1991) abnormal accruals model. They also fail to find any statistically significant relationship between abnormal accruals and the proxy for client importance.

A major constraint of the preceding studies is the assumption of non-endogeneity between the provision of NAS and earnings management. After controlling for the effect of endogeneity among audit fees, NAS fees and earnings management proxy, Antle *et al.* (2006) fail to find support for the hypothesis that higher level of NAS fees reduces financial reporting quality. On the contrary, they find that higher level of NAS actually decreases abnormal accruals. Larcker and Richardson (2004) claim that the failure to find any relation between NAS and earnings management is due to pooled samples estimation which assumes that a single model describes the relation between the provision of NAS and accrual choices by management. They employ «latent class models» that enable them to identify whether the association varies for particular clusters and find that only about 20 percent firms of the total sample exhibits a statistically positive association between non audit fees and accruals.

Gore *et al* (2001) provide evidence that, in the UK context, when the provision of non-audit services is relatively high, smaller auditors (then non-Big 5) are less able to resist to aggressive accounting by their clients. They use three earnings benchmark, namely: avoid losses; report small earnings increase and meet analysts' forecasts. They find evidence that earnings increases is positively associated with the ratio of NAS fees to total fees for non-Big 5 auditors but not for Big 5 auditors. However, with respect to «meet analysts' forecasts», earnings management activity varies positively for both Big 5 and non-Big 5 auditors. Francis and Ke (2006) empirically examine whether fee disclosures mandated by the Securities and Exchange Commission (SEC) in November 2000 represent new information to investors to reevaluate auditor independence and hypothesize that investors will assign lower valuation multiple to the earnings of firms with high

non-audit fees. Further, they hypothesize that the post-disclosure negative shift in the market response to earnings surprises is driven by firms with higher magnitude of accruals. Their results provide evidence consistent with these hypotheses.

In general, the review of the literature suggests that the provision of NAS does not impair financial reporting quality. In a litigious environment like that of the USA, auditors are expected to constrain aggressive financial reporting because of the high cost of litigation in the event of audit failure. Nelson (2004) argues that «incentives to thwart aggressive reporting are provided by the threat of litigation, reputation loss that reduces audit firm's ability to attract clients and maintain higher fees for audit services, professional censuring by (auditing governing bodies) loss of position, and potential loss of partnership capital and retirement payouts.» Since Spain does not have such a litigious environment regarding investor protection, auditors may allow managers' questionable accounting policies in order to attract and retain clients, as well as their potential interest in obtaining future employment with clients (Habib and Islam, 2007).

The mixed picture we get from the literature review suggests this is a research question that remains open and requires additional work. We hope that studying the association between NAS fees and financial reporting quality in a Continental European country, with a different business environment from that of Anglo-American countries, may shed some light on the subject matter.

In our view, discretionary accruals are a more appropriate measure of reporting quality as compared to other choices available in the literature such as litigation against auditors (Heninger, 2001), auditor change (DeFond and Subramanyam, 1998), any sort of audit reporting qualifications (Bartov *et al.*, 2000) or going concern (DeFond *et al.*, 2002; Geiger and Raghunandan, 2002; and Ruiz Barbadillo *et al.*, 2006). As mentioned above, we understand that the absolute value of discretionary accruals is the right proxy for income management (Warfield *et al.*, 1995; Monterrey and Sánchez-Segura, 2007; or Choi and Lee, 2009). Thus, as the level of NAS provided increases, the auditor may become more tolerant to clients' dubious accounting practices because of the possibility of losing the high levels of lucrative NAS fees. Therefore, we hypothesize that:

High levels of non-audit fees provide incentives to auditors for allowing management to report either overstated or understated earnings.

4. RESEARCH DESIGN

Examination of the extent of any relation between the supply of NAS and auditor independence requires an empirical proxy for the effect of reduced independence (Ruddock and Taylor, 2005; and Choi and Lee, 2009). Earnings management measured by abnormal (or discretionary) accruals is used as a proxy for the effect of reduced independence in this study. In the literature there is a large number of studies that attempt to identify discretionary accruals based on the relation between total accruals and hypothesized explanatory variables (see McNichols, 2000 for the summary of earnings management studies). The most frequently used methods are the Jones (1991) model and the modified-Jones model (Dechow *et al.*, 1995). Both methods involve estimating parameters

for normal accrual activity by regressing a measure of accounting accruals on proxies for normal business activity. These estimated normal accrual parameters are then combined with current total accrual data to estimate unexpected accrual activity (abnormal accruals).

We have specifically estimated abnormal accruals using extant discretionary accruals models (Jones, 1991; Dechow *et al.*, 1995 and Kothari *et al.*, 2005). Dechow *et al.* (1995) present evidence that the modified-Jones model is more powerful at detecting sales-based manipulations than the original Jones (1991) model. Therefore, to measure the discretionary component of current total accruals (*TACR*), *TACR* is estimated first using the model:

$$TACR = (\Delta CA - \Delta cash) - (\Delta CL - \Delta STD) - depreciation \quad (1)$$

Where ΔCA is change in current assets, ΔCL is change in current liabilities, $\Delta cash$ is change in cash and cash equivalents, and ΔSTD is change in short-term debt included in current liabilities. After the calculation of *TACR*, the model parameters are estimated with the following cross-sectional OLS regression by each one-letter CNAE 2009⁽³⁾ code partition and year combination. Industry year portfolios with less than five observations are excluded from the analysis:

$$\frac{TACR_t}{TA_{t-1}} = \alpha_1 \frac{1}{TA_{t-1}} + \beta_1 \frac{(\Delta REV_t - \Delta REC_t)}{TA_{t-1}} + \beta_2 \frac{PPE_t}{TA_{t-1}} + \beta_3 \frac{ROA_{t-1}}{TA_{t-1}} + \varepsilon_t \quad (2)$$

For estimation purposes and to mitigate the concern of heteroscedasticity, all the variables are deflated by lagged total assets. $TACR_t$ is total accruals for firm *i* in a given year, ΔREV_t is the change in revenue for firm, ΔREC_t is the change in receivables during the year in question and PPE_t is property, plant and equipment for firm. Extant discretionary accruals models include changes in sales as an explanatory variable in a discretionary accrual regression model to forecast all of the firm's non-discretionary accruals related to sales. Additionally, to control for unusual past performance, lagged return-on-assets (ROA_{t-1}) is incorporated in the total accruals estimation model. Kothari *et al.* (2005) report that matching on lagged *ROA*, as opposed to contemporaneous *ROA*, eliminates any mechanical relation between current period's discretionary accruals estimate and the performance metric. Ashbaugh *et al.* (2003) and Habib and Islam (2007), too, include lagged *ROA*. Thus, our measure of discretionary accruals adjusts for firm performance by including the variable lagged *ROA* for firm performance in the regression model used to estimate discretionary accruals. The advantage of including lagged *ROA* in the estimation of discretionary accruals is that it allows for the association between firm performance and accruals to differ across industries. For each-year and for each group of industries, α_1 , β_1 , β_2 and β_3 are the regression coefficients, ε_t and is the regression residual.

(3) New National Classification of Economic Activities of Spain. This classification is similar to SIC List (Standard Industrial Classification Codes).

We use the parameter estimates from Equation (2) to calculate expected total accruals estimated with a performance control (*ETACR*):

$$\frac{ETACR_t}{TA_{t-1}} = \hat{\alpha}_i \frac{1}{TA_{t-1}} + \hat{\beta}_1 \frac{(\Delta REV_t - \Delta REC_t)}{TA_{t-1}} + \hat{\beta}_2 \frac{PPE_t}{TA_{t-1}} + \hat{\beta}_3 \frac{ROA_{t-1}}{TA_{t-1}} \quad (3)$$

Where are $\hat{\alpha}_i$; $\hat{\beta}_1$; $\hat{\beta}_2$ and $\hat{\beta}_3$ the OLS regression estimates for each industry and year, of α_i ; β_1 ; β_2 and β_3 respectively, obtained from equation (2).

Performance adjusted abnormal accruals (*AA*) are equal to *TACR* minus *ETACR*, that is, the accrual prediction error of the model (2):

$$\frac{AA_t}{TA_{t-1}} = \frac{TACR_t}{TA_{t-1}} - \frac{ETACR_t}{TA_{t-1}} \quad (4)$$

4.1. VARIABLES

The model we use to examine the association between non-audit fees and financial reporting quality is a cross-sectional regression. This allows maximizing our sample size while avoiding the survivorship bias problem inherent in the use of a firm-specific time-series approach (DeFond *et al.*, 2002; and Peasnell *et al.*, 2005).

Dependent variable. Performance adjusted abnormal (or discretionary) accruals (*AA*), calculated for each group of industries and for each year. This information was obtained through the described process in the above section. The consideration of this proxy for audit independence is consistent with DeFond *et al.* 2002, Ashbaugh *et al.* (2003), Choi and Lee (2009) or Habib and Islam (2007).

A question that requires to be addressed is whether to use signed or absolute abnormal accruals in the regression estimates. Because high non-audit fees is alleged to provide incentives to auditors for allowing management to decrease financial reporting quality by influencing earnings, signed instead of absolute *AA* may be a better measure to capture the effect of non-audit fees on financial reporting quality. However, since there are concerns about «cookie-jar accounting» implying that firms manage earnings downward as well as upward, the absolute value of abnormal accruals has also been used as a dependent variable in analogous studies. Thus, we report the results of tests using this latter measure. Accordingly, we understand absolute *AA* instead of signed *AA* is a better measure to capture the effect of non-audit fees on financial reporting quality (Chung and Kallapur, 2003; Monterrey and Sánchez-Segura, 2007; or Choi and Lee, 2009).

Independent experimental variable. The euro amount paid to auditors for non-audit fees or other services (*NAF*) is the experimental variable. This continuous variable was transformed to the natural log (*LNAF*) to ensure a better fit to the regression model. This technique is consistent with similar transformations performed by other authors (Firth, 2002; Li *et al.*, 2006; Habib and Islam, 2007; or Choi and Lee, 2009).

The aforementioned Spanish Accounting Regulations require companies to disclose separately, in the notes to the accounts, details of audit fees and other fees paid to CPA and associated firms. Thus, in Spain fees paid to auditors are reported in the companies' annual reports.

Independent control variables. In order to examine the non-audit fees effects associated with financial reporting quality, it is deemed appropriate to control other variables that have been identified in previous research as affecting financial reporting quality (e.g. Craswell, 1999; Sharma and Sidhu, 2001; Firth, 2002; Ashbaugh *et al.*, 2003; Li *et al.*, 2006; Monterrey and Sánchez-Segura, 2007; Habib and Islam, 2007; or Choi and Lee, 2009). These were:

- *Audit fees*, the euro amount paid to auditors for audit. This variable was transformed to the natural log of audit fees paid to auditors (*LAF*). It is hypothesized that audit fees increase as the likelihood of earnings managements increases (Abbott *et al.*, 2006 and Choi and Lee, 2009).
- *Total assets (TA)*, as a measure of the size of the company. The absolute euro value of total assets is transformed by the natural log (*LTA*). Higher audit risk suggests that large firms would make less accounting choices as an answer to lower auditor permissiveness (Reynolds and Francis, 2001). However, larger firms would have greater capacity to generate accruals.
- *Growth in sales (GROWTH)*, measured as sales of current year minus sales of previous year, deflated by lagged sales. Firms with more growth potential are expected to make more accruals and hence discretionary accruals choices. Growth prospects are associated with management discretion on earnings (Matsumoto, 2002).
- *Asset composition*, expressed as current assets divided by total assets (*CATA*). The ratio of current assets to total assets measures the relative investment in current assets. This variable has been used to control the effect that may be associated with the importance of current assets.
- *Debt composition or leverage*, defined as long term debt divided by total assets (*LTDTA*). Clients with a high ratio of long-term debt to total assets may have more volatile earnings and this can lead to higher management discretion on earnings. Firms with greater debts should present lower accounting quality. It is a measure of leverage risk or companies' financial risk used in previous research by Firth (2002) and Li *et al.* (2006) or Choi and Lee, 2009.
- *Ratio of earnings before interest and taxes to total assets (EBITTA)*. A measure of control for firm performance is included as suggested by extant literature (e.g. Habib and Islam, 2007 or Choi and Lee, 2009).
- *Net profit (LOSS)* is a dummy variable coded one (1) if net profit is less than zero in the current year, otherwise it is coded zero (0). This variable is used to test whether managers' incentives to manage earnings are affected if the firm is reporting a loss during the year.
- *Previous year return on assets (PROA)*, defined as previous year net income before extraordinary items divided by average assets for the period (previous year). As noted by

Chung and Kallapur (2003), we do not include current year *ROA* because any earnings managements would affect current year *ROA* and accruals and therefore remove the effect of interest. Including the previous year' *ROA* in the estimation of expected accruals allows controlling for performance in the regression model (Ashbaugh *et al.*, 2003).

- *Audit Firm (BIG4)* is a dummy variable taking the value one (1) if the auditor is one the Big Four firms; otherwise *BIG4* is set equal to zero (0). This dummy variable has been used as a measure for audit quality, because Big 4 auditors are considered to be higher quality service providers. This is consistent with Firth (2002), Li *et al* (2006) and Choi and Lee (2009).
- *Year qualification (YQL)* is an indicator representing the unqualified audit opinion. It is a dummy variable coded one (1) if company obtained a qualified opinion, otherwise *YQL* is coded zero (0). Among other authors, Craswell (1999) and Choi and Lee (2009) points out the importance of qualification as a significant predictor.
- *Change in net income (NETINC)*, measured as net income of current year minus net income of previous year, deflated by net income. Bartov *et al* (2000) and DeFond *et al* (2002) observed that firms with more net income variation are expected to make more accruals and hence discretionary accruals choices.
- *Absolute value of total accruals (|TACR|)* is included as an additional explanatory variable in the regression model. This variable, scaled by beginning of year total assets, is incorporated to control for the possibility that firms with larger *|TACR|* also have larger *AA* (Ashbaugh *et al.*, 2003; and Habib and Islam, 2007).
- *Industry indicators (INDUSTDUM)* are incorporated as dummies variables to control for cross industry differences, taking the value 1 if the firm belongs to industry *i*, and 0 otherwise. The dummies correspond to the following groups of one-letter CNAE 2009 code partition: C, F, J and M⁽⁴⁾:
 - (1) *INDUSTDUM₁*, manufacturing company (1), or other (0);
 - (2) *INDUSTDUM₂*, construction (1), or other (0);
 - (3) *INDUSTDUM₃*, information and communications (1), or other (0), and
 - (4) *INDUSTDUM₄*, professional, scientific and technical activities (1), or other (0).

Therefore *AA* is modeled as a function of the amount paid to auditors for non-audit fees or other services (*LNAF*), the amount paid to auditors for audit fees services (*LAF*), the size of the company (*LTA*), the potential firm growth (*GROWTH*), asset composition (*CATA*), financial risk or leverage (*LTDITA*), company profitability (*EBITTA*, *LOSS* and *PROA*), Big Four status of the auditor (*BIG4*), audit report qualification (*YQL*), change in net income (*NETINC*), absolute value of total accruals (*|TACR|*) and industry indicators (*INDUSTDUM*). Variables are included in the model to control for cross-sectional differences in factors that are assumed to be associated with the underlying causes that give rise to a financial reporting problem. We hypothesize that high non-audit fees provide incentives to auditors for allowing management to report inflated or deflated earnings by booking income-manipulation (discretionary accruals).

(4) For the purpose of this model, the original 21 one-letter CNAE 2009 industries classification has been reduced to the number of groups with at least five observations per year.

4.2. MODEL SPECIFICATION

We examine the relationship between non-audit fees and financial reporting quality by estimating the following cross-sectional regression model for the period 2005-2009:

$$|AA| = \alpha + \beta_1 LNAF + \beta_2 LAF + \beta_3 LTA + \beta_4 GROWTH + \beta_5 CATA + \beta_6 LTDTA + \beta_7 EBITTA + \beta_8 LOSS + \beta_9 PROA + \beta_{10} BIG4 + \beta_{11} YQL + \beta_{12} NETINC + \beta_{13} |TACR| + \sum_{i=2}^4 \gamma_i INDUSTDUM + e \quad (5)$$

Where:

$|AA|$ = absolute abnormal accruals calculated for each year and for each group of industries, deflated by TA_{t-1}

$LNAF$ = natural log of total non-audit fees.

LAF = natural log of total audit fees.

LTA = natural log of total assets.

$GROWTH$ = growth in sales, measured as $(sales_t - sales_{t-1}) / sales_{t-1}$.

$CATA$ = current assets divided by total assets.

$LTDTA$ = long-term debt divided by total assets.

$EBITTA$ = ratio of earnings before interest and taxes to total assets.

$LOSS$ = a dummy variable, coded one (1) if net profit is less than zero, otherwise it is coded zero (0).

$PROA$ = previous year return on assets.

$BIG4$ = the auditor indicator variable (dummy variable), taking the value one (1) if the auditor is one of the Big Four firms, otherwise it is set equal to zero (0).

YQL = a dummy variable coded one (1) if audit report in current year is qualified; otherwise it takes the value zero (0).

$NETINC$ = change in net income, measured as $(net\ income_t - net\ income_{t-1}) / net\ income_{t-1}$.

$|TACR|$ = the absolute value of total accruals, scaled by beginning of year total assets.

$INDUSTDUM$ = dummy variables to control for cross industry differences.

In evaluating a listing of companies on the Spanish stock exchange, four major classifications can be identified (excluding financial and related companies), as described above⁽⁵⁾: (1) manufacturing companies, (2) construction, (3) information and communications, and (4) professional, scientific and technical activities. As these four categories are dummy variables in a regression, it is necessary to include three categories having a (0, 1) value. The three categories included were $INDUSTDUM_2$, $INDUSTDUM_3$ and $INDUSTDUM_4$. The information content associated with the fourth industry category (manufacturing companies) is included in the constant (α) as four dummy variables would introduce the problem of perfect correlation, with the value of the four variables summing to one.

(5) CNAE 2009 industries classification has been reduced to the number of groups with at least five observations per year.

The model used in this study contains mainly accounting based variables and, as noted above, the variables are assumed to be associated with the underlying factors that give rise to financial reporting quality problems.

Abnormal accruals may be more likely if the client non-audit fee represents a large share of the auditing firm's total fee income (audit and non-audit fee). High consultancy fees derived from client companies may provide incentives to auditors for allowing management to report manipulated earnings by booking income-increasing discretionary accruals. In order to study this factor, the experimental variable *LNAF* is included in the regression model. Because a large non-audit fee may jeopardize independence, a positive coefficient is hypothesized for *LNAF*. The model tests whether high abnormal accruals are positively related to auditor-provided consultancy services (a positive coefficient of β_1) after controlling for other potential explanatory factors.

4.3. DATA SET

The fees information (audit and consultancy), audit firm and audit opinion were hand collected from footnotes disclosures of the annual financial reports of listed companies in Spain from the year 2005 to 2009, which are filed with the CNMV⁽⁶⁾. Spanish companies have to report fee data since 2002. The CNMV Registration Files contain information on all Spanish listed companies. The accounting and financial data were collected from SABI (*Bureau Van Dijk*)⁽⁷⁾ database for the same period. All companies but those belonging to the financial industry were selected. Financial firms are excluded as the structure of their operations and their financial statements are very different from other companies'; indeed, banking companies are typically barred in similar audit studies. Besides, discretionary accruals of financial firms might not be meaningful for them. In deciding which years to analyze, the last years with annual accounts lodged were considered. The initial sample for this study consists of 565 firm-year observations for the abovementioned period. Calculations of accruals require lagged information on many variables and missing lagged values reduces the sample by 24 observations. Finally, calculation of discretionary accruals for each industry and year combination further reduces the sample by 194 observations because each industry is required to have more than five observations to conduct meaningful regression estimate. The final sample consists of 347 firm-year observations from 2005 to 2009. This selection covers a large proportion of Spain businesses. The large number of observations, and the fact that part of the information used has been taken directly from externally verified published financial reports, should significantly increase the confidence that can be placed in the results.

Our 347 final sample firms belong to 4 different industries (one-letter CNAE 2009 codes). Calculation of discretionary accruals for each industry and year combination requires having more than five observations for meaningful regression estimation purposes:

- Manufacturing company (C letter).

(6) CNMV: Comisión Nacional del Mercado de Valores. In English, National Securities Exchange Commission.

(7) SABI: Sistema de Análisis de Balances Ibéricos. In English, Balance Sheet Analysis System for Iberian Companies.

- Construction (F letter).
- Information and communications (J letter).
- Professional, scientific and technical activities (M letter).

5. RESULTS

5.1. DESCRIPTIVE STATISTICS

A summary of descriptive statistics for the variables used in the subsequent regression analysis is presented in table 1. The experimental independent variable *LNAF* is the natural logarithm of non-audit fees. However, since roughly 27 percent of the firm-year observations report zero non-audit fees, a cent of euro (0.01€) was assigned to zero non-audit fees observations for log transformation. Table 1 shows means, medians, standard deviations and first and third quartiles. Eighty three percent of total firm-year observations are audited by audit firms having an international scope (*BIG4*). Mean and median *LTDTA* are 21 and 14 percent, respectively, while median *GROWTH* rate in sales is 5.4 percent. As mentioned above, we classify firms according to one-letter CNAE 2009 industry code partition and year combination; and industry year portfolios with less than five observations are excluded from the analysis. The resulting firms represent a sufficient wide range of industries for the purposes of this study: 44.8 percent of the total firm-year observations come from manufacturing industry, 31.5 percent from construction industry (*INDUSTDUM₂*), 15.6 percent from professional, scientific and technical activities (*INDUSTDUM₄*), and only 8.1 percent from information and communications companies (*INDUSTDUM₃*).

About 24 percent of sample firms are reporting a loss during the year, and about 14 percent of sample firms obtained a qualified audit report. Median value of absolute total accruals, scaled by beginning of year total assets, is 0.06. The mean and median of the ratio *EBITTA* are 0.03 and 0.02, respectively.

TABLE 1
SUMMARY DESCRIPTIVE STATISTICS OF DATA

Variable ^a	Mean	Median ^b	Q1 ^b	Std. Dev. ^b	Q3 ^b
[AA]	.214	.076	.029	.607	.193
LNAF	1.76	2.833	-2.302	3.522	4.913
LAF	4.344	4.407	3.520	1.243	5.170
LTA	12.812	12.629	11.627	1.890	13.976
GROWTH	66.141	.054	-.133	1202.928	.238
CATA	.440	.445	.201	.271	.640
LTDTA	.206	.139	.032	.215	.329
EBITTA	.031	.018	-.009	.1531	.063
LOSS	.237	.	.	.	.
PROA	3.957	3.830	.280	14.303	8.150
BIG4	.834	.	.	.	.
YQL	.149	.	.	.	.
NETINC	.901	-.004	-.6226	37.391	.559

(Continue in next page)

TABLE 1 (CONT.)
 SUMMARY DESCRIPTIVE STATISTICS OF DATA

|TACR|	.221	.064	.024	.953	.156
INDUSTDUM ₂	.315	.	.	.	.
INDUSTDUM ₃	.081	.	.	.	.
INDUSTDUM ₄	.156	.	.	.	.

Notes: a) Sample size (n): 347; b) Medians, standard deviations and quartiles omitted for dichotomous valued variables.

|AA| = absolute value of performance adjusted abnormal accruals calculated for each year and for each group of industries, deflated by TA_{t-1}

LNAF = natural log of non-audit fees.

LAF = natural log of audit fees.

LTA = natural log of total assets.

GROWTH = growth in sales and is measured as $(sales_t - sales_{t-1}) / sales_{t-1}$.

CATA = current assets divided by total assets.

LTDTA = long-term debt divided by total assets.

EBITTA = ratio of earnings before interest and taxes to total assets.

LOSS = a dummy variable, coded one (1) if net profit is less than zero, otherwise it is coded zero (0).

PROA = previous year return on assets.

BIG4 = the auditor indicator variable (dummy variable), taking the value one (1) if the auditor is one of the Big Four firms, otherwise it is set equal to zero (0).

YQL = a dummy variable coded one (1) if audit report in current year is qualified; otherwise it takes the value zero (0).

NETINC = change in net income and is measured as $(net\ income_t - net\ income_{t-1}) / net\ income_{t-1}$

|TACR| = the absolute value of total accruals, scaled by beginning of year total assets.

INDUSTDUM = dummies variables to control for cross industry differences.

5.2. REGRESSION RESULTS

This section presents multivariate regression results for the determinants of performance adjusted abnormal accruals in Spain, which have been used as a proxy of financial reporting quality. The relationship between discretionary accruals and the amount of non-audit fees was investigated by cross-sectional OLS regression, with the dependent variable being the performance adjusted abnormal accruals. Because correlations among the variables could generate regression results distortions (by biasing coefficients, statistical significances, and even directional signs) this potential problem must be analyzed. The correlation matrix for the independent variables is showed in table 2, which indicates multicollinearity is not a major impediment to interpreting the regression results of the specified OLS model. In general, the correlations are quite low. The highest correlation, as an absolute value, is 0.73 between *LAF* and *LTA* and the second highest is 0.59 between *LNAF* and *LTA*. Judge *et al* (1988) and Gujarati (1995) state that correlations below absolute 0.80 should not be too harmful as regards multicollinearity. Furthermore, Hosmer and Lemeshow (2000) argue that all theoretically relevant variables should be included in a logistic regression model unless their colinearity is extreme. Variance inflation factors and condition indices also imply that multicollinearity is not a major problem. Therefore, standard interpretation of the regression coefficients can be made.

The results of the OLS regression of the equation (5) testing the relation between non-audit fees and discretionary accruals are shown in Table 3. *AA* are treated as

the dependent variable and *LNAF* is used as the primary independent variable with other control variables. Adjusted R-squared value of the linear regression model is 50.92%, which is quite good. Results show that there is no significant relationship between non-audit fees and discretionary accruals when *LNAF* is used as the experimental variable. Furthermore, the coefficient on *LNAF* becomes negative, suggesting that as the total of *NAF* increase, earnings management do not change; although the coefficient is not statistically significant at the conventional level (0.925). Hence, the concern that the provision of non-audit services impairs auditor independence is unwarranted.

TABLE 2
CORRELATION MATRIX OF INDEPENDENT VARIABLES

	<i>LNAF</i>	<i>LAF</i>	<i>LTA</i>	<i>GROWT</i>	<i>CATA</i>	<i>LTDTA</i>	<i>EBITTA</i>	<i>LOSS</i>
<i>LNAF</i>	1.000							
<i>LAF</i>	0.555	1.000						
<i>LTA</i>	0.592	0.730	1.000					
<i>GROWTH</i>	0.064	0.061	0.064	1.000				
<i>CATA</i>	-0.166	-0.109	-0.248	0.086	1.000			
<i>LTDTA</i>	0.178	0.118	0.345	0.090	-0.335	1.000		
<i>EBITTA</i>	0.093	0.118	0.105	-0.013	0.126	-0.263	1.000	
<i>LOSS</i>	-0.057	-0.041	-0.057	-0.029	-0.071	0.102	-0.441	1.000
<i>PROA</i>	0.048	0.109	0.126	-0.007	0.057	-0.219	0.582	-0.410
<i>BIG4</i>	0.364	0.441	0.372	0.024	-0.160	0.012	0.141	-0.086
<i>YQL</i>	-0.028	0.000	0.003	-0.021	0.080	0.160	-0.301	0.450
<i>NETINC</i>	0.020	-0.040	-0.012	0.002	-0.037	0.027	0.014	-0.030
<i>|TACR|</i>	-0.040	-0.003	0.025	0.000	0.189	-0.022	-0.003	0.036
<i>INDUSTDUM₂</i>	-0.063	0.072	0.282	0.075	0.159	0.212	-0.039	0.093
<i>INDUSTDUM₃</i>	0.301	0.293	0.267	-0.016	-0.093	-0.038	0.221	-0.103
<i>INDUSTDUM₄</i>	-0.000	-0.186	-0.229	-0.017	0.072	-0.154	-0.093	-0.001
	<i>PROA</i>	<i>BIG4</i>	<i>YQL</i>	<i>NETINC</i>	<i>|TACR|</i>	<i>INDUSTDUM₂</i>	<i>INDUSTDUM₃</i>	<i>INDUSTDUM₄</i>
<i>PROA</i>	1.000							
<i>BIG4</i>	0.130	1.000						
<i>YQL</i>	-0.334	-0.080	1.000					
<i>NETINC</i>	0.001	0.018	0.030	1.000				
<i>|TACR|</i>	-0.038	0.003	-0.013	0.003	1.000			
<i>INDUSTDUM₂</i>	-0.060	-0.026	0.211	0.030	0.169	1.000		
<i>INDUSTDUM₃</i>	0.191	0.137	-0.021	-0.008	-0.047	-0.218	1.000	
<i>INDUSTDUM₄</i>	-0.061	-0.103	-0.144	-0.099	-0.003	-0.273	-0.118	1.000

Notes: *LNAF*: natural log of non-audit fees; *LAF*: natural log of audit fees; *LTA*: natural log of total assets; *GROWTH*: growth in sales and is measured as $\text{sales}_{i,t} - \text{sales}_{i,t-1} / \text{sales}_{i,t-1}$; *CATA*: current assets divided by total assets; *LTDTA*: long-term debt divided by total assets; *EBITTA*: ratio of earnings before interest and taxes to total assets; *LOSS*: a dummy variable, coded one (1) if net profit is less than zero, otherwise it is coded zero (0); *PROA*: previous year return on assets; *BIG4*: the auditor indicator variable (dummy variable), taking the value one (1) if the auditor is one of the Big Four firms, otherwise it is set equal to zero (0); *YQL*: a dummy variable coded one (1) if audit report in current year is qualified, otherwise it takes the value zero (0); *NETINC*: change in net income and is measured as $\text{net income}_{i,t} - \text{net income}_{i,t-1} / \text{net income}_{i,t-1}$; *|TACR|*: the absolute value of total accruals, scaled by beginning of year total assets; *INDUSTDUM*: dummies variables to control for cross industry differences.

The sign of the audit fees coefficient (*LAF*) is negative and statistically significant at a 5 percent level. This inverse relationship may be an outcome of audit quality, where audit fees can be thought of as an audit quality measure. Thus, increase in audit fees (increase in audit quality) results in high-quality financial statements by shortening managerial opportunism, measured through discretionary accruals.

Regarding control variables, the *T-test* and its significant level indicate *LTA* and $|TACR|$ are strongly positive correlated with *AA* at 1 percent level, as expected. The *PROA* and *LTDTA* coefficients are statistically significant at 10 percent level, although with different signs. Thus, high values of previous year profitability increase the amount of discretionary accruals. Conversely, the *LTDTA* coefficient is negative and statistically significant at 10 percent level. *INDUSTDUM₂* (construction) is strongly positively correlated with the dependent variable.

The remaining coefficients are not statistically significant. For example, the auditor indicator variable (*BIG4*) has a negative sign which is in line with expectations; however, the coefficient is not statistically significant. The presence of accounting losses is not relevant either.

In summary, according to the regression results, the experimental variable is not significant at a 5% conventional level. Therefore, auditors may not compromise their independence in situations where the provision of NAS generates economic rents, in the context examined here. The results do provide conclusive evidence to reject the hypothesis that non-audit fees affect significantly financial reporting quality, which implies that incumbent auditors are more likely to be concerned with client firms' earnings management. This observation is consistent with Craswell (1999), Li *et al* (2006), Habib and Islam (2007) or Choi and Lee (2009).

TABLE 3
 OLS REGRESSION RESULTS OF ABNORMAL ACCRUALS (*AA*)

<i>Variable</i>	<i>Beta</i>	<i>SE of Beta</i>	<i>T-test</i>	<i>Sig T</i>	<i>Standardized Beta</i>
<i>LNAF</i>	-0.001	0.009	-0.09	0.925	-0.005
<i>LAF</i>	-0.069	0.031	-2.25	0.025	-0.137
<i>LTA</i>	0.062	0.024	2.60	0.010	0.185
<i>GROWTH</i>	0.000	0.000	-0.68	0.497	-0.026
<i>CATA</i>	0.035	0.106	0.33	0.742	0.015
<i>LTDTA</i>	-0.247	0.135	-1.82	0.069	-0.084
<i>EBITTA</i>	-0.474	0.288	-1.65	0.101	-0.083
<i>LOSS</i>	0.085	0.067	1.26	0.209	0.058
<i>PROA</i>	0.004	0.002	1.72	0.087	0.084
<i>BIG4</i>	-0.037	0.073	-0.51	0.612	-0.022
<i>YQL</i>	-0.074	0.077	-0.96	0.338	-0.043

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TABLE 3 (CONT.)
OLS REGRESSION RESULTS OF ABNORMAL ACCRUALS (|AA|)

NETINC	0.000	0.001	-0.06	0.951	-0.002
|TACR|	0.414	0.025	16.65	0.000	0.651
INDUSTDUM ₂	0.213	0.063	3.36	0.001	0.160
INDUSTDUM ₃	-0.057	0.096	-0.60	0.552	-0.026
INDUSTDUM ₄	0.028	0.078	0.35	0.723	0.015
CONSTANT	-0.388	0.251	-1.55	0.123	

Notes: Sample size 347, Adjusted R-squared 0.5092, F-Ratio 23.44, Sig F 0.000

|AA| : absolute value of performance adjusted abnormal accruals calculated for each year and for each group of industries, deflated by $TA_{i,t}$; LNAF: natural log of non-audit fees; LAF: natural log of audit fees; LTA: natural log of total assets (€000); GROWTH : growth in sales and is measured as $\text{sales}_{i,t} - \text{sales}_{i,t-1} / \text{sales}_{i,t-1}$; CATA: current assets divided by total assets; LTDTA: long-term debt divided by total assets; EBITTA: ratio of earnings before interest and taxes to total assets; LOSS: a dummy variable, coded one (1) if net profit is less than zero, otherwise it is coded zero (0); PROA: previous year return on assets; BIG4 : the auditor indicator variable (dummy variable), taking the value one (1) if the auditor is one of the Big Four firms, otherwise it is set equal to zero (0); YQL: a dummy variable coded one (1) if audit report in current year is qualified, otherwise it takes the value zero (0); NETINC: change in net income and is measured as $\text{net income}_{i,t} - \text{net income}_{i,t-1} / \text{net income}_{i,t-1}$; |TACR|: the absolute value of total accruals, scaled by beginning of year total assets; INDUSTDUM: dummies variables to control for cross industry differences.

5.3. SENSITIVITY ANALYSIS

Three statistical sensitivity issues of concern are considered, including the model specification, effect of outliers and sample specification.

Sensitivity to Model Specification

There is considerable diversity in the specification of models of financial reporting quality both in terms of the dependent variables and the experimental variable used. To test the sensitivity of the results to model specification (potential model misspecification), two alternative models were estimated. In this two following specifications *LAF* is omitted because of collinearity. First, the experimental variable was recalculated using the ratio non-audit fees to total assets (*NAFTA*). The use of this ratio is consistent with Sharma and Sidhu (2001) and Habib and Islam (2007). Neither in this case (see table 4), nor in the regression model estimated with *LNAF*, was the experimental variable significant at 5 percent levels.

TABLE 4
OLS REGRESSION RESULTS. SENSITIVITY TO MODEL SPECIFICATION. EXPERIMENTAL VARIABLE: NAFTA

Variable	Beta	SE of Beta	T-test	Sig T	Standardized Beta
NAFTA	2.328	38.895	0.06	0.952	0.002
LTA	0.027	0.017	1.60	0.110	0.08
GROWTH	0.000	0.000	-0.76	0.451	-0.029
CATA	0.000	0.106	0.00	0.999	0.000
LTDTA	-0.207	0.135	-1.54	0.125	-0.071
EBITTA	-0.472	0.290	-1.63	0.105	-0.082
LOSS	0.079	0.068	1.17	0.242	0.055

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TABLE 4 (CONT.)

OLS REGRESSION RESULTS. SENSITIVITY TO MODEL SPECIFICATION. EXPERIMENTAL VARIABLE: NAFTA

<i>PROA</i>	0.004	0.002	1.83	0.068	0.09
<i>BIG4</i>	-0.079	0.071	-1.11	0.267	-0.047
<i>YQL</i>	-0.078	0.078	-1.01	0.315	-0.046
<i>NETINC</i>	0.000	0.001	0.04	0.972	0.001
|<i>TACR</i>|	0.416	0.025	16.64	0.000	0.654
<i>INDUSTDUM₂</i>	0.239	0.062	3.87	0.000	0.181
<i>INDUSTDUM₃</i>	-0.074	0.096	-0.77	0.443	-0.033
<i>INDUSTDUM₄</i>	0.041	0.077	0.53	0.597	0.022
<i>CONSTANT</i>	-0.202	0.21	-0.96	0.335	

Notes: NAFTA: Ratio of non-audit fees, total assets. Rests of variables are defined in table 3. Sample size 347, Adjusted R-squared 0.5029, F-Ratio 24.34, Sig F 0.000.

TABLE 5

OLS REGRESSION RESULTS. SENSITIVITY TO MODEL SPECIFICATION. EXPERIMENTAL VARIABLE: FEERATIO

<i>Variable</i>	<i>Beta</i>	<i>SE of Beta</i>	<i>T-test</i>	<i>Sig T</i>	<i>Standardized Beta</i>
<i>FEERATIO</i>	0.018	0.093	0.20	0.845	0.008
<i>LTA</i>	0.026	0.018	1.48	0.139	0.077
<i>GROWTH</i>	0.000	0.000	-0.76	0.447	-0.029
<i>CATA</i>	0.000	0.105	0.00	0.998	0.000
<i>LTDTA</i>	-0.21	0.136	-1.55	0.123	-0.072
<i>EBITTA</i>	-0.475	0.29	-1.64	0.102	-0.083
<i>LOSS</i>	0.079	0.068	1.17	0.243	0.054
<i>PROA</i>	0.004	0.002	1.84	0.066	0.09
<i>BIG4</i>	-0.081	0.071	-1.13	0.259	-0.048
<i>YQL</i>	-0.079	0.078	-1.01	0.314	-0.046
<i>NETINC</i>	0.000	0.001	0.02	0.981	0.001
|<i>TACR</i>|	0.416	0.025	16.64	0.000	0.654
<i>INDUSTDUM₂</i>	0.24	0.062	3.88	0.000	0.181
<i>INDUSTDUM₃</i>	-0.075	0.096	-0.78	0.436	-0.034
<i>INDUSTDUM₄</i>	0.038	0.078	0.49	0.623	0.021
<i>CONSTANT</i>	-0.19	0.215	-0.88	0.378	

Notes: FEERATIO: Ratio of non-audit fees, total fees (audit and non-audit). Rests of variables are defined in table 3. Sample size 347, Adjusted R-squared 0.530, F-Ratio 24.34, Sig F 0.000

Second, and according to Habib and Islam (2007) and Monterrey and Sánchez-Segura (2007), the experimental variable was recalculated using *FEERATIO*, that is, the quotient of non-audit fees and total fees (audit and non-audit). Once again, the independent experimental variable was not significant at a conventional level of 5 percent (see table 5), suggesting that as total non-audit fees increase, earnings management does not increase, which is contrary to the «impairment of independence» hypothesis.

Finally we test the sensitivity of the results to the dependent variable. Following Ashbaugh *et al.* (2003), we examine the robustness of discretionary accrual model by employing an alternative measure of discretionary accruals that does *not* include control for firm performance in the estimation of discretionary accruals ($ETACR'$). Then $ETACR'$ and AA' are calculated as follows:

$$\frac{ETACR'_t}{TA_{t-1}} = \hat{\alpha}_t \frac{1}{TA_{t-1}} + \hat{\beta}_1 \frac{(\Delta REV_t - \Delta REC_t)}{TA_{t-1}} + \hat{\beta}_2 \frac{PPE_t}{TA_{t-1}} + \hat{\beta}_3 \frac{ROA_{t-1}}{TA_{t-1}} \quad (6)$$

$$\frac{AA'_t}{TA_{t-1}} = \frac{TACR_t}{TA_{t-1}} - \frac{ETACR'_t}{TA_{t-1}} \quad (7)$$

TABLE 6
OLS REGRESSION RESULTS. SENSITIVITY TO MODEL SPECIFICATION. DEPENDENT VARIABLE: |AA'|

Variable	Beta	SE of Beta	T-test	Sig T	Standardized Beta
LNAF	0.004	0.004	0.90	0.371	0.015
LAF	-0.010	0.014	-0.77	0.443	-0.015
LTA	-0.009	0.011	-0.89	0.376	-0.020
GROWTH	0.000	0.000	-1.40	0.161	-0.017
CATA	-0.031	0.047	-0.66	0.508	-0.009
LTDTA	-0.149	0.060	-2.48	0.014	-0.036
EBITTA	0.060	0.127	0.47	0.636	0.008
LOSS	0.027	0.030	0.92	0.356	0.013
PROA	-0.001	0.001	-0.53	0.594	-0.008
BIG4	-0.012	0.032	-0.38	0.704	-0.005
YQL	-0.033	0.034	-0.96	0.340	-0.014
NETINC	0.000	0.000	0.23	0.820	0.003
|TACR|	0.848	0.011	77.02	0.000	0.949
INDUSTDUM ₂	0.239	0.028	8.54	0.000	0.129
INDUSTDUM ₃	0.017	0.042	0.41	0.683	0.006
INDUSTDUM ₄	0.046	0.034	1.34	0.181	0.018
CONSTANT	0.221	0.111	1.99	0.048	

Notes: |AA'|: absolute value of not performance adjusted abnormal accruals calculated for each year and for each group of industries, deflated by TAT-1. LNAF: natural log of non-audit fees. Rests of variables are defined in table 3. Sample size 347, Adjusted R-squared 0.951, F-Ratio 422.74, Sig F 0.000.

Neither in this case (see table 6), in the regression model estimated with the alternative measure of expected total accruals ($ETACR'$), the experimental variable was significant at 5 percent levels.

In summary, the results of not significant association between the provision of NAS and financial reporting quality are robust to various model specifications, that is, the outcomes do not reveal a problem of financial information quality.

TABLE 7
 OLS REGRESSION RESULTS. SENSITIVITY TO OUTLIERS

Variable	Beta	SE of Beta	T-test	Sig T	Standardized Beta
LNAF	-0.01	0.007	-1.44	0.152	-0.056
LAF	-0.038	0.024	-1.60	0.111	-0.075
LTA	0.037	0.018	2.02	0.044	0.111
GROWTH	-0.002	0.007	-0.31	0.755	-0.009
CATA	-0.028	0.081	-0.35	0.728	-0.012
LTDTA	-0.093	0.103	-0.9	0.367	-0.032
EBITTA	-0.368	0.217	-1.7	0.091	-0.065
LOSS	-0.002	0.051	-0.04	0.972	-0.001
PROA	0.002	0.002	1.19	0.235	0.044
BIG4	-0.005	0.055	-0.09	0.927	-0.003
YQL	-0.076	0.059	-1.28	0.200	-0.044
NETINC	0.000	0.000	-0.03	0.976	-0.001
|TACR|	0.749	0.028	26.41	0.000	0.809
INDUSTDUM ₂	0.201	0.048	4.20	0.000	0.151
INDUSTDUM ₃	-0.014	0.072	-0.20	0.843	-0.006
INDUSTDUM ₄	0.005	0.059	0.08	0.933	0.003
CONSTANT	-0.226	0.189	-1.19	0.234	

Notes: LNAF: natural log of non-audit fees. Rests of variables are defined in Table 3. Sample size 339, Adjusted R-squared 0.7240, F-Ratio 56.41, Sig F 0.000.

Sensitivity to Outliers

The descriptive statistics in Table 1, particularly for sales growth (*GROWTH*), may suggest the presence of outliers. A scatterplot of the data revealed a few outliers for *GROWTH*. The results of re-performing the OLS regression following the removal of these outliers are shown in table 7. Once again, the experimental variable (*LNAF*) was not significant at 5 percent level (0.152).

Sensitivity to Sample Specification

As a sample sensitivity test, the OLS regression model was estimated for a sample that included only companies which reported fees paid to auditors for NAS. As shown in Table 8, the test variable *LNAF* was once again not significant (0.470), suggesting that the sample composition of the present study is not an important problem and does not jeopardize the implications of the findings. Therefore, the previous results on the experimental variable are robust to the sample specification analyzed.

TABLE 8
OLS REGRESSION RESULTS. SENSITIVITY TO SAMPLE SPECIFICATION

Variable	Beta	SE of Beta	T-test	Sig T	Standardi-zed Beta
LNAF	-0.012	0.017	-0.72	0.470	-0.028
LAF	-0.016	0.028	-0.59	0.557	-0.027
LTA	0.041	0.024	1.67	0.097	0.096
GROWTH	0.000	0.000	-0.67	0.506	-0.021
CATA	-0.086	0.101	-0.86	0.393	-0.032
LTDTA	-0.096	0.141	-0.68	0.495	-0.029
E∕ITTA	-0.481	0.339	-1.42	0.157	-0.061
LOSS	0.044	0.065	0.67	0.502	0.026
PROA	0.002	0.002	0.84	0.404	0.034
∕IG4	-0.023	0.094	-0.24	0.809	-0.008
YQL	-0.050	0.076	-0.66	0.510	-0.025
NETINC	-0.001	0.002	-0.42	0.674	-0.014
|TACR|	0.783	0.029	27.00	0.000	0.877
INDUSTDUM ₂	0.118	0.064	1.86	0.065	0.076
INDUSTDUM ₃	-0.033	0.076	-0.43	0.665	-0.016
INDUSTDUM ₄	0.049	0.071	0.69	0.488	0.024
CONSTANT	-0.325	0.249	-1.31	0.192	

Notes: LNAF: natural log of non-audit fees. Rests of variables are defined in Table 3. Sample size 210, Adjusted R-squared 0.8039, F-Ratio 54.55, Sig F 0.000.

To sum up, according to the results of the sensitivity tests performed, increases in non-audit fees and audit fees (increase in audit quality) do not necessarily extend managerial opportunism or affect to financial statements quality.

6. SUMMARY AND CONCLUSIONS

The main purpose of external audits is to increase trust in financial statements. There is concern in the accounting profession about whether the provision of NAS by auditing firms to their audit clients impairs the independence of the auditor. There is evidence to suggest that these services are becoming more important in the total revenue structure of the audit firms. In Spain, the recent legal requirement for companies to disclose payments for NAS provided by their auditors makes available data with which to investigate the independence question as related to the joint provision of audit and consultancy services. Furthermore, provision of non-audit services can strengthen the auditor's economic bond with the client, thereby increasing the auditor's incentives to accept questionable accounting practices. However, the provision of non-audit services can also increase the auditor's investment in reputational capital, which the auditor is likely to uphold (Frankel *et al.*, 2002). Thus far, these two competing premises have been examined by looking at the relationship between non-audit fees and a proxy for earnings management. As an earnings management proxy we have used the performance

adjusted discretionary accruals based in Kothari *et al.* (2005). This measure requires accruals to adjust for firm performance by including a firm performance variable in the regression model used to estimate discretionary accruals. Discretionary accruals are estimated by using extant accruals models to be adjusted by subtracting the corresponding firms' accruals. The abnormal or discretionary components of total accruals have been estimated in order to measure the extent of earnings management.

The study of independence issues associated with the provision of other services by incumbent auditors was performed with publicly available data on auditors' reporting. The analysis was carried out by estimating an OLS regression model for Spanish listed companies for the years 2005-2009. The following variables were considered: absolute value of performance adjusted abnormal accruals, the amount paid to auditors for audit and other services, total assets, growth in sales, asset composition, debt composition, net profit, return on assets, audit firm, audit qualification, net income, the absolute value of total accruals and cross industry differences.

Based on a sample of 347 observations obtained from the annual financial reports for the mentioned years, we find no significant association between non-audit fees and unsigned estimate of discretionary accruals. This implies that audit independence would not be impaired whenever the client non-audit fee represented a large proportion of the auditing firm's total fee income, that is, the joint provision of audit and NAS would not impair auditor independence. Therefore, we conclude that the provision of consultant services by incumbent auditors can act as a safeguard of earnings quality by mitigating earnings management. Overall, the results based on the performance adjusted discretionary accruals model do not provide any evidence that high non-audit fee compromises auditor independence. Other empirical international research studies also reported that there is not a significant association between non-audit fees paid to the auditor and the auditor independence (Craswell, 1999; Chung and Kallapur, 2003; Li *et al* 2006; and Habib and Islam, 2007).

The results are robust to different sensitivity analysis such as model or sample specification. In all cases the estimated regression models lead to similar conclusions: the non-audit fees test variable is not significant. Nevertheless, the obtained results should be considered with caution because there could be an endogenous relation between the accounting quality proxy and non-audit fees which is not controlled for.

The findings add to our knowledge of auditor independence as they illustrate the situation in a Continental European country and will be of significant interest to regulatory authorities in Spain, e.g. ICAC⁽⁸⁾. The ICAC does not need to expend its limited resources investigating audit firms that have high levels of non-audit fees. These findings will also assure investors that high non-audit fees does not necessarily result in poor quality financial reporting. On the contrary, as a knowledge spillover device, high levels of non-audit fees could actually increase the quality of financial reporting. The results of this study are important in that they are in agreement with most of the prior international research; they suggest that NAS have no adverse effect on audit quality or auditor independence.

(8) As stated above, the Spanish Accounting and Auditing Institute.

Regulators, auditors and the accounting profession can use the findings in their deliberations regarding the ongoing debate about the restriction or prohibition of NAS provision to audit clients. According to the aforementioned results, the provision of NAS is not interfering auditor independence. Thus, this paper makes an important contribution to our understanding of the impact of NAS on auditing independence in a Continental European country.

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