

## **Auditor Independence, Current and Future NAS Fees and Audit Quality: Were European Regulators Right?**

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### **Abstract**

European Union adopted the Regulation (EU) No 537/2014, which in practice prohibits the joint provision of audit and most types of non-audit services (NAS). Regulators presume that NAS fees weaken auditor independence and, as a result, impair audit quality. As the evidence at the European level does not support this view, the question of whether the new regulation will enhance auditor independence remains open. We examine the association between future NAS fees and audit quality by distinguishing among tax, audit-related and other services. We base the analysis on a sample of Spanish listed companies for the period between 2005 and 2016, finding a consistent negative association between future other NAS fees and audit quality. This suggests that the expectation of future purchases of this type of NAS may impair auditor independence. Conversely, for tax and audit-related services results are not significant. Taken together, results suggest that European regulators should seek for further evidence before banning NAS, as some of them may in fact enhance audit quality.

**Keywords:** Auditor Independence; Audit Quality; European Audit Regulation; Future NAS Fees; Types of NAS Fees.

**JEL Classification:** M42

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## 1. Introduction

The joint provision of audit and non-audit services (hereinafter, NAS) by audit firms to the same clients has been under the spotlight for decades. The supply of both types of services has potentially contradictory effects on each of the two dimensions of DeAngelo's (1981) classical definition of audit quality: competence and independence. On the one hand, a conflict of interest might make the auditor less willing to report the real results of the audit task and, thus, reduce the audit quality; but, on the other, the provision of NAS to audit clients might enhance the auditor's competence, and thus have a positive impact on audit quality through knowledge spillovers (Simunic, 1984).

According to Francis (2006), there are two broad assumptions considering NAS as inherently problematic for auditors. The first is the possibility that services of this kind will change the auditor's role from that of an independent outside reviewer to that of an inside adviser and decision-maker, thus compromising his/her independence. The second is the creation of an economic bond between the auditor and the client due to the increasing fee reliance on NAS, which may also affect his/her ability to perform in an independent manner. Indeed, this was the position adopted by regulators in banning the joint provision of audit services and many types of NAS by incumbent auditors (e.g., SEC, 2000; SOX, 2002, European Commission, 2002 and 2006; European Union 2014a and 2014b), after the numerous financial scandals of the beginning of the century (most notably, the Enron case).

The concern of regulators and policy-makers regarding the joint provision of audit and NAS was given academic support by the influential study of Frankel, Johnson and Nelson (2002) who noted that companies which paid higher NAS fees to their auditors showed larger abnormal accruals and were also more likely to meet or beat analysts' earnings forecasts. The results, therefore, suggested a loss of audit quality when audit and NAS are jointly provided.

However, it should be stressed that there is little factual evidence of the impairment of auditor independence and there have been few cases of auditor fraud (Francis, 2006). Since Frankel et al. (2002), a recent stream of empirical research using archival financial

data has attempted to assess whether the joint provision of audit and NAS by the incumbent auditor is associated with a lower audit quality. Many of these studies have been conducted with samples in the US and have failed to report a significant association, measuring audit quality by discretionary accruals (Ashbaugh et al., 2003; Chung and Kallapur, 2003), restatements (Bloomfield and Shackman, 2008; Kinney et al., 2004; Raghunandan et al., 2003), going-concern modified opinions (Callaghan et al., 2009; Geiger and Rama, 2003; DeFond et al., 2002) and earnings conservatism (Ruddock et al., 2006). Only a few studies have reported a negative relationship between NAS and financial reporting quality, and each time in particular circumstances: for example, the pre-Sarbanes-Oxley Act (SOX) era (Krishnan et al., 2011), short auditor tenure (Gul et al., 2007), low accrual quality (Srinidhi and Gul, 2007), weak corporate governance (Larcker and Richardson, 2004), the provision of NAS to small or medium-sized high-growth companies (Reynolds et al., 2004), a long tenure in private clients (Bell et al., 2015), and considering the perceptions of investors in financial markets (Campa and Donnelly, 2016).

Although most of the empirical literature does not report evidence that NAS fees impair auditors' independence, ever since the SOX Act (SOX, 2002), regulators have considered that the structure of audit partners' compensation emphasizes the selling of NAS over investigative and professional skills. Accordingly, audit standards have been modified to include restrictions on auditors' provision of NAS. In the EU, Directive 2014/56/EU and Regulation (EU) No 537/2014 were passed with the aim of reinforcing the credibility of the audited financial statements of public interest entities, by prohibiting auditors and audit firms from carrying out a statutory audit when there are reasonable threats (among them, the provision of NAS) to their independence and objectivity. In practice, the 2014 EU Regulation bans the joint provision of audit services and almost all types of NAS. However, the tightening of audit laws aiming to promote independence may, in turn, impair audit quality by lessening auditors' background and knowledge transfer between audit and NAS (Wu, 2006).

Thus, the appropriateness of auditor-provided NAS continues to be controversial. Further research is needed to broaden policy-makers' understanding of the costs and benefits of

restricting the provisions of NAS to audit clients (Francis, 2006). The reported absence of a significant relationship between the joint provision of audit and NAS and the quality of financial reporting may be attributed, at least in part, to the methodological approach applied by most studies. Although it is widely accepted that auditor-client engagement is an intertemporal relationship (DeAngelo, 1981), empirical research has been conducted almost entirely on a current-year basis; Blay and Geiger (2013), Causholli et al. (2014) and Cahan et al. (2008) are the very rare exceptions. In fact, since the nature of the auditor-client relationship is multiannual, the study of the impact of NAS on audit quality needs to consider these services as a source of future rents.

In the present study, we investigate the effects on audit quality of the current and expected provision of NAS by incumbent auditor to his/her audit clients. Audit quality is measured by using several proxies: restatements, earnings surprises, meeting or just beating earnings benchmarks and audit opinion. The empirical analysis is conducted with a sample of Spanish listed companies for the 2005-16 research period. Interestingly, during this period, the total amount of fees billed by auditors to their clients has increased at an average annual path of 8.5%, and NAS fees explain around a 28% in average of total fees. These figures show that in European countries regulations banning the provision of NAS by the incumbent auditor are not enforced since the enactment of the 2014 Regulation.

This paper aims to contribute to the extant literature by providing evidence of the effects of expected NAS on audit quality in the post-SOX era (SOX, 2002), considering that the conflict of interest lies not in the current fees for NAS, but in the present value of the expected NAS revenue. To our knowledge, our study is one the first to analyze the role of the different types of NAS fees on auditors' long-term utility function.

Auditor's independence is influenced by its will to retain the client and gain sufficient subsequent revenues. As a result, we consider that auditors might impair their independence in the current period in order to secure fees during their audit tenure. We wonder whether these expected fees to be received by auditors during the audit tenure impair audit quality, and if the more profitable NAS fees can explain this potential impairment. We introduce the measure of future NAS, those NAS that are regularly



provided by auditors to their clients. Future NAS are an important source of future rents and, thus, may introduce threatens to auditors' independence.

We analyze the effect of different types of NAS on audit quality. As Kinney et al. (2004) point out, it is important to disentangle the effects of specific types of NAS on auditor independence, as their implications may differ depending on their nature.

The choice of Spain to carry out this study responds to the need for a more comprehensive analysis of the importance of the institutional setting in which audit contracting takes place (Nelson, 2006). In fact, almost all the available research focuses on common-law countries (i.e., the US market, or other English-speaking countries). According to Francis (2006) and Ruddock et al. (2006), the results from these studies cannot be directly extrapolated to other countries, specifically to the European Union (hereinafter, EU), and in these markets very little is known about the effects of the joint provision of services by the incumbent auditor on audit quality<sup>1</sup>. Thus, further empirical evidence from these countries might shed some light on the differences arising from a different institutional setting.

The results reported for the Spanish audit market might also be of interest to regulators and policy-makers (Carrera et al., 2007). Since the Spanish market is characterized by a weak enforcement environment and low litigation risk, if the joint provision of audit and NAS compromises audit quality, this effect should be clearly observed in Spain and in similar countries. Conversely, if the results for Spain do not show a negative impact, we should not expect a different result in high litigation risk countries (Garcia-Blandon et al, 2017).

We expect that high current and future NAS may create an auditor-client economic bond, resulting in low audit quality. We examine our research question by using different proxies of audit quality based on restatements (Paterson and Valencia, 2011; Bloomfield and Shackman, 2008; Kinney et al., 2004; Raghunandan et al., 2003), earnings surprise (Doyle et al., 2013), meeting or just beating earnings benchmarks (Sohn, 2016; Gunny,

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<sup>1</sup> See Quick and Warming-Rasmussen (2015) for Germany; Cameran et al. (2015) for Italy; Svanström (2012) for Sweden and Carmona and Momparler (2011) for Spain; also Eilifsen and Knivsfla (2013) for Norway, a non EU member.

2010), and qualified audit opinion (Ruiz-Barbadillo et al., 2005; Lennox, 2000; Krishnan, 1994).

We disentangle the effects of different types of NAS<sup>2</sup> (Kinney et al., 2004; Paterson and Valencia, 2011; Huang et al., 2007) in order to determine whether there is an economic bond between auditors and their clients arising from some specific kind of services.

Our results show that the expectation of NAS purchases might impair audit quality. However, we just find evidence of a negative and significant association between future other NAS fees and audit quality, indicating that as the amount of expected other NAS purchases by auditors' clients increases the level of financial reporting quality decreases, as well as audit quality. These results are robust for different measures of audit quality. We do not find evidence of a significant relationship between future tax and audit-related services and audit quality, suggesting that these types of NAS might contribute to improve the work of audit without presenting threats to the independence of the auditor. Therefore, regulators should bear in mind that not all types of NAS present a negative effect on financial reporting and quality when assessing the aftermaths of audit regulations.

In addition, like in most of the previous research, we do not find a robust significant association between current NAS fees and the different proxies of audit quality. These results seem to support our approach, showing that the association between NAS and audit quality may shift when considering expectations of future NAS purchases instead of current NAS fees. Thus, the conclusions of previous studies which have used current NAS fees to analyze the effect of NAS on audit quality must be reexamined.

The remainder of the paper is organized as follows. Section 2 presents the previous research in the field and states the hypotheses. In section 3 the current legal framework both in the EU and in Spain is discussed. Section 4 describes the data and presents the

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<sup>2</sup> Since the 2002 EC Recommendation, European public companies have been mandated to disclose the fees of three different types of NAS in their financial statements: tax services, audit-related services and other non-audit services.

research design. Section 5 reports and discusses the results. Section 6 provides additional analyses. Finally, section 7 concludes.

## **2. Background and hypotheses**

In the above section, we reviewed the literature on the NAS-audit quality relationship. Now, we focus on the articles most closely related to our paper. Most studies of NAS have been conducted in the USA and other English-speaking countries; little is known about auditors' behavior in the presence of joint NAS provision in other economic areas like the EU. Moreover, it is virtually impossible to extrapolate the extant results to other environments, because auditing depends heavily on the institutional setting in which the audit contracting takes place (Nelson, 2006; Francis, 2006). Among the studies conducted in this area for European countries, Quick and Warming-Rasmussen (2015) investigate the effect of current NAS provision by incumbent auditors on perceptions of independence by individual German investors. By using data gathered from a survey of 212 private investors, they find that high self-interest and familiarity threats stemming from the provision of recurring NAS may impair auditor independence in appearance. Svanström (2012) examined the relationship between the provision of current NAS by incumbent auditors and discretionary accruals in private Swedish firms. The regression analysis was based on 420 surveyed private firms and his results suggest that audit quality is positively associated with NAS in general and accounting services in particular. His findings support the idea that the joint provision of audit and NAS might contribute to generate knowledge spillovers between the services rather than an impairment of auditor's independence. Adopting a more standard approach, Carmona and Momparler (2011) examine whether the joint provision of current audit and consulting services undermines auditor independence, as measured by discretionary accruals; in an analysis of a sample of Spanish firms for the 2005-2009 period, they find no statistically significant relationship between NAS fees and earnings management. Using a set of data of 136 Spanish companies for the fiscal years 2003 to 2005, Monterrey and Sánchez-Segura (2007) also analyze the effects of current NAS fees on discretionary accruals,

failing to find a significant association between the current purchases of NAS by clients from their statutory auditor and audit quality.

All these studies analyze the association between NAS fees and audit quality by focusing on current NAS fees. This means that they neglect the intertemporal relationship that arises from the engagement between auditors and clients (DeAngelo, 1981), creating a gap between theoretical and applied research (Blay and Geiger, 2013). Expected NAS may be even more important than just current NAS as a determinant of auditor independence impairment; therefore, the conclusions of prior research, which has limited itself to addressing the NAS-audit quality relationship on a current-year basis, needs to be reexamined.

Cahan et al. (2008) attempted to overcome this problem by examining whether earnings management is related to the growth of NAS provided by the incumbent auditor to its clients. They use a sample of 237 firm-year observations for New Zealand firms during the period 1995-2001 to analyze the effect of percent change in NAS fees in the subsequent two, four and five years on discretionary accruals. Their results do not provide support for a significant effect of NAS fee growth rates on earnings management. Similarly, Causholli et al. (2014) analyze the relationship between future NAS and audit quality in the US audit market prior to and post SOX, measuring future NAS as the change in NAS fees in the subsequent fiscal year. Their results show higher earnings management for high-fee-growth opportunity clients in the pre-SOX period but not afterwards. Thus, prior to the SOX, clients who formerly presented a lower amount of NAS fees and that increased NAS purchases from the incumbent auditor in the following year showed higher levels of discretionary accruals; but this effect vanished in the post-SOX period. The authors demonstrate the importance of taking future NAS into account when addressing the potential conflict of interest of the audit firm. However, Cahan et al. (2008) and Causholli et al. (2014) approach do shows an important weakness. Their measures of future NAS fees relies on the percent change of the amount of NAS over time; but what matters, in order to explain the potential economic bond between the audit firm and its client, is the absolute magnitude of fees in monetary units and not the relative change itself. This is precisely the approach adopted by Blay and Geiger (2013) when they

examine fees received by the auditor and reporting decisions in the post-SOX period of 2004-2006 for the US market. In contrast to prior research, they consider future fees paid to auditors as the total fees paid to the incumbent auditor in the subsequent two years. Their results show a negative association between future fees paid to auditors and auditor going concern opinion decisions.

We investigate whether current audit quality is affected by the expectation of future purchases of NAS. In contrast to prior research (Blay and Geiger, 2013; Causholli et al., 2014; Cahan, et al, 2008) we disentangle the effects of specific types of NAS: tax, audit-related and other services.

We expect a negative association between audit quality and future NAS fees, i.e., fees received in subsequent two fiscal years. That is, auditors will be more likely to impair their independence in the current period to clients from whom they expect to obtain higher NAS fees.

While Causholli et al (2014), Blay and Geiger (2013) and Cahan, et al (2008) used a single measure as a proxy of future NAS, prior research has shown the importance of differentiating between categories of NAS (Beck et al., 1988; DeBerg et al., 1991; Parkash and Venable, 1993; Chung and Kallapur, 2003; Abbot et al., 2007; Joe and Valdeverde, 2007; Knechel and Sharma, 2009). As noted above, it is important to disentangle the effects of specific types of NAS, as they may differ depending on their nature (Kinney et al., 2004), and may have different effects on the client-auditor economic bond and the generation of knowledge spillovers (Paterson and Valencia, 2011). Among the studies advocating the use of NAS fees disclosed by companies, Kinney et al., (2004) analyze the relationship between various types of current NAS fees and restatements in the US before the SOX. Their findings show a statistically significant positive association between audit-related fees, unspecified NAS (“other NAS”) fees and restatements, but, in turn, they also show a significant negative association between tax services and restatements – indicating that for tax services, the effects of any economic dependence on a client are more than compensated for by benefits in financial reporting quality. Taken together, their results indicate that different types of NAS may have different implications

for audit quality<sup>3</sup>. Joe and Vandervelde (2007) analyze whether the provision of different types of NAS impair auditor's independence. Their results show that when auditors provide both audit and tax services, more risk assessments are conducted, but it does not lead to a better identification of fraud risk factors. Huang et al. (2007) examine whether NAS fees are associated with biased financial reporting (measured through abnormal accruals and meeting or just beating earnings benchmarks) using NAS partitioned data that is required to be disclosed by SEC registrants. They find weak evidence that abnormal accruals are less likely when tax and other NAS fee ratios are high, but do not find an association between NAS fee ratios and meeting or just beating earnings benchmarks. Overall, the authors fail to find a systematic association between NAS fee ratios and biased financial reporting. Knechel and Sharma (2009) examine the association between the joint provision of audit and NAS by incumbent auditors and the efficiency of the audit task, measured as report lags, and find that audit-related NAS show a positive effect on audit efficiency prior to SOX, but the effect disappears in the after SOX period. Although these works model NAS by types, they do not separate them according to their recurring or nonrecurring nature. The paper by Kinney et al (2004) in the pre-SOX era was updated and extended by Paterson and Valencia (2011) in the post-SOX era (2003 to 2006). The authors model financial restatements as a function of recurring and nonrecurring engagements for each type of NAS fee, and find a significant negative association between the provision of recurring tax services by auditors and restatements in the post-SOX era. This result is consistent with the idea that recurring tax services to generate knowledge spillovers that improve audit quality. However, nonrecurring tax services, and both recurring and nonrecurring audit-related NAS and recurring and nonrecurring other NAS, are positively associated with restatements. The results of Paterson and Valencia (2011) underline the importance of distinguishing between the various types of NAS and considering them as recurring or nonrecurring, as they seem to show quite different effects on audit quality.

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<sup>3</sup> In fact, the PCAOB adopted rules in 2005 banning the provision of some tax services (the SEC approved these rules in 2006 -SEC 2006) by incumbent auditors. This prohibition was set aiming to improve auditor independence.



In this paper, we analyze whether the different types of NAS fees disclosed by companies affect audit quality. That is, auditors will be more likely to impair their independence in the current period to clients from whom they received higher current NAS fees. Separating expected NAS fees into audit-related, tax and other services leads us to our first hypotheses (in alternate form):

HYPOTHESIS 1a. *There is a negative association between audit quality and the magnitude of current tax fees paid to the incumbent audit firm.*

HYPOTHESIS 1b. *There is a negative association between audit quality and the magnitude of current audit-related fees paid to the incumbent audit firm.*

HYPOTHESIS 1c. *There is a negative association between audit quality and the magnitude of current other services fees paid to the incumbent audit firm.*

We expect a negative association between audit quality and NAS fees received in the current and the subsequent two fiscal years. That is, auditors will be more likely to impair their independence in the current period to clients from whom they expect to obtain higher NAS fees. Thus, our second set of hypotheses (in alternate form) is:

HYPOTHESIS 2a. *There is a negative association between audit quality and the magnitude of future tax fees to be paid to the incumbent audit firm.*

HYPOTHESIS 2b. *There is a negative association between audit quality and the magnitude of future audit-related fees to be paid to the incumbent audit firm.*

HYPOTHESIS 2c. *There is a negative association between audit quality and the magnitude of future other services fees to be paid to the incumbent audit firm.*

### **3. The legal framework of NAS in the EU and Spain**

Over the years, regulators have taken action in response to concerns over the provision of NAS by auditors. NAS have been sharply curtailed in the EU since the European Commission's recommendation in 2002 to ban the provision of many types of NAS by

the statutory auditor or audit firm (EC, 2002). The enactment of the European Directive 2006/43/EC (EC, 2006) mandated European state members to adopt these restrictions.

In 2010, the European Commission released a Green Paper on audit policy (EC, 2010), with the aim of stressing the role of audit and auditors as key contributors to financial stability, and of promoting a broad public consultation to assess the interplay of different policy options. With regard to NAS, this Green Paper recommended that the European Commission should reinforce the ban on their provision by audit firms with the creation of “pure audit firms” and should thus avoid any business interest in the company being audited. The results of this consultation led to a modification of Directive 2006/43/EC through the enactment of Directive 2014/56/EU (EP, 2014a) and Regulation (EU) No 537/2014 (EP, 2014b) on specific requirements regarding statutory audit of public-interest entities. The 2014 Regulation prohibits a large set of NAS (particularly, those related to tax and other services).<sup>4</sup>

The 2002 European Recommendation was transposed into Spanish regulation with the passing of the 2002 Spanish Financial Act (Ley 44/2002), which banned the joint provision of audit services and certain NAS. This 2002 Act was modified in 2010 and a new Audit Act was issued (RDL 1/2011). As the 2006 Directive did not post a list of forbidden NAS, the Spanish legislation of 2011 again permitted the joint provision of audit and NAS, but only if they were provided by a different legal entity and if their impact on the audit client’s financial statements was relatively unimportant. The development of new European Audit framework in 2014<sup>5</sup> tightened the restrictions on the provision of NAS, in particular for public-interest entities. Accordingly, on 20 July 2015 a new Spanish audit act was passed (Ley 22/2015), which included stricter constraints for

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<sup>4</sup> a) many tax services, including the preparation of tax forms and the provision of tax advice; b) services related to the audit client management or decision-making; c) bookkeeping and preparing accounting records and financial statements; d) payroll services; e) designing and implementing internal control or risk management procedures related to the preparation and/or control of financial information or designing and implementing financial information technology systems; f) valuation services; g) legal services; h) services related to the audited entity's internal audit function; i) services linked to the financing, capital structure and allocation, and investment strategy of the audited entity, except for providing assurance services in relation to the financial statements; j) promoting, dealing in, or underwriting shares in the audited entity; and, k) human services

<sup>5</sup> Consistent with the results of the 2010 Green Paper consultation, with the enactment of Directive 2014/56/EU and Regulation (EU) No 537/2014,

the provision of NAS by auditors and audit firms. As in most EU countries, this legislation entered into force on 17 June 2016.

Thus, regulators have assigned more importance to threats to auditors' independence than to the benefits from knowledge spillovers. As a result, audit standards have been modified in order to include restrictions on the provision of NAS by incumbent auditors. However, in the Spanish market these regulations have not been enforced very diligently, which speaks of a weak enforcement environment. In fact, our database of 110 Spanish firms for the period 2005-2016, with 1,274 firm-year observations, shows that in 1,058 cases (83%) audit firms have jointly provided audit and non-audit services, denoting that the majority of NAS fees are recurring. In addition, the aggregate annual amount of NAS fees (Table 1) has increased at an average annual path of a 9.6% (8.4% for audit fees). Only in 2016, after the new European audit regulation came into force, we can observe a turning point, with an annual percent drop of 37.5%.

**Insert table 1 around here**

#### **4. Research design and sample selection**

##### *4.1. Research design*

We investigate whether future NAS are associated with audit quality, measured through two different proxies: financial statements that are later restated, and firms just meeting earnings benchmarks.

##### ***Restatements***

We use S&P Capital IQ s database to identify firms that restated financial reports originally filed for fiscal years 2005 through 2016. Consistent with Kinney et al. (2004) and Paterson and Valencia (2011), we include restatements in which results are fundamentally different from original, i.e. net income, retained earnings and/or cash from

operations is different. We exclude other restatements concerning nonfinancial statement disclosures, omissions, or corrections and errors involving clerical applications. We, then, classify firms between restatement and non-restatement firms each year of our research period, 2005 to 2016.

Following Paterson and Valencia (2011), Kinney et al. (2004), Blay and Geiger (2013), Causholli et al. (2014) and Huang et al. (2007), we define the following multilevel logistic model to test our hypotheses:

$$\begin{aligned} RESTATE = & \alpha + \beta_1 TAXFEE_t + \beta_2 ARFEE_t + \beta_3 OTHERFEE_t + \beta_4 FUTTAXFEE_t + \beta_5 FUTARFEE_t + \\ & \beta_6 FUTOTHERFEE_t + \beta_7 AUDITFEE_t + \beta_8 TENURE_t + \beta_9 GROWTH_t + \beta_{10} CF_t + \beta_{11} LEV_t + \beta_{12} MB_t + \\ & \beta_{13} MV_t + \beta_{14} ROA_t + \beta_{15} RET_t + \beta_{16} LOSS_t + \beta_{17} FIN_t + \beta_{18} ACQ_t + \beta_{19} LITIG_t + YEAR\ controls + \\ & INDUSTRY\ controls + \varepsilon_t \end{aligned} \quad (1)$$

Where:

*RESTATE* is a dummy variable equal to 1 if the company restated its financial statements for the given year, and 0 otherwise.

NAS and future NAS fees are the *independent experimental variables* in our model.

*TAXFEE* is the natural log of current tax NAS fees paid the incumbent auditor. Tax non-audit services mainly include preparation of tax forms, payroll tax, customs duties, identification of public subsidies and tax incentives, support regarding tax inspections, calculation of direct and indirect tax and deferred tax and provision of tax advice.

*ARFEE* is the natural log of audit-related NAS fees paid to the incumbent auditor. Audit-related non-audit services typically include completion audits, reports on internal controls, review reports, agreed upon procedures, compliance audit and audit of prospective financial information.

*OTHERFEE* is the natural log of other NAS fees paid the incumbent auditor. Other non-audit services may include, among others, services that involve playing any part in the management or decision-making of the audited entity; bookkeeping and preparing accounting records and financial statements; payroll services; designing and implementing internal control or risk management procedures; valuation services; legal

services; services related to the audited entity's internal audit function; services linked to the financing; capital structure and allocation; and investment strategy; promoting shares; or human resources services.

*FUTTAXFEE* is the natural log of tax NAS fees paid to the incumbent auditor in the subsequent two years.

*FUTARFEE* is the natural log of audit-related NAS fees paid to the incumbent auditor in the subsequent two years.

*FUTOTHERFEE* is the natural log of other NAS fees paid to the incumbent auditor in the subsequent two years.

Future fees variables may show the evidence of the existence of such future rents for audit firms.

#### *Independent control variables*

The control variables in Equation (1) have been widely used in earlier studies (Frankel et al., 2002; Chung and Kallapur, 2003; Ashbaugh et al., 2003; Lim and Tan, 2008; Kinney et al., 2004; Paterson and Valencia, 2011; Huang et al., 2007; Joe and Vandervelde, 2007; Knechel and Sharma, 2009; Blay and Geiger, 2013; Causholli et al, 2014).

*AUDITFEE* is the natural log of current audit fees paid to the incumbent auditor.

*GROWTH* is defined as the percent change in net sales ( $[\text{net sales}_t - \text{net sales}_{t-1}] / \text{net sales}_{t-1}$ ).

*TENURE* is the incumbent auditor tenure in years.

*CF* is equal to operating cash flows scaled by lagged total assets.

*LEV* is a measure of leverage, equal to total liabilities scaled by lagged total assets.

*MB* is the market-to-book ratio, defined as the quotient between the market and book value of equity at the fiscal year-end.

*MV* is the natural log of the market value of equity, as a measure of size.

*ROA* is the return on total assets at the end of the year.

*RETURN* is the firm's stock return over the fiscal year.

*LOSS* is a dummy variable equaling one if the net income is lower than zero in the previous year, and zero otherwise.

*FIN* is a dummy variable indicating financing needs which equals one if the percentage of change in long-term debt is equal to or greater than 20%, or the percentage of change in common shares outstanding adjusted for stock split is equal to or higher than 10%.

*ACQ* is a dummy variable indicating mergers and acquisitions; it is equal to 1 if the company acquired another firm during the fiscal year, and 0 otherwise.

*LITIG* is a dummy variable equal to one if the company-year is in a high-litigation industry, defined as SIC codes: 2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370-7474; zero otherwise.

According to the hypotheses of this paper developed in the former section, we predict a negative and significant associated coefficient for our experimental variables of NAS and future NAS fees. This would indicate that firms paying higher current and future NAS fees have lower levels of financial reporting and audit quality.

### ***Earnings surprises***

Next, we test whether current and future NAS are associated with audit quality, as measured by the detection by auditors of opportunistic practices of earnings management in order to meet or slightly beat earnings forecasts. Prior research documents a disproportionately high number of reporting earnings per share that just meet or slightly exceed consensus analyst forecasts (Degeorge et al., 1999), interprets it as an evidence of earnings management. Prior literature explain what methods managers use to achieve it: accrual manipulation (Burgstahler and Eames, 2006; Dechow et al., 2003), expectations management (Matsumoto, 2002; Kasznik and Lev, 1995), real activities manipulation



(Gunny, 2010; Roychowdhury, 2006) and discretionary use of non-GAAP earnings (Doyle et al., 2013). We investigate the effect of current fees and the expectation of future NAS fees on firms reporting earnings surprises, by just meeting or slightly beating consensus analysts' forecasts.

Following Doyle et al. (2013), Paterson and Valencia (2011), Kinney et al. (2004), Blay and Geiger (2013), Causholli et al. (2014) and Huang et al. (2007), we define the following model:

$$\begin{aligned}
 SURPRISE = & \alpha + \beta_1 TAXFEE_t + \beta_2 ARFEE_t + \beta_3 OTHERFEE_t + \beta_4 FUTTAXFEE_t + \beta_5 FUTARFEE_t + \\
 & \beta_6 FUTOTHERFEE_t + \beta_7 AUDITFEE_t + \beta_8 TENURE_t + \beta_9 GROWTH_t + \beta_{10} CF_t + \beta_{11} LEV_t + \beta_{12} MB_t + \\
 & \beta_{13} MV_t + \beta_{14} ROA_t + \beta_{15} RET_t + \beta_{16} LOSS_t + \beta_{17} FIN_t + \beta_{18} ACQ_t + \beta_{19} LITIG_t + YEAR\ controls + \\
 & INDUSTRY\ controls + \varepsilon_t
 \end{aligned} \tag{2}$$

Consistent with Doyle et al. (2013) and Sohn (2016), we define *SURPRISE* as an indicator variable that is set to equal to one if actual normalized earnings per share (earnings per share excluding exceptional items) minus the median consensus analyst earnings per share forecast from S&P Capital IQ, all divided by stock price at the end of the year (actual earnings per share – analyst forecast/stock price), is between 0 and 0.01, and zero otherwise.

We analyze the propensity to meet or beat analyst earnings forecasts for firms that jointly receive audit and NAS by their incumbent auditors. We expect that current NAS fees and NAS fees expected by the incumbent auditor are positively associated with meet or just beat earnings forecasts by firms, as high current and future NAS fees may impair auditors' independence. Using earnings management practices to report earnings meeting or just beating analysts forecast benefits to the firm enabling better performance in the future (Gunny, 2010), increasing managers' credibility for meeting the expectations of shareholders, maximizing stock prices and avoiding litigation (Bartov et al., 2002). In addition, shareholders may benefit from managers undertaking earnings management to meet or just beat earnings benchmarks to the extent that the benefits exceed the costs (Graham et al., 2005).

#### 4.2. Sample selection

We conduct the empirical analysis with a sample of companies listed on the Spanish Stock Exchange (*Sistema de Interconexión Bursátil Español*) every year of the 2005-2016 research period. Data on audit and NAS fees, audit firms and audit tenure were hand-collected from the notes disclosure of the annual financial statements of listed companies in Spain from 2005 to 2016, which are filed with the CNMV, the Spanish Securities and Exchange Commission. Financial data were obtained from S&P Capital IQ database.

Our sample starts with 1,274 firm-year observations from 2005 to 2016 (Table 2). Finally, it includes 1,063 in Equations (1), (2) and (3), due to the requirement of three consecutive years of fee data to calculate current and future fees of each type of NAS.

#### Insert table 2 around here

Our sample ranges between 97 and 110 unique companies (see Table 2), depending on the year considered, because some firms became public after 2005 (3 companies), and some other went bankrupt (7 companies) or were acquired and became private (6 companies) between 2013 and 2016. Companies in our sample belong to eight different industry sectors, according to industry SIC codes. Following 2-digit SIC industry, the sample is distributed as follows: 15-19 Construction, 11.7%; 20-39 Manufacturing, 44.1%; 40-49 Transportation and Public Utilities, 8.1%; 50-59 Wholesale Trade and Retail Trade, 3.6%; 60-67 Finance, Insurance, Real Estate, 18.0%; and 70-89 Services, 14.4%.

Table 3 summarizes the descriptive statistics for the fee variables and control variables. Panel A reports the percentage of cases for dummy variables (*RESTATE*, *SURPRISE*, *LOSS*, *FIN*, *ACQ* and *LITIG*). In a 20.8% of the cases, firms present financial statements that are later restated. This proportion is somewhat higher than the one found by Paterson and Valencia (2011), 17.6%, and Blay and Geiger (2013), 16%, for US companies. The

percentage of observations corresponding to firms meeting or just beating earnings analysts forecasts is a 5.7%. This percentage is something lower than those examined by Sohn (2016) for the US market (8.4%).

Panel B of Table 3 reports a preliminary univariate analysis of differences of means and medians of restatement and non-restatement observations by instrumental and control variables. We use the *t*-test to assess the statistical significance of mean differences and the Mann-Whitney test for median differences. Like in Paterson and Valencia (2011) results and contrary to what Blay and Geiger (2013) found for going-concern and non-going-concern observations, the difference in current and future other services fees between restatement and non-restatement observations is significant, but the difference in current and future tax and audit-related services is not. This indicates a significant higher amount of current and future other NAS fees paid to their incumbent auditors by firms which financial statements are later restated.

Panel C shows the results of univariate analysis of differences of means and medians of earnings surprise and non-surprise observations by instrumental and control variables. As we can observe, the difference in current and future other services fees between earnings surprise and non-surprise observations is also significant in this case, but here the significance also includes the difference in current tax fees. It is interesting to highlight that when computing the total amount of current and future NAS fees, the difference between restatement (vs non-restatement) and earnings surprise (vs non-surprise) observations is significant, but this significance is basically explained by other services and not by tax or audit-related fees. This result provide a first evidence of the importance of separate NAS fees into its disclosed components when analyzing their association with different measures of audit quality.

**Insert table 3 around here**

Panel D presents the descriptive statistics for the full sample on continuous variables used in Equations (1) and (2). Our sample data shows that the aggregate annual amount of NAS fees has increased at an average annual path of a 9.6% during the period 2005-2015. This result is different to previous research conducted in the US in the post-SOX era (Blay and Geiger, 2013; Ghosh and Pawlewicz, 2009) that reports a decrease in proportionate NAS fees as a indicative of SOX limiting the amount of NAS fees that can be provided to audit clients. Firms in our sample have a mean value of *MV* (the natural log of the market value of equity) of 2.77, which is smaller than the US firms examined by Paterson and Valencia (2011) of 5.69, and Causholli et al. (2014) of 5.56, and also smaller than the values reported by Cahan et al. (2008) of 11.92 for New Zealand. Tax, audit-related and other NAS fees are reported in €thousands and in natural log for comparison purposes. The mean value of *TAXFEE* is €thousands 71.58, which is smaller than the amount found by Paterson and Valencia (2011) for restatement (\$thousands 456) and non-restatement firms (356), and by Kinney et al. (2004) of \$thousands 247.8 for US firms. The mean value of *ARFEE* is €thousands 229.38, which is also smaller than values in Paterson and Valencia (2011) of \$thousands 448 and 354 for restatement and non-restatement firms, respectively, but similar to those reported by Kinney et al. (2004) of \$thousands 228.9. The mean value of *OTHERFEE* is €thousands 307.30, which is higher than those exhibited in Paterson and Valencia (2011) of \$thousands 267 and 207, and in Kinney et al. (2004) of \$thousands 167.4. Thus, the composition of NAS fees seems to be quite different in the US and Spanish audit markets, with a higher weight of unspecified other services in the last one. In fact, as shown in Table 1 before, in average and for the whole period, other services represent the 50.6% of total NAS fees, and around the 68% of total firm-year observations. Thus, it is expected that the main potential effect of expected NAS on audit quality comes from this category of NAS. The mean value of auditor tenure in Spanish listed companies is about ten years, somewhat higher than the values reported by Causholli et al. (2014) and Lim and Tan (2008) for US companies, and very similar to those found by Svanström (2013) for private firms in Sweden.

Table 4 displays the correlation coefficients between the variables in Equations (1) and (2). From our different measures of current and future NAS fees by type of NAS, only expected other services fees (*FUTOTHERFEE*) do present a clear positive and significant correlation with the our proxies of audit quality (*RESTATE* and *SURPRISE*), indicating that higher expected fees for other services by the incumbent auditor are associated with lower audit quality. *AUDITFEE* is also positively and significantly correlated with *RESTATE* and *SURPRISE*, suggesting that higher current audit fees might be associated with lower levels of auditors independence. *MV* and *ACQ* also show a positive and significant correlation with our proxies of audit quality, indicating the higher likelihood of larger and more complex firms to present restatements and earnings surprises. Current and future tax and other NAS fees (*TAXFEE*, *FUTTAXFEE*, *OTHERFEE* and *FUTOTHERFEE*) as well as audit fees (*AUDITFEE*) are positively associated with *TENURE*, showing that audit and some types of NAS prices increase with the audit tenure. Although the correlation matrix indicates some potential multicollinearity problems between current and future NAS fees variables (see Table 4), examination of variance inflation factors (VIFs) suggest that none of our coefficients are seriously affected by multicollinearity<sup>6</sup>.

**Insert table 4 around here**

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<sup>6</sup>None of the VIF values is above 10 in our equations.

## 4. Results

### *The association between current and future NAS, and restatements*

Table 5 presents the results of logistic multilevel regressions with robust test on equation (1) using current and future NAS fees measures to test our hypotheses. Pseudo R-square ranges from 6.1% to 10.1%, similar values that those reported by Kinney et al. (2004) and somewhat higher than those by Patterson and Valencia (2011).

### **Insert table 5 around here**

Following Kinney et al. (2004) and Patterson and Valencia (2011), we present our results for all restatements and for high-concern restatements, i.e. restatements in which results are fundamentally different from original, i.e. net income, retained earnings and/or cash from operations is different. When we use all kind of restatements, we fail to find any significant association between NAS fees measures and audit quality.

However, when high-concern restatements are computed, we are able to find some significant relationships. Contrary to what reported by Kinney et al. (2004) and Patterson and Valencia (2011), we do not find any significant association between the different categories of current NAS fees (being most of them and especially *OTHERFEE* recurring fees over the sample period, and restatements. This indicates that current amounts paid by clients to their incumbent auditors for NAS do not affect audit quality.

In addition, and consistent with Kinney et al. (2004), we find a positive and significant association between *AUDITFEE* and restatements ( $\beta_7 = .192$ ,  $p$ -value = 0.065), indicating that higher current audit fees possibly increase the likelihood of restatements of previous issued financial statements, and, thus, impairing the quality of the audit.

On the other hand, consistent with Blay and Geiger (2013) and Causholli et al. (2014), and unlike Cahan et al. (2008), we find a negative and significant association between



expected NAS fees and audit quality. However, unlike these authors, we are able to identify the type of services that may explain this negative association. The coefficient on the variable *FUTOTHERFEE* is positive and significant ( $\beta_6 = .115$ ,  $p$ -value = 0.024), suggesting that the expectation of rents from other services might increase the likelihood of restatements and, therefore, it reflects low-quality financial reporting and audit quality. Therefore, we find that auditors independence may be impaired by the expectation of future other NAS fees, but not by future tax or audit-related fees. These results provide support for Hypothesis 2c. We find that auditors are likely to report accounting rule application failures, financial fraud, irregularities, and misrepresentations; to clients that are going to pay higher future other services fees.

Another important feature is that we find a negative and significant relationship between audit firms' tenure and restatements. The coefficient on the variable *TENURE* is negative and significant ( $\beta_8 = -.252$ ,  $p$ -value = 0.025), suggesting that, unlike previous studies in Spain (Monterrey and Sánchez-Segura, 2007; Ruiz-Barbadillo et al., 2009; Garcia-Blandon et al., 2017), audit tenure is associated with higher audit quality.

### ***Current and future NAS and earnings surprise***

Table 6 presents the results of logistic multilevel regressions with robust test on equation (2), in which we analyze if the propensity to meet or beat analyst earnings forecasts increases for firms that jointly receive audit and current and future NAS by their incumbent auditors. Pseudo R-square ranges from 8.3% to 10.3%.

**Insert table 6 around here**

Unlike Huang et al. (2007) results, we find here some evidence of a positive association between current NAS fees and detection by auditors of opportunistic practices of earnings management in order to meet or slightly beat earnings forecasts, as the coefficient on the

variable *OTHERFEE* is negative and significant, but at a 10% of significance ( $\beta_3 = -.149$ ,  $p$ -value = 0.083).

Supporting our previous findings, and consistent with Blay and Geiger (2013) and Causholli et al. (2014, results of estimating Equation (2) also show a negative association between future NAS fees and the likelihood of reporting earnings surprises by firms. The coefficient on the variable *FUTOTHERFEE* is positive and significant ( $\beta_6 = .245$ ,  $p$ -value = 0.015), suggesting again that the expectation of rents from other services might impair auditors independence and the quality of the audit.

Moreover, we also find here a negative and significant association between current audit fees and the quality of audit. The coefficient on the variable *AUDITFEE* is positive and significant ( $\beta_7 = .385$ ,  $p$ -value = 0.054), indicating that higher current audit fees might increase the likelihood of firms reporting earnings per share that just meet or slightly exceed consensus analyst forecasts.

Taken together, our results underline the importance of considering expected NAS and distinguishing between the various types of NAS, because they seem to show different effects on audit quality. We find weak evidence that current NAS might affect audit quality, but a positive and significant association between future other NAS and restatements and earnings surprises, suggesting that the expectations of providing future other services by incumbent auditors to their clients may impair auditors independence and reduce financial reporting and audit quality.

Thus, our findings differ from previous studies in Spain, which failed to find a significant relationship between NAS fees and audit quality (Carmona and Momparler, 2011; Monterrey and Sánchez-Segura, 2007).

## 5. Additional tests

We conduct a series of specification checks to verify the robustness of the findings reported above. We replicate our main analysis of Equations (1) and (2), by using different proxies of audit quality.

### *Meeting or just beating earnings benchmarks*

First, we analyze the association between current and future NAS and the detection by auditors of opportunistic practices of earnings management in order to avoid reporting losses. Prior research documents a discontinuity around zero earnings and last year earnings, and interprets it as an evidence of earnings management by firms to avert losses (Jacob and Jorgensen, 2007; Burgstahler and Dichev, 1997; Hayn, 1995). We examine the effect of current and expected NAS on firms just meeting two earnings benchmarks, zero earnings and last year's earning.

Following Gunny (2010), Sohn (2016), Paterson and Valencia (2011) and Kinney et al. (2004), Blay and Geiger (2013), Causholli et al. (2014) and Huang et al. (2007), we define the following models:

$$\begin{aligned}
 SM\_EARN = & \alpha + \beta_1 FUTTAXFEE_t + \beta_2 FUTARFEE_t + \beta_3 FUTOTHERFEE_t + \beta_4 AUDITFEE_t + \beta_5 TAXFEE_t + \\
 & \beta_6 ARFEE_t + \beta_7 OTHERFEE_t + \beta_8 TENURE_t + \beta_9 GROWTH_t + \beta_{10} CF_t + \beta_{11} LEV_t + \beta_{12} MB_t + \beta_{13} MV_t + \\
 & \beta_{14} ROA_t + \beta_{15} RET_t + \beta_{16} LOSS_t + \beta_{17} FIN_t + \beta_{18} ACQ_t + \beta_{19} LITIG_t + YEAR\ controls + \\
 & INDUSTRY\ controls + \varepsilon_t
 \end{aligned} \tag{3}$$

Where *SM\_EARN* is an indicator variable that is set to equal to one if net income divided by total assets is between 0 and 0.01, and zero otherwise.

$$\begin{aligned}
 SM\_EARN\_INCR = & \alpha + \beta_1 FUTTAXFEE_t + \beta_2 FUTARFEE_t + \beta_3 FUTOTHERFEE_t + \beta_4 AUDITFEE_t + \\
 & \beta_5 TAXFEE_t + \beta_6 ARFEE_t + \beta_7 OTHERFEE_t + \beta_8 TENURE_t + \beta_9 GROWTH_t + \beta_{10} CF_t + \beta_{11} LEV_t + \beta_{12} MB_t + \\
 & \beta_{13} MV_t + \beta_{14} ROA_t + \beta_{15} RET_t + \beta_{16} LOSS_t + \beta_{17} FIN_t + \beta_{18} ACQ_t + \beta_{19} LITIG_t + YEAR\ controls + \\
 & INDUSTRY\ controls + \varepsilon_t
 \end{aligned} \tag{4}$$

Where  $SM\_EARN\_INCR$  is an indicator variable equal to one if the change in net income (net income<sub>t</sub> – net income<sub>t-1</sub>) divided by total assets (total assets at t) is between 0 and 0.01, and zero otherwise.

We expect that future NAS fees expected by the incumbent auditor are positively associated with just meeting earnings benchmarks by firms, as high future NAS fees may impair auditors' independence.

The percentage of observations corresponding firms just meeting zero earnings benchmark is a 14%. This is a much higher percentage than the proportion reported by Sohn (2016) for the US market (4%). In line with this result, we also exhibit a higher percentage of observations related to firms just meeting last year' earnings benchmark (23% against 14%). These results are consistent with the idea of a lower quality of the financial information disclosed by Spanish firms.

Table 7 presents the results of logistic multilevel regressions with robust test on equation (3). Pseudo R-square ranges from 15% to 24.2%.

### Insert table 7 around here

Unlike Huang et al. (2007) and our previous results (see Table 6), we find a positive association between current other NAS fees and small earnings disclosure. The coefficient on the variable *OTHERFEE* is positive and significant ( $\beta_3 = .132$ ,  $p$ -value = 0.067), suggesting that, in this case, higher current other NAS fees increase the likelihood of firms reporting small earnings.

However, our results provide additional evidence on previous findings concerning future NAS fees. As in Table 6, we also find here a negative association between future other NAS fees and audit quality. The coefficient on the variable *FUTOTHERFEE* is positive and significant ( $\beta_6 = .135$ ,  $p$ -value = 0.074), suggesting again that the expectation of rents from other services might impair auditors independence.

As in Table 5, we also find here a negative and significant relationship between audit firms' tenure and the likelihood of reporting small earnings. The coefficient on the variable *TENURE* is negative and significant ( $\beta_8 = -.609$ ,  $p$ -value = 0.000), suggesting that the longer the audit tenure is the lower is the probability that firms engage in opportunistic practices of earnings management in order to avoid reporting losses.

### ***Audit Opinion***

Next, we examine the impact of current and future NAS fees in audit quality, as measured by auditor reporting behavior decisions. The audit report is the instrument through which the auditor's opinion is explicitly expressed, thus being the final and observable outcome of the audit work. Thus, it is the audit report, and not the audit process, that has value for users of financial information (Ruiz-Barbadillo et al., 2005). There are three types of costs that a company may incur by obtaining a qualified audit report (Craswell, 1988): first, the increase in the company's cost of capital, that results from investors adverse reactions to the report in financial markets; secondly, the costs that managers will suffer in their individual wealth if their earnings depend on the firm's performance; and, finally, the increase in the price for audit services. These costs explain the incentives of managers to obtain clean audit reports, so that in certain cases they will try to influence the opinion of the auditor (Antle and Nalebuff, 1991). Thus, if auditors do not attend to the interests of managers with regard to the opinion of the audit report, they may risk losing their contracts. There is huge empirical evidence that shows that auditor switches and auditors losses of their audit and NAS contracts are more likely to occur when the auditor issues qualified audit reports (Craswell, 1988; Krishnan, 1994). Consequently, auditors' independence might be strongly influenced by the power of managers to change the auditor and auditors desire to retain their audit and NAS contracts.

Accordingly, we analyze here if the current and expected NAS fees might increase the probability of obtaining unqualified audit reports.

Following Ruiz-Barbadillo et al. (2005), Paterson and Valencia (2011), Kinney et al. (2004), Blay and Geiger (2013), Causholli et al. (2014) and Huang et al. (2007), we define the following model:

$$\begin{aligned}
 OPINION = & \alpha + \beta_1 TAXFEE_t + \beta_2 ARFEE_t + \beta_3 OTHERFEE_t + \beta_4 FUTTAXFEE_t + \beta_5 FUTARFEE_t + \\
 & \beta_6 FUTOTHERFEE_t + \beta_7 AUDITFEE_t + \beta_8 TENURE_t + \beta_9 GROWTH_t + \beta_{10} CF_t + \beta_{11} LEV_t + \beta_{12} MB_t + \\
 & \beta_{13} MV_t + \beta_{14} ROA_t + \beta_{15} RET_t + \beta_{16} LOSS_t + \beta_{17} FIN_t + \beta_{18} ACQ_t + \beta_{19} LITIG_t + YEAR\ controls + \\
 & INDUSTRY\ controls + \varepsilon_t
 \end{aligned} \tag{5}$$

Where *OPINION* is set to equal to one if the firm receives a qualified opinion in the audit report, and zero otherwise.

The 27% of observations corresponds firms receiving qualified opinions in their audit reports. This percentage is higher than the data examined by Ruiz-Barbadillo et al. (2005) for Spanish firms during the period 1997 to 2000, because, unlike these authors, we consider unqualified opinion with emphasis of matter paragraphs as qualified reports in order to measure the audit opinion.

Table 8 presents the results of logistic multilevel regressions with robust test on equation (3). Pseudo R-square ranges from 24.6% to 36.3%.

### Insert table 8 around here

We obtain here different results than in previous regressions. We find a positive and significant relationship between *TAXFEE* ( $\beta_1 = .122$ ,  $p$ -value = 0.080), *OTHERFEE* ( $\beta_3 = .128$ ,  $p$ -value = 0.032) and audit opinion, indicating that higher current tax and other services fees increase the likelihood of firms receiving qualified audit reports.

Differently, we obtain a negative and significant association between future tax services fees and audit opinion. The coefficient on the variable *FUTTAXFEE* is negative and significant ( $\beta_6 = -.145$ ,  $p$ -value = 0.014), suggesting that the expectation of rents from tax services might also contribute to impair auditors independence.



In addition, and unlike the results of previous regressions (see Tables 5 and 6), we find here a positive and significant association between *AUDITFEE* and audit opinion ( $\beta_7 = .356$ ,  $p$ -value = 0.005), indicating that higher current audit fees might increase the likelihood of firms receiving qualified audit reports and the quality of audit.

## 6. Concluding remarks

The 2014 EU Regulation bans the joint provision of audit services and almost all types of NAS. However, the empirical evidence available for European countries does not support this approach. In fact, prior research suggests that the current amount of NAS fees paid to incumbent auditors does not have a significant negative effect on audit quality. This lack of significance may be due, at least in part, to the fact that almost all empirical research has been conducted on a current year basis, even though it is widely accepted that the auditor-client engagement is an intertemporal relationship. Thus, it is clear that considering NAS as the source of expected future quasi-rents when analyzing the threats to auditors' independence is a better approach than computing the current year fees.

In this paper, we analyze the relationship between current and future NAS fees and audit quality, by dividing NAS fees into their disclosed categories (tax, audit-related and other or unspecified services) and by using several measures as a proxy of audit quality: restatements, earnings surprises, meeting or just beating earnings benchmarks and audit opinion.

To our knowledge, this is one the first papers that adopts this approach, and try to analyze NAS fees as a component of auditors' long-term utility function. Consistent with Blay and Geiger (2013) and Causholli et al. (2014), but and unlike (Cahan et al., 2008), we find statistically significant evidence that expected rents from NAS fees might impair auditors' independence.

In contrast to previous research, we analyze the effect of future NAS on audit quality by dividing NAS fee into their reported components: tax, audit-related and other services. We find a systematic negative association between future other NAS fees and audit

quality for the different measures of audit quality, suggesting that the expectation of future purchases of other NAS by auditors' clients might create an economic bond between auditors and clients, resulting in reduced quality of financial reporting. For future tax and audit-related services fees, we do not find a significant association with audit quality, suggesting that expected tax and audit-related fees might not affect auditors' independence and the quality of the audit work.

Taken together, our results support the idea that incumbent auditors may consider NAS as a source of future rents. However, it is important to highlight that the different types of NAS show different effects on the client-auditor economic bond and the generation of knowledge spillovers. Therefore, the conclusions of prior research, which has limited itself to addressing the NAS-audit quality relationship on a current-year basis without separating NAS fees into their reported categories, need to be reexamined.

Our findings may be of interest to both the audit profession and audit EU regulators. They indicate that the expectation of future other NAS fees may compromise auditors' independence and impair audit quality. They also suggest that banning the purchase of tax and audit-related services by clients from their statutory auditors might not improve auditors' independence, resulting in reduced quality of financial reporting. Besides, regulators should be aware of the need of further research to understand the link between audit and NAS, as well as their joint effect on the quality of the audit work. They should also consider including more NAS fee categories in the financial statements disclosed by companies to allow researchers to gather more detailed information and, thus, conduct more accurate studies of the association between different types of NAS and audit quality.

Further research should continue to examine the joint effects on audit quality of long periods of joint provision of NAS and audit services to clients by incumbent auditors, by extending the period to compute NAS fees and by using alternative measures of audit quality. It would also be interesting to study whether the negative relationship between expected other NAS and audit quality found here for Spanish public companies is observed in other EU countries.

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## TABLES

Table 1: Annual amount, percent annual change and total weight of NAS fees by type (in €, thousands, except for annual change and weight, in percentage)

NAS type	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Weight over total NAS
Tax Services	1,193	2,139	2,205	2,312	6,483	8,457	10,380	11,807	10,767	13,346	15,838	7,255	11.7
Audit-Related Services	11,655	11,808	15,404	13,210	11,706	14,415	18,740	27,729	28,059	40,588	63,048	35,186	37.7
Other services	22,624	30,588	35,296	36,026	26,335	26,064	30,456	35,389	32,137	37,933	43,190	33,812	50.6
Total NAS	35,472	44,535	52,905	51,548	44,525	48,936	59,576	74,925	70,963	91,867	122,076	76,253	100
Annual change (%)	-	25.5	18.8	-2.6	-13.6	9.9	21.7	25.8	-5.3	29.5	32.9	-37.5	

Table 2: Number of firms and NAS fees firm-year observations. 2005 to 2016

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of firms	107	109	109	110	110	110	110	110	108	105	100	97
Number of firm-year observations	107	109	109	110	110	110	108	108	105	103	99	96

Table 3: Descriptive statistics.

<b>Panel A: Restatements, earnings surprises and indicator control variables (percent)</b>						
Variable	<i>n</i>	1	0			
RESTATE	1,274	25.8	74.2			
SURPRSE	1,274	5.7	94.3			
LOSS	1,274	25.1	74.9			
FIN	1,170	38.1	68.9			
ACQ	1,274	39.5	60.5			
LITIG	1,274	11.8	88.2			

  

<b>Panel B: Current and future NAS fees by restatement and non-restatement observations</b>						
	Restatement observations <i>n</i> = 264		Non-restatement observations <i>n</i> = 1,010		Differences <i>p</i> -value	
	Mean	Median	Mean	Median	in mean	in median
TAXFEE	1.062	0	1.131	0	0.6052	0.2185
ARFEE	1.133	0	0.943	0	0.1676	0.7640
OTHERFEE	3.963	4.812	3.378	3.912	0.0003	0.0000
FUTTAXFEE	1.685	0	1.492	0	0.2384	0.6204
FUTARFEE	1.520	0	1.174	0	0.0380	0.4112
FUTOTHERFEE	5.010	5.694	4.156	4.804	0.0000	0.0000
AUDITFEE	6.327	6.277	5.876	5.722	0.0000	0.0000
TENURE	9.891	8	10.523	9	0.1782	0.2745
GROWTH	0.888	0.044	0.098	0.023	0.0530	0.0537
CF	0.038	0.044	0.057	0.048	0.0310	0.0623
LEV	0.391	0.361	0.363	0.320	0.1877	0.0036
MB	2.498	1.377	2.003	1.333	0.0599	0.2231
MV	2.941	2.941	2.693	2.648	0.0000	0.0002
ROA	0.032	0.031	0.037	0.037	0.0395	0.0479
RET	0.089	-0.015	0.017	-0.05	0.0784	0.2428
LOSS	0.2303	0	0.258	0	0.3241	0.3239
FIN	0.416	0	0.370	0	0.1595	0.1594
ACQ	0.474	0	0.367	0	0.0006	0.0006
LITIG	0.097	0	0.125	0	0.1722	0.1721

**Panel C:** Current and future NAS fees by earnings surprises and non-surprises observations

	Surprises observations <i>n</i> = 73		Non-surprises observations <i>n</i> = 1,201		Differences <i>p</i> -value	
	Mean	Median	Mean	Median	in mean	in median
TAXFEE	1.731	0	1.075	0	0.0084	0.0162
ARFEE	1.084	0	0.987	0	0.7086	0.7198
OTHERFEE	4.223	4.812	3.487	3.971	0.0168	0.0091
FUTTAXFEE	2.114	0	1.514	0	0.0609	0.1280
FUTARFEE	1.473	0	1.264	0	0.5217	0.8792
FUTOTHERFEE	5.470	5.816	4.344	4.977	0.0008	0.0007
AUDITFEE	6.661	6.697	5.952	5.810	0.0001	0.0000
TENURE	11.740	11	10.276	9	0.0983	0.1069
GROWTH	0.066	0.067	0.343	0.027	0.7280	0.2016
CF	0.085	0.080	0.050	0.044	0.0338	0.0010
LEV	0.277	0.277	0.376	0.335	0.0135	0.0055
MB	2.645	1.410	2.117	1.333	0.8494	0.2019
MV	3.105	3.040	2.744	2.700	0.0014	0.0043
ROA	0.065	0.055	0.034	0.035	0.0109	0.0010
RET	0.143	0.120	0.028	-0.050	0.1153	0.0143
LOSS	0.137	0	0.257	0	0.0211	0.0211
FIN	0.493	0	0.374	0	0.0533	0.0534
ACQ	0.431	0	0.387	0	0.0760	0.0761
LITIG	0.137	0	0.116	0	0.5950	0.5948

**Panel D:** Descriptive statistics for the full sample

Variable	<i>n</i>	Mean	Median	Minimum	Maximum	Standard deviation
TAXFEE (€thousands)	1,274	71.580	0	0	9,100	424.206
TAXFEE (log)	1,274	1.113	0	0	9.116	2.067
ARFEE (€thousands)	1,274	229.385	0	0	46,900	2,013.207
ARFEE (log)	1,274	0.992	0	0	10.756	2.151
OTHERFEE (€thousands)	1,274	307.303	56	0	12,600	853.386
OTHERFEE (log)	1,274	3.530	4.043	0	9.442	2.553
FUTTAXFEE (€thousands)	1,063	159.571	0	0	15,700	865.291
FUTTAXFEE (log)	1,063	1.549	0	0	9.661	2.445
FUTARFEE (€thousands)	1,063	481.403	0	0	78,000	4,115.483
FUTARFEE (log)	1,063	1.276	0	0	11.264	2.484
FUTOTHERFEE (€thousands)	1,063	629.842	151	0	20,600	1,664.762
FUTOTHERFEE (log)	1,063	4.409	5.024	0	9.933	2.570
AUDITFEE (€thousands)	1,274	1,528.357	350	12	58,300	4,438.143
AUDITFEE (log)	1,274	5.992	5.861	2.565	10.973	1.508
TENURE	1,274	10.359	9	1	30	7.346
GROWTH	973	0.327	0.031	-1	171.933	5.779
CF	1,174	0.052	0.046	-2.015	0.863	0.129
LEV	1,274	0.370	0.329	0	6.104	0.333
MB	1,066	2.148	1.345	-46.044	45.475	3.912
MV	1,014	2.766	2.709	0.596	5.035	0.863
ROA	1,274	0.036	0.036	-0.894	0.498	0.101
RET	1,070	0.035	-0.040	-0.920	4.300	0.578



Table 4: Pearson correlation between the variables in Equations (1) and (2).

	RESTATE	SURPRISE	TAXFEE	ARFEE	OTHERFEE	FUTTAX	FUTAR	FUTOTHER	AUDIT FEE	TENURE	GROWTH
RESTATE											
SURPRISE	.0015										
TAXFEE	-.0145	.0739*									
ARFEE	.0387	.0105	.3470**								
OTHERFEE	.1003**	.0670*	.1556**	.2352**							
FUTTAX	.0362	.0575	.7307**	.2491**	.2095**						
FUTAR	.0636*	.0197	.3306**	.7432**	.2563**	.3602**					
FUTOTHER	.1519**	.1028**	.1414**	.2192**	.7100**	.1946**	.2325**				
AUDITFEE	.1312**	.1093**	.3769**	.3996**	.6155**	.4014**	.4045**	.5912**			
TENURE	-.0263	.0433	.0925**	.0558*	.2458**	.1314**	.0453	.2160**	.2269**		
GROWTH	.0621	-.0112	-.0253	-.0164	-.0395	-.0321	-.0193	-.0453	-.0514	-.0095	
CF	-.0629*	.0620*	-.0064	-.0245	.0986**	-.0037	.0105	.0703*	.0736*	.0402	-.3298**
LEV	.0370	-.0693*	-.0463	-.0272	-.0380	-.0269	-.0427	-.0392	-.0538	-.1025**	.0038
MB	.0576	.0317	-.0556	-.0262	-.0396	-.0376	-.0158	-.0101	-.0290	.0778	.0058
MV	.1309**	.1001*	.2048**	.3501**	.5066**	.2659**	.3665**	.5333**	.7322**	.1850**	.0155
ROA	-.0223	.0714*	.0196	.0238	.0756*	.0155	.0221	.0934*	.0988**	.0640	.0055
RET	.0538	.0482	-.0537	-.0360	-.0033	-.0324	.0427	.0328	-.0407	-.0134	.1969**
LOSS	-.0276	-.0644*	-.0252	-.0891*	-.1369**	-.0483	-.0569	-.1809**	-.1676**	-.0919*	-.0389
FIN	.0412	.0565	-.0073	.0131	.0831*	-.0011	.0389	.0653	.0466	-.0594*	.057
ACQ	.0961**	.0495	.0849*	.1753**	.2810**	.1301**	.1307**	.2393**	.4141**	.0849*	.0551
LITIG	-.0381	.0148	.1218**	-.0205	.0028	.1301**	-.0045	.0080	.0148	-.0186	.0037

\*\* Statistically significant at a 1% level; \* Statistically significant at a 5% level

Table 4: Pearson correlation between the variables in Equations (1) and (2) (Cont.).

	CF	LEV	MB	MV	ROA	RET	LOSS	FIN	ACQ	LITIG
LEV	-.1331**									
MB	.1626**	-.1924**								
MV	.1543**	-.1672**	.2302**							
ROA	.4263**	-.3423**	.3696**	.3699**						
RET	.0104	-.1304**	.1610**	.2057**	.1553**					
LOSS	-.1817**	.3367**	-.1582**	-.4259**	-.4325**	-.1134**				
FIN	-.1090**	.0628*	-.0685*	-.0171	-.1155**	.0075	.0303			
ACQ	.0376	-.0791*	.1002*	.4106**	.1653**	.0607*	-.2322**	.1098**		
LITIG	.0101	-.1049**	.1359**	.0273	.0704*	.0141	-.0201	.0403	.0021	

\*\* Statistically significant at a 1% level; \* Statistically significant at a 5% level

Table 5: Multilevel logistic estimates for financial restatements (*RESTATE*)

Variable	Predicted sign	All Restatements		High-concern Restatements	
		Estimated coefficient	p-value	Estimated coefficient	p-value
TAXFEE	+	-0.076	0.143	-0.048	0.390
ARFEE	+	0.046	0.400	0.065	0.265
OTHERFEE	+	0.067	0.132	0.046	0.350
FUTTAXFEE	+	0.014	0.739	0.017	0.701
FUTARFEE	+	-0.014	0.753	-0.022	0.638
FUTOTHERFEE	+	0.006	0.886	0.115	0.024**
AUDITFEE	+	0.152	0.104	0.192	0.065*
TENURE	-	-0.075	0.458	-0.252	0.025**
GROWTH	+	0.031	0.673	0.217	0.257
CF	-	-0.136	0.876	-0.415	0.666
LEV	+	0.606	0.072*	0.785	0.033**
MB	+	-0.001	0.976	0.055	0.035**
MV	-	0.064	0.690	-0.222	0.209
ROA	-	-0.886	0.425	-1.162	0.351
RET	+	0.340	0.011**	0.353	0.010***
LOSS	+	-0.149	0.466	-0.103	0.656
FIN	+	-0.060	0.687	-0.248	0.133
ACQ	+	0.130	0.420	0.137	0.448
LITIG	-	-0.059	0.801	-0.183	0.499
YEAR control		YES		YES	
INDUSTRY control		YES		YES	
Chi-Square		48.24		53.33	
Cox-Snell R <sup>2</sup>		0.045		0.061	
Nagelkerke R <sup>2</sup>		0.080		0.101	
No. of observations		973		973	

\*\*\* Sig. 1%; \*\* Sig. 5%; \* Sig. 10%

Table 6: Multilevel logistic estimates for earnings surprises (*SURPRISE*)

Variable	Predicted sign	Estimated coefficient	p-value
TAXFEE	+	0.070	0.452
ARFEE	+	-0.027	0.784
OTHERFEE	+	-0.149	0.083*
FUTTAXFEE	+	0.007	0.939
FUTARFEE	+	-0.051	0.537
FUTOTHERFEE	+	0.245	0.015**
AUDITFEE	+	0.385	0.054*
TENURE	-	-0.072	0.721
GROWTH	+	-0.421	0.444
CF	-	2.803	0.168
LEV	-	-1.330	0.107
MB	+	0.007	0.873
MV	-	-0.259	0.457
ROA	-	0.245	0.928
RET	+	0.348	0.159
LOSS	-	-0.111	0.806
FIN	+	0.647	0.028**
ACQ	+	-0.039	0.912
LITIG	-	0.280	0.949
YEAR control		YES	
INDUSTRY control		YES	
Chi-Square		35.73	
Cox-Snell R <sup>2</sup>		0.083	
Nagelkerke R <sup>2</sup>		0.103	
No. of observations		973	

\*\*\* Sig. 1%; \*\* Sig. 5%; \* Sig. 10%

Table 7: Multilevel logistic estimates for meeting or just beating earnings benchmarks

Variable	Predicted sign	SM_EARN		SM_EARN_INCR	
		Estimated coefficient	p-value	Estimated coefficient	p-value
TAXFEE	+	0.091	0.193	-0.081	0.175
ARFEE	+	0.051	0.475	0.051	0.412
OTHERFEE	+	0.132	0.067*	-0.073	0.180
FUTTAXFEE	+	0.031	0.612	0.026	0.592
FUTARFEE	+	0.015	0.800	0.002	0.975
FUTOTHERFEE	+	0.135	0.074*	0.110	0.049**
AUDITFEE	+	-0.086	0.548	-0.001	0.993
TENURE	-	-0.609	0.000***	-0.135	0.271
GROWTH	+	0.128	0.527	0.501	0.024**
CF	-	-2.712	0.036**	-1.745	0.106
LEV	-	-1.552	0.006***	0.649	0.151
MB	+	-0.076	0.034**	-0.040	0.202
MV	-	0.351	0.145	0.403	0.040**
ROA	-	-3.428	0.049**	2.759	0.084*
RET	+	-0.116	0.575	0.375	0.015**
LOSS	-	-0.117	0.715	-2.168	0.000***
FIN	+	0.104	0.637	-0.104	0.560
ACQ	+	0.145	0.548	-0.066	0.731
LITIG	-	-1.253	0.013**	-0.528	0.085**
YEAR control		YES		YES	
INDUSTRY control		YES		YES	
Chi-Square		93.10		88.88	
Cox-Snell R <sup>2</sup>		0.176		0.150	
Nagelkerke R <sup>2</sup>		0.242		0.232	
No. of observations		973		973	

\*\*\* Sig. 1%; \*\* Sig. 5%; \* Sig. 10%

Table 8: Multilevel logistic estimates for audit opinion (*OPINION*)

Variable	Predicted sign	Estimated coefficient	p-value
TAXFEE	+	0.122	0.080*
ARFEE	+	0.057	0.441
OTHERFEE	+	0.128	0.032**
FUTTAXFEE	+	-0.145	0.014**
FUTARFEE	+	0.030	0.615
FUTOTHERFEE	+	-0.070	0.225
AUDITFEE	+	0.356	0.005***
TENURE	-	-0.111	0.393
GROWTH	+	-0.059	0.568
CF	-	-0.844	0.460
LEV	+	2.348	0.000***
MB	+	-0.010	0.742
MV	-	-1.243	0.000***
ROA	-	-3.687	0.019**
RET	+	-0.141	0.425
LOSS	+	0.305	0.191
FIN	+	-0.100	0.595
ACQ	+	-0.215	0.312
LITIG	-	-0.890	0.019**
YEAR control		YES	
INDUSTRY control		YES	
Chi-Square		159.27	
Cox-Snell R <sup>2</sup>		0.246	
Nagelkerke R <sup>2</sup>		0.363	
No. of observations		973	

\*\*\* Sig. 1%; \*\* Sig. 5%; \* Sig. 10%