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**“Influences of auditor-client  
relationships on earnings quality:  
Evidence from EU firms”**

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## **Abstract**

This dissertation was written as part of the MSc in International Accounting, Auditing and Financial Management, at the International Hellenic University.

Auditor and client relationship has been the center of attention for the past decades. Economic scandals around the world have intrigued stakeholders to inquiry this relationship as well as raising questions about the quality of earnings. We assess this relationship by examining a sample of 3.000 European firm –year observations for the period 2012 – 2016. Our results are in line with prior literature, supporting that high audit fees are indicative of higher audit quality. We do not find satisfying evidence that client importance affects auditor’s opinion. However, we document that the increased provision of non-audit services causes auditor’s to place greater restraints in earnings manipulation, in order to safeguard their increased investment in reputational capital. Also, we observed that audit quality increased, when then were was a change of auditor, indicating that new auditors are stricter to earnings manipulation. These findings are robust to a number of sensitivity check regarding earnings management benchmarks and regional characteristics.

**Keywords:** Earnings Management, Discretionary Accruals, Audit Quality, Auditor’s Fees

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## I. Introduction

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Earnings manipulation as described by Healy and Wahlen (1999) occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead part of the stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices. This is perceived as a widespread phenomenon that is a consequence of separating ownership from control in public companies. This segregation emerges a conflict of interest among principals (shareholders) and the agents (managers) under which the latter might not reveal the truth due to immense contracting costs (Holmstrom and Milgrom, 1987). Shareholders often cannot fully comprehend management actions that lead to information asymmetry derived from the costly communication in the market (Milgrom and Roberts, 1992; Ronen and Yaari, 2008; Walker 2013). Under this notion, agents might exercise discretion upon financial reporting within the boundaries of Generally Accepted Accounting Standards (GAAP) (Harris and Raviv, 1979; Fama, 1980; Strong and Walker, 1987; Walker, 2013).

Mulford and Comiskey (2002) have described that earnings management could be influenced both by internal and external parties such as forecasts made by analysts, predetermined targets set by the management or a specific amount that is consistent with a smoother and more sustainable earnings stream. In order to explain earnings management behavior, prior literature has identified three distinct motives that firstly arise from contracting deficiencies in the contract terms among firms and its stakeholders. Another pattern that has been recognized is capital market motives associated with inefficiencies of stock markets and finally motives that are determined by external parties that influence the cost of communicating information in the market (Ronen and Yaari, 2008; Walker, 2013).

Furthermore, previous studies<sup>1</sup> have identified the aforementioned motives and pinpointed the factors that influence them such as management compensation, CEO turnover, managerial ability, loans and corporate governance. Regarding external motives literature<sup>2</sup> has analyzed the impact of industry, industrial diversification, accounting standards, tax

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<sup>1</sup> Godfrey et al. 2003; Boone et al. 2004; Defond and Francis, 2005; Yu, 2008; Iatridis and Kadorinis, 2009; Laux and Laux, 2009; Demerjian et al. 2013

<sup>2</sup> Bagnoli, Watts 2000, Goldman and Slezak 2006, Jiraporn et al. 2006, Barth et al. 2008

considerations, suppliers and customers, political environment, competitors and country specific policies.

Nonetheless as per Ronen and Yaari (2008) study, it is of vital importance to understand that manipulation of earnings is not necessarily a bearer of bad news, thus they proceed by distinguishing two certain categories of real and accrual earnings manipulation and provide the following definition: “*Earnings management is a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management. Earnings management can be beneficial: it signals long-term value; pernicious: it conceals short- or long-term value; neutral: it reveals the short-term true performance. The managed earnings result from taking production/investment actions before earnings are realized or making accounting choices that affect the earnings numbers and their interpretation after the true earnings are realized*” Ronen and Yaari (2008, p.5).

Previous research on earnings manipulation (Healy, 1985; DeAngelo, 1986; Jones, 1991) indicate that high discretionary accruals translate to earnings manipulations. Hence, high discretionary accruals should be reasonably associated with audit qualifications. Nonetheless, numerous factors exist that can lead to audit qualifications. Literature has identified a number of such variables covering operational complexity and various types of risks.

Following the preceding discussion, we are trying to identify how audit quality is affected by the client’s and auditor’s characteristics. We define audit quality as the value of discretionary accruals computed as per Modified Jones model (Dechow et al. 1995) while controlling for client’s and auditor’s attributes through estimating four main variables: Auditor Switch, Audit Fees, Non – Audit Fees and Client Importance. In order to attest these relationships, we proceed by formulating four hypotheses where on the first we assume that when audit fees increase, discretionary accruals should decrease as a result of higher audit quality. Then we hypothesize that the provision of non-audit services impacts auditor’s opinion. We also claim that client’s importance can lead to loss of auditor’s independence and finally assess how auditor’s tenure affects earnings management.

Prior evidence supports that increased fees paid to the auditors can positively impact audit quality (Hoitash et al. 2007; Abbott et al. 2004). On the other hand, the provision of non-audit services might impair auditor’s independence as the auditor becomes reluctant on placing constraints on earnings manipulation in the fear of losing profitable fees (DeAngelo, 1981; Simunic, 1984). Auditing literature findings suggest that audit quality of Big4 is



remarkably higher when compared with that of non-Big4 auditors (DeAngelo, 1981). Another argument is that larger audit firms are capable of providing higher audit quality due to the fact that they are exposed to greater reputational risks (Dopuch and Simunic, 1980). Regarding auditor tenure, legal framework mandates auditor rotation but prior literature findings appear to be contradicting where Balsam et al. (2003) claim that audit quality increases with longer auditor tenure. While, the findings of Chi et al. (2010) suggest that longer auditor tenure is associated with greater earnings management.

Using data from Bloomberg database our research provides evidence in accord with prior literature<sup>3</sup> suggesting that high audit fees translate to higher audit quality, therefore lower earnings manipulation. Contrary to our expectations, we identified that the provision of non-audit services are negatively associated with earnings management, which can be reasonably explained by the findings of Arruñada et al. (1999) where he suggests that auditors tend to place greater constraints in order to protect their increased investment in reputational capital. With respect to our client importance hypothesis, our study has not identified a significant association with earnings management similar to the findings of Ashbaugh et al. (2002); Francis and Yu (2009). With respect to our last hypothesis, we found that audit quality is impaired by longer auditor tenure a result which is consistent with the study of Chi et al. (2010).

This research contributes to the existing literature on earnings management by providing evidence on the association of clients and auditors characteristics to audit quality on European listed firms. Although, prior studies have focused heavily on earnings management and audit quality on US firms little is known about the impact of client's and auditor's characteristics to earnings management. To the extent of our knowledge, this is one of the first studies to provide direct evidence on earnings management based on European firms. Our findings ought to be interpreted with due regard to their limitations and to the caveats of matching models, discussed at full length in the rest of our research. Our study has not resolved the question as to whether client importance is capable of affecting an auditor's opinion, but we hope that it inspires other researchers to apply different methodologies that further explain client characteristics.

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<sup>3</sup> *Becker et al. 1998; Johnson et al. 2002; Balsam et al. 2003; Srinidhhi and Gul et al. 2006; Ashbaugh et al 2003*

The remainder of our paper is organized as follows. On section two we provide our discussion based on prior research and we develop our hypotheses. Section three presents the selected sample and research design. We discuss our empirical findings along with our sensitivity and robustness tests. Ultimately, on our last chapter we conclude our study.

## II. Prior Research and Hypothesis

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### *i. Audit Fees and Audit Quality*

Hoitash et al. (2007) analyze various firms for the period 2000-2003 in order to investigate the linkage among fees paid to auditors and audit quality. In specific, they provide an overview of fees paid to auditors within the context that auditor profitability captures more efficiently the relation between audit quality and auditor independence. Furthermore, they confirm that pre and post-SOX there is a rational and persistent economic bond which determines the behaviour of an auditor despite any reputational concerns. Their findings also demonstrate that there is a positive and significant relationship between the size of the client and the abnormal fees paid to the auditor.

Choi et al. (2009) examined how the size of a city-based audit engagement office impacts audit quality, therefore audit fees in comparison with a national level audit firm as the former is a semi-autonomous unit within an audit firm, having its own client base. They examined a sample of 19,499 US firm with yearly observations over the period of 2000 - 2005. They have formed two hypotheses where on H1 they claim that “*Audit quality, measured by unsigned abnormal accruals, is not associated with the size of a local engagement office, other things being equal*”. They proxy for audit quality, by using unsigned abnormal accruals and their results reveal that this is significantly higher for larger offices which is consistent with the economic dependence perspective. Consequently, larger offices are less economically dependent on clients and it is more likely to resist substandard or biased reporting. Furthermore, they form the second hypothesis where on H2 they claim that “*Audit fees paid to auditors are not associated with the size of a local engagement office, other things being equal*”. Their findings revealed that audit fees are remarkably higher for larger offices in comparison with the smaller offices, evidence that is consistent with the rejection of the null hypothesis, H2.

On a research conducted by Srinidhi et al. (2007) on 4,551 US firms, over the period 2000-2003 they evaluate whether auditors take into consideration the informativeness of earnings and accruals in order to set up their audit plan and determine the pricing. Extensive research on prior literature has led them to formulate the following hypothesis: *“The informativeness in earnings and accruals, namely, total accruals, and discretionary accruals is negatively associated with audit fees, ceteris paribus”*. Their findings are consistent with the aforementioned hypothesis along with prior literature and they confirm that there is a negative relationship between audit fee and the informativeness of earnings, total accruals and abnormal accruals. The notion behind this analysis is that auditors have access to private information and the enticement to amass such information in order to refine the informativeness in accruals and earnings. This knowledge allows them to adjust accordingly their audit plan and the pricing as information could impact the economic environment of an organization. Moreover, they found evidence consistent with prior literature that investors could potentially use the audit information in order to price a firm higher if the abnormal audit fee is low and vice versa.

A similar study by Abbott et al. (2004) examined proxies, filed in the SEC during February 2001 and June 2001 over 429 firms in order to identify the asymmetric association among auditor’s assessment of litigation risk and earnings management. They made two claims where on H1: *“Audit fees decrease (increase) with income decreasing (increasing) discretionary accruals as a result of asymmetric litigation risk assessments”* and the second hypothesis suggests that H2: *“Audit fee effects resulting from a client’s propensity to manage earnings upward will be magnified for clients within greater litigation risk environments as identified by ‘high-growth’ or high price-earnings (P/E) clients”*. Their findings suggested that audit fees decreased with client’s propensity to manage earnings downward and this relation is increased for clients who operate in higher risk litigation environments. Furthermore, they found that discretionary accruals are increased when associated with lower audit fees and that the interaction of industry-adjusted price-earnings ratio and discretionary accruals has an incrementally significant and positive effect on fees.

Following the aforementioned, we conclude on our first hypothesis where we claim that:

*H1: Higher audit fees translate to higher audit quality, therefore lower earnings management.*

## ***ii. Provision of Non-Audit Fees and Discretionary Accruals***

A research by Frankel et al. (2002) tried to identify the association between auditor fees and earnings management and how the market reacts on the disclosure of audit fees by examining 3,074 US firms which filled proxy statements on the SEC between January 2001 and June 2001. In order to assess the former association, they claim that H1a: *“The provision of non-audit services to audit clients is not associated with earnings management”* and H1b: *“The provision of audit services is not associated with earnings management”*. Their findings suggest that there is a positive association between non-audit fees and the likelihood of reporting a small earnings surprise. When comparing audit fees and earnings management indicators they identified a negative and significant association among them. On the other hand, they did not find any association among non-audit fees and the likelihood of reporting a small increase in earnings. When, examining total audit fees they also did not observe any linkage with earnings management indicators. Regarding the reaction of the market to audit fees, they formulated following two hypotheses where on H2a they suggest that *“There is no share price reaction to the disclosure of non-audit fees”* and on H2b that *“There is no share price reaction to the disclosure of audit fees”*. Their tests revealed that the disclosures of non-audit fees are negatively associated with share prices although the reaction in small economic terms is insignificant.

Another study by Defond et al. (2002) examined 944 distressed US firms which had filled a proxy statement in the SEC between February 2001 and May 2001 in order to evaluate if the provision of non-audit services impair auditor independence when the auditor has issued a going concern opinion. They formulated two hypotheses where on the first they suggested that *“Ceteris paribus, non-audit service fees are inversely related to auditors’ propensity to issue going concern audit opinions”*. Their second hypothesis claimed that *“Ceteris paribus, total fees are inversely related to auditors’ propensity to issue going concern audit opinions”*. Their findings did not provide any evidence that non-audit fees impair auditor's independence. However, they observed that auditors tend to issue a going concern opinion to clients paying higher audit fees, which implies that they treat those clients with greater independence.

Srinidhi and Gul (2006) on their study, they examined a sample of 4,282 US firms over the period 2000-2001 in order to assess the relationship between audit and non-audit fees and accrual quality. They measured accrual quality as defined by Francis et al. (2005) model

which is the absolute value of the residual in the regression with the total current accruals as the dependent variable with the previous, current and subsequent period operating cash flows, the change in revenue and the level of property, plant and equipment as the independent variables. Their findings support that accrual quality is significantly negatively associated with non-audit fees that translates to economic bonding, loss of independence and consequent loss of audit quality, while audit fees have a significant and positive association resulting in higher accrual quality.

Taking into consideration the aforementioned contradicting studies and the legal framework regarding mandatory auditor rotation<sup>4</sup> we form the following hypotheses:

*H2: Higher non- audit fees create an economic bonding between auditor and auditee, which increases the chances of earnings manipulation.*

### ***iii. Clients Importance and Auditor's Independence***

Chung and Kallapur (2003) in their study tried to identify the association between abnormal accruals and client importance by using ratios of client fees and non-audit fees divided by the audit firm's US revenues. The notion behind this research is that they use the economic theory of auditor independence to incentivize their choice of client importance and proxy for auditor's incentives to compromise their independence. Their sample consisted of 1.871 US firms that after the changes on the SEC - SEC Final Rule (SEC 2000) disclosure was required in proxy statements beginning from February 5, 2001 and June 30, 2001. Based on previous literature they are using the absolute Jones-model abnormal accruals of audit clients as measures of earnings and thus, audit quality. Their findings revealed low significance among abnormal accruals and any of the measures of client importance that is not attributed to lack of power of their tests as they rejected the hypothesis that the difference in abnormal accruals between firms at the first and third quartiles by client importance is as high as the difference found in previous studies between abnormal accruals of clients of Big6 and non-Big6 auditors.

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<sup>4</sup> According to European Regulation No. 537/2014, as of 17 June 2016, public interest entities (PIE) are obliged to mandatory firm rotation (MFR).

Francis and Yu on 2009 through their study investigated the association between Big4 auditors and the size of the client. Their sample consisted of 6.568 US firms for the period 2003-2005 and their results reveal that Big-Four auditors provide audit reports of higher quality for larger clients. In more detail, their findings suggest that larger clients audited by Big-Four auditors are less likely to manage their earnings so as to report small earnings and consequently avoid losses. Therefore, larger clients audited by Big4 report smaller abnormal accruals. However, there is no convincing evidence that audit quality is significantly lower in smaller firms.

Ashbaugh et al. (2002) conducted a study which examined the findings of Frankel et al. (2002) by assessing how auditor's independence affects discretionary accruals. Their sample consisted of 3,170 US firms for the fiscal year of 2000. They measured auditor's independence as the ratio of non-audit fees to total audit fees of the audit firm and audit fees to total audit fees of the audit firm. Nevertheless, they argued that the ratio of non-audit fees to total audit fees necessarily captures the economic importance of the client to the audit firm. They acknowledged the fact that the fee ratio illustrates the relative monetary value of non-audit services in comparison with audit fees services as they could have a potential impact on the perception of independence as previous studies<sup>5</sup> suggested. Their findings are not consistent with prior literature as they found no significant association on earnings benchmarks tests and auditor's characteristics, thus they claim that auditors do not necessarily violate their independence when their clients purchase higher amount of non-audit services.

Bauwhede et al. (2003) in their study, developed three hypothesis regarding earnings management on Belgian companies. Their sample consisted of 352 Belgian public and privately held companies for the period of 1991 - 1997. On the first hypothesis, they assumed that *"Belgian companies irrespective of their size manage their earnings so as to meet their benchmark target of prior-year earnings"*. Their second hypothesis considered that: *"Big4 restrains significantly earnings management, hence the use of discretionary accruals in order to meet earnings target"*. The last assumption supported that companies which are publicly owned have incentives to manage their earnings upwards; hence the discretionary accruals are positively affected. They concluded, that regardless of the size of the auditee and the type of ownership, companies do manage their earnings so as to meet their benchmarks.

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<sup>5</sup> DeAngelo, 1981; Simunic, 1984; Beck et al. 1988; Magee and Tseng, 1990

Furthermore, the other two hypotheses were valid under the condition that their earnings were above the target and they had incentives to smooth earnings downwards.

Reynolds and Francis (2001) on their research tried to assess the effect of client size on auditor's opinion at the office level of Big-Five account firms. They examined a sample of 6,747 US firms for the fiscal year of 1996 in order to identify if large clients had the capability to create economic dependence that could potentially influence auditors to compromise their independence and report favourably in order to retain valuable clients. By the term economic dependence, they referred to the client's size compared to the size of the office that contracted for the audit and issued the audit report. In order to support this, they formed three hypotheses where on H1 they claim that: "*Economic dependence causes auditors to report more favourably for large clients. The larger a client relative to the portfolio of clients served by a given office, the more discretion a client has with respect to accounting accruals*". In the same notion, they claimed on H2 that: "*Economic dependence causes auditors to report favourably for large clients. For larger clients in the portfolio of clients served by a given office, the variance of accounting accruals is greater than for smaller clients*". Furthermore, on H3 they claimed that "*Economic Dependence causes auditors to report more favourably for large clients. The larger a client relative to the portfolio of clients served by a given office, the less likely the auditor will issue a going concern report*".

On H1 their findings revealed that their variable *INFLUENCE* was positively associated with accruals and negatively associated with discretionary accrual and total accruals. This translates that larger clients in offices of Big5 firms had lower levels of accruals, therefore the claim of economic dependence was not valid and H1 was rejected as auditors are actually more conservative when reporting for larger clients in offices. Regarding H2, evidence showed that the greater the discretion is on larger clients in reporting accruals the greater the cross-sectional variance will be when comparing with smallest clients. Thus, those differences indicated that larger clients had lower variance in accruals than smaller clients which actually rejected the H2 hypothesis. Summing the tests of H1 and H2 the findings reveal that Big-Five auditors actually reported more conservatively for larger clients in local practice offices due to higher litigation risks or reputational risks. Also, they rejected the third hypothesis as *INFLUENCE* was weakly significant associated with going concern reports, hence auditors in local offices issue more conservative reports for larger clients that are

potentially distressed. This is consistent with the protection of reputation that drives the auditor reporting behaviour rather than economic dependence on fees. This leads us to formulate our next hypothesis which is divided into (a) and (b):

*H3 (a): High client importance leads auditors to more conservative reports, thus lower discretionary accruals.*

*H3 (b): Client importance does not affect auditor's opinion.*

#### ***iv. Effects of Auditor Tenure on Discretionary accruals***

Chi et al. (2010) they examined a sample of 925 global firms for the years between 2001 and 2008 in order to investigate whether firms resorted to real earnings management when their ability to manage accruals was restrained by higher quality auditors. Therefore, they formulate the following hypothesis that “*Audit quality, as operationalized by auditor industry expertise and the presence of a Big N audit firm, is associated with higher levels of real earnings management among firms with incentives to manage earnings*”. Their evidence were consistent with prior literature that city level auditor industry expertise and Big-Four auditors can actually constrain accrual management leading firms to resort to real earnings management which proves to be more costly. Additionally, they proved that longer auditor tenure is correlated with greater real earning management that could potentially suggest merits of mandating audit firm rotation.

Myers et al. (2003) they examined a sample of 42.302 US firms for the period 1988-2000 and they tried to identify the association of auditor tenure and audit quality. They measured audit quality by using absolute signed accruals and raw (unsigned) accruals in order to proxy for earnings quality. Their findings did not provide conclusive evidence on whether mandatory auditor rotation would improve earnings quality; however, their findings suggested that earnings quality deteriorated with extended auditor tenure. By formulating the following two hypotheses they tried to identify the association between auditor tenure and audit quality. On H1 they proposed that: “*Audit quality (as measured by accounting accruals) is decreasing in auditor tenure* where on H2: “*Audit quality (as measured by accounting accruals) is increasing in auditor tenure*”. Their results revealed that increased auditor tenure does not



translate to reduced audit or earnings quality but they are not suggestive that remaining with the same auditor would necessarily improve earnings quality or audit quality.

According to the study conducted by Balsam et al. (2003), there is an association between the measures of earnings quality and the auditor's tenure. Their sample was restricted to US-listed companies that were audited by Big 6 auditors. In order to attest this, they formulated two hypotheses where on the first they presumed that H1: *“The discretionary accruals of a company who was audited for more than 1 year by the same auditor were lower than the discretionary accruals of a company who were being audited by an auditor for less than a year”*. While on the second hypothesis that *“The earnings response coefficient of a company whose auditor tenure more than a year was greater than the earnings response coefficient of a company whose auditor tenure was less than a year”*. Evidence of their research supported the H1 hypothesis. To be more specific, they identified that auditor's tenure and absolute discretionary accruals were negatively associated therefore longer auditor tenure reduced earnings management of their clients. Similarly, they noted that a positive association existed between auditor tenure and earnings response coefficient that translated to longer auditor tenure increasing the market's perception of their clients quality of earnings.

This discussion leads us to formulate our last hypothesis where we claim that:

*H4: Longer auditor tenure can increase audit quality -as measured by accounting accruals- and thus reduce earnings management.*

### III. Data & Methodology

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#### *i. Introduction*

In this chapter of our research, we will analyze the features of the obtained data, define our variables and explain the notion of the selected methodology in order to define earnings management. This chapter consists of four sections. At first we describe the collected sample so as to carry out our research, then we proceed by analyzing our methodology and next we analyze the control variables on our model and the rest of our variables.

#### *ii. Data*

In order to attest how earnings management are influenced by auditors, we examine an initial sample that was obtained through the Bloomberg database that consisted of the largest 600 European firms based on market capitalization from 2012 to 2016. We had to exclude 2.273 observations as we noticed that there were missing values in our data, accordingly our sample was reduced to 727 observations and 321 clusters of firms. Specifically, our sample focuses on 16 European countries with particular emphasis on the United Kingdom, France and Germany as per Table 1.

*Table 1: Description of the Data Sample: STOXX 600 constituents by country*

<b>Country</b>	<b>Freq.</b>	<b>Percent</b>	<b>Cum.</b>
United Kingdom	170	28.33	28.33
France	87	14.50	42.83
Germany	74	12.33	55.17
Switzerland	48	8.00	63.17
Sweden	45	7.50	70.67
Italy	32	5.33	76.00
Netherlands	31	5.17	81.17
Spain	28	4.67	85.83
Denmark	22	3.67	89.50
Finland	16	2.67	92.17
Belgium	14	2.33	94.50
Norway	12	2.00	96.50
Ireland	9	1.50	98.00
Austria	7	1.17	99.17
Portugal	3	0.50	99.67
Czech Republic	2	0.33	100.00
<b>Total</b>	<b>600</b>	<b>100.00</b>	

In table 1 we illustrate the distribution among our sample by various classifications. This pPanel displays how our sample is distributed among the 16 European countries with a particular emphasis on the fact that over 50% of our data is accumulated in the United Kingdom (28,33%), followed by France (14,50%) and Germany (12,33%). The rest of our sample is compiled from 13 countries.

### *iii. Methodology*

Our goal is to identify the relationship between discretionary accruals and audit fees, non-audit fees and other measures of earnings management such as auditor's characteristics. Thus, we proceed by estimating a model that can predict how firms manage their earnings based on their size, region and auditor's characteristics.

Accruals measures have been used in numerous accounting studies that consider the relationship between earnings management and accruals behaviour, and earnings quality and accruals behaviour. Early studies used the change in total accruals as a measure of management discretion (e.g. Healy, 1985; DeAngelo, 1986), while later studies adopted and modified the "Jones Model" (Jones, 1991)<sup>6</sup>. Thus, abnormal discretionary accruals (estimated using variations of the Jones Model) became the accepted proxy for extreme managerial discretion. Various accruals measures have also been used to study earnings quality. These studies<sup>7</sup> are important to the audit quality issue because they generally find that information is contained in specific accruals and/or that earnings quality declines with extreme accruals. The preceding literature on earnings management and earnings quality provide evidence that extreme accruals are less desirable, consistent with the audit quality literature cited.

We concluded using the modified Jones model based on the previous research of Dechow et al. (1995) as they provided persistent evidence that this model produces robust results both at 1% and 5% significance level. Therefore we estimate earnings management through unexpected or discretionary accruals as per Modified Jones model which is the difference between a firm's total accruals and normal accruals from our Equation (1):

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<sup>6</sup> Dechow et al.1995; Healy and Wahlen, 1999; Dechow and Skinner, 2000

<sup>7</sup> Sloan, 1996; Thomas and Zhang, 2001; Xie 2001; Dechow and Dichev, 2002; Richardson et al. 2002

$$DA_{it} = \frac{TA_{it}}{A_{avg}} - NA_{it} \quad (1)$$

The computation of total accruals can be approached in two ways either with the balance sheet or with the cash-flow-statement approach. On the former, total accruals are calculated as the change in current assets (except cash items) minus the change in current liabilities (except the current portion of long-term debt) minus depreciation. We have used the latter approach where total accruals are calculated as the difference between earnings before extraordinary items and discontinued operations and the operating cash flows instead of the balance sheet approach as according to Hribar and Collin (2002), they documented that this method produces more robust results. In particular, the estimation for total accruals and normal accruals were computed by the following Equations (2), (3):

$$\frac{TA_{it}}{A_{avg}} = a + a1 \frac{1}{A_{avg}} + b1 \frac{\Delta R_{it}}{A_{avg}} + b2 \frac{PPE_{it}}{A_{avg}} + e_{it} \quad (2)$$

$$\widehat{NA}_{it} = \hat{a} + \hat{a}1 \frac{1}{A_{avg}} + \hat{b}1 \frac{(\Delta R_{it} - \Delta AR_{it})}{A_{avg}} + \hat{b}2 + \frac{PPE_{it}}{A_{avg}} + e_{it} \quad (3)$$

Where:

$A_{avg}$  = Average Total Assets

$\Delta R$  = Changes in revenue from the current year to the previous year

$\Delta AR$  = Changes in accounts receivables from the current year to the previous year

$PPE$  = Gross value of property, plant and equipment

All variables were scaled by average total assets ( $A_{avg}$ ) of the beginning and ending asset balances to avoid heteroscedasticity problems. A cross-sectional model was used in the calculations for each year and each country so that while taking the time influence into consideration the model controls for the regional variations.

To estimate how discretionary accruals are affected by auditor's and firm's characteristics we use the following cross-section regression depicted on Equation (4):

$$\begin{aligned}
 WODA_{it} = & b_0 + b_1 AUDITOR\_SWITCH_{it} + b_2 WLAF_{it} + b_3 NAFEE_{it} + b_4 IMPORT_{it} \\
 & + b_5 BIG4_{it} + b_6 ROA_{it} + b_7 LEV_{it} + b_8 LRevenue_{it} + b_9 LMVALUE_{it} \\
 & + b_{10} LOSS_{it} + b_{11} OCFtoASSET_{t-1it} + b_{12} SPOS_{it} + b_{13} Country\_D_{it}^* \\
 & + b_{14} Year\_D_{it}^*
 \end{aligned}
 \tag{4}$$

In further detail, WODA stands for the winsorized value of discretionary accruals, computed as previously. On our next subchapter we provide a detailed analysis upon the selection of each of our variables.

#### ***iv. Control Variables***

According to prior research by Myers et al (2003), longer auditor tenure on average, resulted in auditors placing greater constraints on extreme decisions of the management when reporting financial performance. Furthermore, they observed that the magnitude of discretionary accruals declined significantly with longer auditor tenure. This proposition suggests that as this relationship increases, auditors limit further management decisions to use accruals to increase current period earnings. According to a study conducted by the AICPA's Quality Control Inquiry Committee of the SEC, they provided consisting evidence that audit quality is associated with audit tenure as the possibility of audit failure or omission appeared to be three times higher when an audit firm was performing its first or second audit of a given client. The above arguments are consistent with the research of Berton (1991); Petty and Cuganesan (1996). On the other hand, on a research conducted by Deis and Giroux (1992) found that auditor tenure and audit quality was negatively associated, however, it should be noted that their results could be questioned as their sample is incorporating only small and medium CPA firms. Identical research by Beck et al. (1988b); Lys and Watts (1994) provide evidence that independence was decreasing the length of auditor tenure. Thus, we proceeded and integrated into our model the variable *AUDITOR\_SWITCH* that captures if the auditor has changed the previous year, and then it takes the value of 1. Since the majority of prior literature consents that longer auditor tenure can result in lower earnings management; it is reasonably expected to have a positive association with *WODA*.

In order to estimate auditor's independence and audit quality, we use audit fees which are depicted by the variable *WLAF* that stands for the winsorized logarithm of audit fees. As Srinidhhi and Gul (2006) proposed on their research, higher audit effort leads to higher audit quality that translates to better accrual quality. Their findings suggest that accrual quality is positively associated with audit fees which is consistent with the proposition that higher audit fee reflects higher audit effort and better judgments about the propriety of accruals, but is not consistent with the proposition that audit fee is associated with economic bonding.

Ashbaugh et al. (2003) reported a negative association between audit fees and the probability of meeting their earnings benchmarks. Abbott et al. (2004) document increases in audit fees with client's risk of managing earnings upwards, resulting in earnings management surprises. Also, the existence of a fee premium in itself does not necessarily imply higher audit quality, especially if the Big4 auditors have more pricing power over their clients than do the non-Big4 auditors (Francis 2004). Moreover, O'Keefe et al. (1994, 242) caution that "*inferences about prices in such studies can be erroneous if the cross-sectional variations in auditor effort caused by differences in client characteristics are not adequately controlled*". Particular notice has to be taken that those earlier results are not definitive but they suggest that audit fees are indicative of high audit quality. Although previous studies on audit fees produced contradicting results we foresee a negative relationship between *WLAF* and *WODA*.

Regarding the variable *NAFEE* which stands for non-audit fees, prior studies<sup>8</sup> reveal that it can enhance the auditor's economic bond with the auditee, thus increasing the auditor's incentives to consent to client pressure and allow earnings management. The notion of this research is that when auditors receive both audit and non-audit fees from the auditee then a knowledge spillover is created that could potentially lead to economic bonding. Nonetheless, another argument provided by Arruiada (1999) is that the auditor is inclined to disagree with the client's demands, as fees administered by non-audit services increase their investment in reputational capital. We depend on conventional measures of earnings management in order to proxy for such unobservable interventions and estimate the consequence of non-audit fees to discretionary accruals and earnings management. Past studies produced conflicting results

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<sup>8</sup> *Simunic, 1984; Beck et al. 1988a; Beeler and Hunton, 2001*

when examining this variable, nevertheless, we reasonably expect a positive relationship with *WODA*.

We define our next variable as *IMPORT* in order to capture the importance of each client to each audit firm on a national level by dividing audit fees to total audit fees per country. DeAngelo (1981a), Watts and Zimmerman (1981, 1986) define auditor independence as the probability that an auditor will report a discovered breach. DeAngelo (1981b) shows that an auditor's incentive to compromise independence with respect to a client depends on client importance, i.e., the ratio of quasi-rents specific to that client divided by the sum of all other quasi-rents. Although it has been derived by DeAngelo (1981b), we similarly assume this for our research in cross-sectional client characteristics that could be linked with an auditor that has developed an economic bond with the auditee. One interpretation that could support the use of the importance variable as a measure of auditor incentives to compromise independence is that large clients may inflict reputational losses or economic bonding. Chung and Kallapur (2003) yet during their studies they found a weak association among discretionary accruals and client importance, where their ratio is computed as the client audit fees divided by the audit firm's on a national level. With regards to the importance of clients, prior studies reveal contravene results.

#### ***v. Rest Variables***

We have used the variable *BIG4* that returns the value of 1 if the firm is audited by a Big4 auditor, in order to proxy for a higher level of audit quality, therefore smaller magnitude of discretionary accruals an argument which is supported by previous studies.<sup>9</sup> Moreover, prior research<sup>10</sup> suggests that Big 5 auditors are less likely to allow earnings management than non-Big 5 auditors.

As stated in previous studies, managers' motives are seemingly correlated with firm performance, (Guay et al 1996). Also, Roychowdhury (2006) states the likelihood that abnormal values from his estimation models having errors correlated with performance. Therefore he includes net income scaled by lagged total assets to his regressions. If the above

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<sup>9</sup> See Beatty (1989), Guenther and Willenborg (1999), Mitton (2002), Smart and Zutter (2003), and Gul et al. (2009)

<sup>10</sup> DeFond and Jiambalvo 1991, 1993; Becker et al. 1998; Francis et al. 1999

presumptions are valid then we expect that those variables that control for performance to restrict the power of our test. Taking into consideration the aforementioned evidence and recent reviews on earnings manipulation literature<sup>11</sup> we incorporate on our model the variable *LRevenue* so as to measure the size of each firm and it is the logarithm of revenues, *ROA* that is return on assets and it is the income before extraordinary items divided by average total assets, *OCFtoAsset<sub>t-1</sub>* that is cash flow from operations scaled by lagged total assets, *LEV* that stands for leverage it is represented as long term debt to total assets and according to Defond and Jiambalvo (1994); DeAngelo et al. (1994); Becker et al. (1998) leverage is associated with the probability of violating covenants. Hence, high-leveraged firms are inclined to manage their earnings. *LEV* is measured as the ratio of long-term debt over total assets. In addition, we add another performance variable *LMValue* which is the logarithm of changes in market value and it is measured as the difference between current year to prior year. Burgstahler and Dichev (1997) use the same variable and they provide evidence that this component of earnings is used to achieve earnings benchmarks.

Regarding the *LOSS* and *SPOS* variable both are dummy variables and take the value of 1 if the firm has reported losses or if they report small positive earnings. Following the research of Brown (2001) and Frankel et al. (2002) the former has identified that when companies report losses are inclined to report positive earnings surprises. Specifically he noticed a strong recurrence of profits that either meet or exceed analyst estimates in every year of his research. Also, when there was a disclosure of good news, a significant positive trend in positive profits was observed and accordingly when adverse events took place a significant negative trend was noted. Frankel et al. (2002) they presented consistent evidence that there is a positive association between small earnings surprises and the magnitude of discretionary accruals

Finally, we use geographical segment diversification to proxy for client opportunities to manage earnings, thus we incorporate in our model the dummy variables *Country<sub>D</sub>\** for each of our 16 countries and we separate each yearly observation with *Year<sub>D</sub>\**.

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<sup>11</sup> Dechow et al. (1995); McNichols (2000); Healy and Wahlen (1999); Fields et al. (2001)



## IV. Empirical Findings

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### *i. Descriptive Statistics*

In this section, we provide information for all the variables used in our study. Table 2 reports descriptive statistics for the sample of our 321 firms. The dependent variable *WODA* is winsorized at the upper and lower 5% respectively and the mean is 0,013 or 1,3% . This translates that on average our sample is manipulating its earnings by 1,3% , while the minimum value corresponds to -7,8% and the maximum is as high as 10,2%. Looking at the auditor –related control variables the natural logarithm of audit fees *WLAF* is also winsorized at the upper and lower 5% level respectively and has a minimum value of 0.22 million Euros, a maximum value of 34,09 million Euros and a mean of 2,98 million Euros<sup>12</sup>. We winsorized those two variables in order to reduce the effect of extreme outliers. We observe that for the variable *NAFEE* the mean value is 1,04 million Euros and the maximum value 1,10 million Euros<sup>12</sup>. On the *IMPORT* variable, we notice that the ratio is on average 9,8% and the upper value fluctuates to 21,8%. Regarding the variable that attests if there has been a change of auditor the previous year *AUDITO~H* we found a mean of 0.210.

*Table 2: Descriptive statistics of all variables in the cross-sectional model*

<b>stats</b>	<b>mean</b>	<b>p5</b>	<b>p50</b>	<b>p95</b>	<b>sd</b>	<b>N</b>
<b>WODA</b>	0.013	-0.078	0.011	0.102	0.043	2.114.000
<b>WLAF</b>	1.092	-1.519	1.065	3.529	1.451	2.151.000
<b>NAFEE</b>	0.041	0.000	0.004	0.097	0.303	1.759.000
<b>IMPORT</b>	0.098	0.000	0.010	0.215	1.355	2.056.000
<b>AUDITO~H</b>	0.210	0.000	0.000	1.000	0.407	3.000.000
<b>BIG4</b>	0.894	0.000	1.000	1.000	0.307	3.000.000
<b>LRevenue</b>	8.748	6.055	8.745	11.332	1.655	2.941.000
<b>LMValue</b>	7.308	4.789	7.250	9.868	1.579	2.001.000
<b>LEV</b>	0.196	0.000	0.176	0.490	0.170	2.937.000
<b>OCFtoA~1</b>	0.204	-0.005	0.081	0.255	5.160	2.344.000
<b>ROA</b>	5.850	-1.593	4.263	18.006	11.227	2.927.000
<b>SPOS</b>	0.139	0.000	0.000	1.000	0.346	3.000.000
<b>LOSS</b>	0.091	0.000	0.000	1.000	0.287	3.000.000

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<sup>12</sup> *Logarithm values were inverted to millions.*

Table 3 presents descriptive statistics for all the countries included in our sample for the mean of discretionary accruals between 2012 and 2016. We detect that the majority of our sample is concentrated on which is the *United Kingdom* with a mean of 0,0211. Particular notice has to be taken that the *United Kingdom* has the largest mean in all of our sample. Then, we proceed on *France* and *Germany* that have a mean of 0,0094 and 0,051 respectively and we note that they also have a relatively high mean of discretionary accruals when compared to the rest of our sample. On the other hand, *Ireland* is the only region in our sample that has a negative mean. Overall, we observe that in the vast majority of our sample the discretionary accruals are statistically significant,

**Table 3: Univariate T-tests for mean ODA by Year and by Country**

**allcountries[16,4]:**  
**T-Tests of Mean discretionary Accruals by Country**

Mean	Mean	T-Test	P-value	Count
Austria	0.0094	10.459	0.3094	19.0000
Belgium	0.0096	13.750	0.1772	39.0000
Czech Republic	0.0052	22.190	0.0907	5.0000
Denmark	0.0079	13.809	0.1713	78.0000
Finland	0.0104	21.694	0.0342	58.0000
France	0.0094	52.128	0.0000	353.0000
Germany	0.0151	54.418	0.0000	273.0000
Ireland	-0.0010	-0.1478	0.8834	34.0000
Italy	0.0152	40.860	0.0001	97.0000
Netherlands	0.0111	26.286	0.0099	105.0000
Norway	0.0002	0.0275	0.9782	41.0000
Portugal	0.0036	0.8575	0.4134	10.0000
Spain	0.0120	23.746	0.0198	85.0000
Sweden	0.0053	15.422	0.1250	160.0000
Switzerland	0.0044	17.054	0.0903	143.0000
United Kingdom	0.0211	106.363	0.0000	614.0000

Table 4 reports the correlation matrices for the variables we used in our study with significance levels at 1%, 5% and 10%. The correlations among our variables are reasonably expected, but we can observe that there are some cross-correlations also that could potentially raise issues. In order to address this problem, we treated our variables so as to avoid

collinearity. We note that there is a significant positive correlation at the level of 0.01 among *WODA* and *BIG4*. Furthermore, at the significance level of 0.05, there is a positive relationship with small positive earnings. *WODA* also has a negative relationship with cash flow from operations and the changes in market value.

*Table 4: Correlation Matrix*

<b>WODA</b> b	<b>WODA</b> b	<b>WLAF</b> b	<b>NAFEE</b> b	<b>IMPORT</b> b	<b>AUDITOR~H</b> b	<b>BIG4</b> b	<b>LRevenue</b> b	<b>LMValue</b> b	<b>LEV</b> b	<b>OCFtoAS~1</b> b	<b>ROA</b> b	<b>SPOS</b> b	<b>LOSS</b> b
<b>WODA</b>	1.000	.	.	.	.	.	.	.	.	.	.	.	.
<b>WLAF</b>	-0.050	1.000	.	.	.	.	.	.	.	.	.	.	.
<b>NAFEE</b>	-0.008	0.193***	1.000	.	.	.	.	.	.	.	.	.	.
<b>IMP~T</b>	-0.011	0.269***	0.831***	1.000	.	.	.	.	.	.	.	.	.
<b>AUD~SW~</b>	0.057	-0.006	-0.017	-0.003	1.000	.	.	.	.	.	.	.	.
<b>big4</b>	0.065*	0.054	0.038	0.017	-0.108***	1.000	.	.	.	.	.	.	.
<b>LRevenue</b>	-0.034	0.332***	0.095**	0.109***	0.024	0.028	1.000	.	.	.	.	.	.
<b>LMValue</b>	-0.120***	0.273***	0.091**	0.093**	-0.029	0.016	0.579***	1.000	.	.	.	.	.
<b>LEV</b>	-0.026	-0.020	0.029	-0.005	0.058	0.050	-0.068*	-0.075**	1.000	.	.	.	.
<b>OCFtoAs~1</b>	-0.169***	-0.091**	-0.011	-0.018	-0.081**	0.031	-0.227***	0.028	0.129***	1.000	.	.	.
<b>ROA</b>	-0.022	-0.073**	-0.007	-0.024	-0.078**	0.046	-0.246***	0.000	0.175***	0.897***	1.000	.	.
<b>SPOS</b>	0.074**	-0.018	0.020	0.010	0.076**	0.034	0.015	-0.007	0.031	-0.096***	0.101***	1.000	.
<b>LOSS</b>	-0.010	-0.038	0.004	0.022	0.038	0.064*	0.093**	0.038	0.038	-0.079**	0.219***	-0.049	1.000
<b>N</b>	<b>727.000</b>												

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## *ii. Regression Results*

Table 5 presents the results of our panel data regressions at the significance level of 1%, 5% and 10%. In addition, all of our models were estimated with country and year effects. We estimate our first model “*Controls*” on which we include only our controls variables and we notice three out of our eight variables are significant at 1% and 5% threshold. Operating cash flow to assets is negatively and has a strong significance at 1% level, return on assets is also negative and significant at 1%. The variable that depicts loss at y-1 is significant and negative at 5%. The aforementioned variables retain their significance along with their coefficients at all our models, apart from our variable that depicts small positive earnings which are negative and significant on 5% on all of our models but from our first model.

The explanatory power of our baseline model is overall satisfactory with a value of  $R^2=13,5\%$ . We proceed by estimating four models in which we examine each one of our four main variables with our control variables. Worth mentioning is the fact that we notice a significant increase in the explanatory power of our model, that leads us to our final model with  $R^2=40,01\%$  which is depicted in the last column. We identify that our variable Auditor Switch is negative and significant at 5% as we expected and it is consistent with the findings of Chi et al. (2010) that observed that discretionary accruals increased significantly on firms with longer auditor’s tenure. Our next variable that includes audit fees has a negative association with our earnings benchmarks and it is significant at the 5 % level, consequently, those findings are in line with our second hypothesis. In addition, our results are in line with prior literature<sup>13</sup> which suggests that higher audit fees are indicative of higher audit effort and audit quality, hence lower earnings manipulation. Non-audit fees variables appear to have a strong negative association with discretionary accruals on the 1% significance level which is a result that contravenes with our expectations that the provision of non-audit could impair audit quality. However, it is consistent with the evidence of Arruiada (1999) who identified that an auditor can place constraints on client’s demands by not consenting to client’s pressure and acquiesce on earnings manipulation as the provision of non-audit services increase their investment in reputational capital. Our last variable that attests the importance of each client appears to have a weak negative association at 10%, therefore we cannot conclude on our hypothesis.

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<sup>13</sup> Becker et al. (1998); Johnson et al. (2002); Balsam et al. (2003); Srinidhi and Gul et al. (2006); Ashbaugh et al. (2003)

*Table 5: Panel Data Regressions with WODA*

	<b>Controls</b>	<b>Aud. Switch</b>	<b>Audit Fees</b>	<b>NA Fees</b>	<b>Importance</b>	<b>Full Model</b>
	b/t	b/t	b/t	b/t	b/t	b/t
<b>Constant</b>	0.031** (2.302)	0.031** (2.281)	0.023 (1.603)	0.028* (1.835)	0.030** (2.092)	0.018 (1.148)
<b>Big 4 Auditor</b>	0.005 (1.317)	0.005 (1.328)	0.009** (2.143)	0.006 (1.159)	0.008* (1.807)	0.008 (1.530)
<b>Revenue</b>	-0.000 (-0.133)	-0.000 (-0.134)	0.001 (0.693)	0.000 (0.256)	0.000 (0.122)	0.002 (0.954)
<b>Changes in MV</b>	-0.001 (-0.589)	-0.001 (-0.580)	-0.001 (-0.580)	-0.001 (-0.560)	-0.001 (-0.613)	-0.000 (-0.263)
<b>Leverage</b>	-0.002 (-0.173)	-0.002 (-0.178)	-0.010 (-0.902)	-0.012 (-0.932)	-0.012 (-1.078)	-0.014 (-1.157)
<b>Operating Cash flows to Assets</b>	-0.235*** (-5.784)	0.235*** (-5.784)	0.239*** (-5.601)	-0.222*** (-4.697)	-0.239*** (-5.400)	-0.227*** (-4.803)
<b>Return on Assets</b>	0.002*** (4.464)	0.002*** (4.468)	0.002*** (4.464)	0.002*** (3.850)	0.002*** (4.325)	0.002*** (3.962)
<b>Small Positive Earnings</b>	0.007 (1.175)	0.007 (1.173)	0.016** (2.502)	0.015* (1.960)	0.016** (2.294)	0.014** (1.869)
<b>Loss at Y-1</b>	0.015** (2.011)	0.015** (2.007)	0.018** (2.068)	0.018* (1.957)	0.016** (1.983)	0.014** (1.612)
<b>Auditor Switch</b>		0.001 (0.202)				0.006** (1.660)
<b>Audit Fees</b>			-0.002* (-1.811)			-0.003** (-2.506)
<b>Non Audit Fees</b>				0.005* (0.800)		-0.004*** (-0.564)
<b>Client Importance</b>					0.004 (0.976)	0.011* (1.889)
<b>Year Effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Country Effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>r2_w</b>	0.074	0.073	0.044	0.030	0.037	0.028
<b>r2_b</b>	0.135	0.136	0.260	0.263	0.271	0.401
<b>r2_o</b>	0.146	0.146	0.186	0.180	0.186	0.197
<b>N</b>	1.199.000	1.199.000	889.000	738.000	851.000	727.000

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

### *iii. Sensitivity & Robustness Checks*

The focal point of our study examines the association of discretionary accruals with client's and auditor's characteristics. To further enhance our understanding of this relationship and

verify the robustness of our model we perform three sensitivity checks described as per below. Additionally, to allay any concerns with respect to the validity of our results, we have computed discretionary accruals as the difference between actual and the mean of discretionary accruals instead of subtracting the expected accruals. Thus, we proceed into generating a new variable *WODA2* that stands for the winsorized value of discretionary accruals and it is the difference between the actual and the mean of discretionary accruals. Our results reveal that our variables are significant at the same levels and directions and that our explanatory power of our model has increased significantly to 47,1%.

Then on our next robustness test, we decide to verify our results on the country which has the majority of our observations and exclude all other countries, leaving us with a sample of 171 firms or 28,33% of our total observations. Accordingly, we regress our variables only with firms from the United Kingdom and we identified that auditor switch has a negative association and is no longer significant, while audit fees remain negative but they appear to be strongly significant at 1%. Our results reveal that for our UK sample Non-audit fees are negatively associated with earnings manipulation and they are important at 5%. Likewise, Client importance has a negative and strong association and is significant at 1% level. The explanatory power of our United Kingdom model still remains high with an R-Square of 46,8%. Our findings suggest that on United Kingdom high audit fees translates to higher audit quality, thus lower earnings management and increased client importance and provision of non-audit services lead to lower discretionary accruals.

Our last sensitivity check focuses only on countries that concentrate the majority of our sample, therefore, we excluded all regions that had few observations, leaving us with a total sample of 456 firms or 76% of our total sample which was represented by UK, France, Germany, Switzerland and Sweden. Auditor switch and audit fees retain the same relationship with our earnings management benchmark likewise in our original test. In contrary, non-audit fees and client importance were no longer significant at any level. We conclude, that our study's full sample was robust while comparing them with our alternative earnings manipulation benchmark, likewise for our results only for the United Kingdom with the exception of auditor switch. However, when we measured only for the majority of our sample only auditor switch and audit fees variables appeared to be significant.

**Table 6: Panel Data Regressions of alternative benchmarks**

**Panel Data Regressions - Robustness Tests**

	<b>Alt/ive WODA</b>	<b>UK Only</b>	<b>Ex.Small Countries</b>
	b/t	b/t	b/t
<b>Constant</b>	0.033* (1.835)	0.012 (0.382)	0.021 (1.255)
<b>Big 4 Auditor</b>	-0.003 (-0.453)	0.005 (0.288)	0.009* (1.707)
<b>Revenue</b>	0.002 (1.127)	0.009** (2.335)	0.002 (0.960)
<b>Changes in MV</b>	0.002 (1.117)	- 0.008*** (-2.909)	- -0.002 (-1.074)
<b>Leverage</b>	-0.019 (-1.016)	0.049*** (-2.692)	- -0.006 (-0.381)
<b>Operating Cash flows to Assets</b>	-0.452*** (-6.250)	-0.082 (-1.263)	-0.206*** (-3.820)
<b>Return on Assets</b>	0.004*** (5.011)	0.001 (0.887)	0.002*** (3.126)
<b>Small Positive Earnings</b>	-0.005 (-0.608)	0.015 (1.336)	0.009 (1.072)
<b>Loss at Y-1</b>	0.029*** (2.632)	0.010 (0.447)	0.004 (0.355)
<b>Auditor Switch</b>	0.002** (-0.416)	-0.006 (-0.887)	0.009** (2.341)
<b>Audit Fees</b>	-0.004** (-2.062)	0.017*** (-4.177)	-0.004** (-2.471)
<b>Non Audit Fees</b>	-0.002*** (-0.196)	0.655** (2.124)	0.043 (0.935)
<b>Client Importance</b>	0.012* (1.644)	1.001*** (3.872)	0.049 (1.255)
<b>Year Effects</b>	Yes	Yes	Yes
<b>Country Effects</b>	Yes	Yes	Yes
<b>r2_w</b>	0.097	0.180	0.040
<b>r2_b</b>	0.471	0.468	0.378
<b>r2_o</b>	0.404	0.382	0.286
<b>N</b>	894.000	195.000	606.000

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



## V. Conclusions

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To the extent of our knowledge, this is considered to be the first study on European firms that assesses the relationship of discretionary accruals with client's and auditor's characteristics. We provide an overview of discretionary accruals for the largest European firms based on market capitalization during the period 2012 -2016 and their relationship with client's and auditor's characteristics by formulating four hypotheses (1) Audit Fees and Audit Quality, (2) Provision of Non-Audit Services and Discretionary Accruals, (3) Client's Importance and Auditor's Independence, (4) Effects of Auditor Tenure on Discretionary Accruals. Our evidence support our first hypothesis which is in line with prior literature<sup>14</sup>, also we expected that the increased provision of non-audit services would lead to economic bonding, resulting to higher earnings management; however, our findings reveal a strong negative association where auditors are inclined to conservative reporting due to increased investment in reputational capital (Arruiada et al. 1999). Regarding the client importance hypothesis, we do not find indicative evidence that it affected auditor's opinion. We further identify that longer auditor tenure could potentially decrease audit quality which implies higher earnings manipulation that is in line with previous studies of Chi et al. (2010). Results appear to be robust to multiple specifications apart from our model where we exclude countries with a small number of observations.

We acknowledge the fact that our study is subjected to a number of limitations. For our earnings manipulation benchmark, we used discretionary accruals. The usage of accruals could be a noisy proxy when trying to estimate the quality of earnings. Nonetheless, we try estimating earnings quality with one of the most reliable and commonly used methods and ensure the robustness of our results through a number of sensitivity checks. Then, our observations span over a limited timeframe which was defined by paramount changes in the regulatory framework and the European economy that mandates companies to self-report information regarding audit fees. Furthermore, we do understand that our sample is potentially biased as our sample consists of only listed companies which are considered to be leaders in their sectors, therefore certain patterns could exist on their reporting. Despite the fact that we use different fee models regarding client's and auditor's characteristics that seem to be well-specified according to prior literature, we cannot preclude the possibility of model misstatement and omitted variables. We understand that we cannot rule out the possibility

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<sup>14</sup> *Becker et al. (1998); Johnson et al. (2002); Balsam et al. (2003); Srinidhhi and Gul et al. (2006); Ashbaugh et al. (2003)*

that our results are driven by unobservable risks, to an unknown degree.

Finally, our study contributes to the existing literature by documenting the impact of client's and auditor's characteristics to earnings management on European listed firms. Prior earnings management research has been dominated by studies that assess this relationship on US firms. An intriguing topic for future research could be how earnings management is driven by client importance and the role of audit quality. Earnings management has always fascinated researchers and it seems that it will linger the research community for quite some time.

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## Appendix

*Table 7: Specification of our multiple regression model, variable measurement and predictions as to the sign of the explanatory variables*

Variable	Definition	Predicted Sign of coefficient
<b>Dependent Variable</b>		
<b>WODA</b>	Winsorized value of discretionary accruals for firm i in year t, as per Modified Jones Model (Dechow et al. 1995)	-
<b>Independent &amp; Control Variables</b>		
<b>AUDITOR_SWITCH</b>	Dummy 1, if auditor has changed the previous year on firm i, otherwise zero	+
<b>WLAF</b>	Winsorized value of the logarithm of audit fees for firm i	-
<b>NAFEE</b>	Non-audit fees for firm i	+
<b>Big4</b>	Dummy 1, if firm i has a Big4 auditor, otherwise zero	-
<b>IMPORT</b>	Audit fees for firm i, in year t to total audit fees per country	+ / -
<b>ROA</b>	Income before extraordinary items for firm i in year t divided by total average assets of firm i in year t	-
<b>LEV</b>	Long term debt of firm i in year t to total asset of firm i in year t	-
<b>LRevenue</b>	Logarithm of revenues for firm i in year t	+ / -
<b>LMVALUE</b>	Logarithm of changes in market value for firm i from year t to t-1	-
<b>LOSS</b>	Dummy 1, if firm i for year t-1 reported losses, otherwise zero	-
<b>OCFtoASSET_t_1</b>	Operation from cash flow for firm i in year t, scaled by lagged total assets	-
<b>SPOS</b>	Dummy 1, if firm i in year t has reported marginal earnings, otherwise 0	+

**Table 8: Robustness test only on UK firms**

**Random-effects GLS regression**

Group variable: FIRM

R-sq: within = 0.1799

between = 0.4675

overall = 0.3824

avg = 2.2

max = 4

Wald chi2(15) = .

corr(u\_i, X) = 0 (assumed)

(Std. Err. Adjusted for 88 clusters in A)

Number of obs = 195

Number of groups = 88

Obs per group: min = 1

Prob > chi2 = .

<b>Robust</b>						
<b>WODA</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt;z</b>	<b>[95% Conf. Interval]</b>	
<b>WLAF</b>	-.0173604	.0041563	-4.18	0.000	-.0255065	-.0092143
<b>NAFEE</b>	.6550051	.308363	2.12	0.034	.0506248	1.259385
<b>IMPORT</b>	1.000.795	.2584374	3.87	0.000	.4942672	1.507323
<b>AUDITOR_SWITCH</b>	-.0055534	.0062616	-0.89	0.375	-.017826	.0067191
<b>big4</b>	.0047475	.0164765	0.29	0.773	-.0275458	.0370409
<b>LRevenue</b>	.0093581	.0040079	2.33	0.020	.0015028	.0172134
<b>LMValue</b>	-.0084664	.0029103	-2.91	0.004	-.0141704	-.0027623
<b>LEV</b>	-.0485295	.0180302	-2.69	0.007	-.083868	-.013191
<b>OCFtoASSETS_t_1</b>	-.0816287	.0646325	-1.26	0.207	-.2083062	.0450487
<b>ROA</b>	.0006317	.0007125	0.89	0.375	-.0007648	.0020281
<b>SPOS</b>	.0147513	.0110403	1.34	0.182	-.0068873	.03639
<b>LOSS</b>	.0101813	.0227878	0.45	0.655	-.034482	.0548445
<b>COUNTRY_D1</b>	0	(omitted)				
<b>COUNTRY_D2</b>	0	(omitted)				
<b>COUNTRY_D3</b>	0	(omitted)				
<b>COUNTRY_D4</b>	0	(omitted)				
<b>COUNTRY_D5</b>	0	(omitted)				
<b>COUNTRY_D6</b>	0	(omitted)				
<b>COUNTRY_D7</b>	0	(omitted)				
<b>COUNTRY_D8</b>	0	(omitted)				
<b>COUNTRY_D9</b>	0	(omitted)				
<b>COUNTRY_D10</b>	0	(omitted)				
<b>COUNTRY_D11</b>	0	(omitted)				
<b>COUNTRY_D12</b>	0	(omitted)				
<b>COUNTRY_D13</b>	0	(omitted)				
<b>COUNTRY_D14</b>	0	(omitted)				
<b>COUNTRY_D15</b>	0	(omitted)				
<b>COUNTRY_D16</b>	0	(omitted)				
<b>Year_D1</b>	0	(omitted)				
<b>Year_D2</b>	-.0095507	.0083972	-1.14	0.255	-.0260089	.0069074
<b>Year_D3</b>	.0171572	.0090514	1.90	0.058	-.0005833	.0348977
<b>Year_D4</b>	.0226383	.0075696	2.99	0.003	.0078021	.0374744
<b>Year_D5</b>	0	(omitted)				
<b>_cons</b>	.0122347	.0320661	0.38	0.703	-.0506137	.0750831
<b>sigma_u</b>	.01320219					
<b>sigma_e</b>	.03941788					
<b>rho</b>	.10086291	(fraction of variance due to u_i)				

*Table 9: Robustness test on the majority of the sample*

**Random-effects GLS regression**

Group variable: FIRM

Number of obs = 606

Number of groups = 265

R-sq: within = 0.0398

Obs per group: min - 1

between = 0.3782

avg = 2.3

overall = 0.2856

max = 4

Wald chi2(21) = .

corr(u\_i, X) = 0 (assumed)

Prob > chi2 = .

(Std. Err. Adjusted for 265 clusters in A)

<b>Robust</b>						
<b>WODA</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt;z</b>	<b>[95% Conf. Interval]</b>	
<b>WLAF</b>	-.0041234	.0016688	-2.47	0.013	-.0073942	-.0008525
<b>NAFEE</b>	.0427555	.0457165	0.94	0.350	-.0468472	.1323581
<b>IMPORT</b>	.0491557	.0391783	1.25	0.210	-.0276324	.1259437
<b>AUDITOR_SWITCH</b>	.0090478	.0038647	2.34	0.019	.0014732	.0166225
<b>big4</b>	.0088244	.0051693	1.71	0.088	-.0013072	.018956
<b>LRevenue</b>	.0018167	.0018934	0.96	0.337	-.0018942	.0055276
<b>LMValue</b>	-.0015146	.0014108	-1.07	0.283	-.0042797	.0012506
<b>LEV</b>	-.0056547	.0148336	-0.38	0.703	-.0347281	.0234186
<b>OCFtoASSETS_t_1</b>	-.206412	.054028	-3.82	0.000	-.312305	-.1005191
<b>ROA</b>	.0019151	.0006127	3.13	0.002	.0007142	.003116
<b>SPOS</b>	.0085491	.0079755	1.07	0.284	-.0070826	.0241808
<b>LOSS</b>	.0035835	.0100806	0.36	0.722	-.0161741	.023341
<b>COUNTRY_D1</b>	0	(omitted)				
<b>COUNTRY_D2</b>	0	(omitted)				
<b>COUNTRY_D3</b>	0	(omitted)				
<b>COUNTRY_D4</b>	0	(omitted)				
<b>COUNTRY_D5</b>	0	(omitted)				
<b>COUNTRY_D6</b>	-.0175636	.0054029	-3.25	0.001	-.0281532	-.0069741
<b>COUNTRY_D7</b>	-.0124725	.0054937	-2.27	0.023	-.0232399	-.0017051
<b>COUNTRY_D8</b>	0	(omitted)				
<b>COUNTRY_D9</b>	-.0116429	.0094446	-1.23	0.218	-.0301541	.0068683
<b>COUNTRY_D10</b>	-.0182208	.007619	-2.39	0.017	-.0331539	-.0032878
<b>COUNTRY_D11</b>	0	(omitted)				
<b>COUNTRY_D12</b>	0	(omitted)				
<b>COUNTRY_D13</b>	0	(omitted)				
<b>COUNTRY_D14</b>	-.0291459	.0081334	-3.58	0.000	-.0450871	-.0132046
<b>COUNTRY_D15</b>	-.0359545	.0065512	-5.49	0.000	-.0487947	-.0231144
<b>COUNTRY_D16</b>	0	(omitted)				
<b>Year_D1</b>	0	(omitted)				
<b>Year_D2</b>	.0006245	.0043629	0.14	0.886	-.0079266	.0091756
<b>Year_D3</b>	.0094728	.0044851	2.11	0.035	.0006821	.0182635
<b>Year_D4</b>	.0061489	.0038409	1.60	0.109	-.0013792	.013677
<b>Year_D5</b>	0	(omitted)				
<b>_cons</b>	.021115	.0168194	1.26	0.209	-.0118504	.0540805
<b>sigma_u</b>	.01709771					
<b>sigma_e</b>	.0351802					
<b>rho</b>	.19106919	(fraction of variance due to u_i)				

**Table 10: Robustness test with WODA2**

**Random-effects GLS regression**

Group variable: FIRM

R-sq: within = 0.0974

between = 0.4712

overall = 0.4039

avg = 2.3

max = 4

Wald chi2(28) = 189.05

corr(u\_i, X) = 0 (assumed)

(Std. Err. adjusted for 394 clusters in A)

Number of obs = 894

Number of groups = 394

Obs per group: min = 1

Prob > chi2 = 0.0000

<b>Robust</b>						
WODA2	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
WLAF	-.0036285	.0017593	-2.06	0.039	-.0070767	-.0001803
NAFEE	-.0024028	.0122898	-0.20	0.845	-.0264903	.0216848
IMPORT	.0115228	.0070085	1.64	0.100	-.0022135	.0252591
AUDITOR_SWITCH	-.0018958	.0045606	-0.42	0.678	-.0108345	.0070428
big4	-.0031409	.0069331	-0.45	0.651	-.0167295	.0104477
LRevenue	.0021673	.0019235	1.13	0.260	-.0016027	.0059372
LMValue	.0018694	.001674	1.12	0.264	-.0014115	.0051504
LEV	-.0190012	.0187058	-1.02	0.310	-.0556638	.0176615
OCFtoASSETS_t_1	-.4518947	.0722977	-6.25	0.000	-.5935956	-.3101938
ROA	.0041625	.0008306	5.01	0.000	.0025345	.0057904
SPOS	-.0046411	.0076278	-0.61	0.543	-.0195913	.0103092
LOSS	.0290363	.01103	2.63	0.008	.007418	.0506546
COUNTRY_D1	-.0046452	.014542	-0.32	0.749	-.033147	.0238565
COUNTRY_D2	-.0290773	.011611	-2.5	0.012	-.0518345	-.0063202
COUNTRY_D3	0	(omitted)				
COUNTRY_D4	-.0440032	.0141253	-3.12	0.002	-.0716884	-.0163181
COUNTRY_D5	-.0338289	.0143497	-2.36	0.018	-.0619539	-.005704
COUNTRY_D6	-.0335916	.0068274	-4.92	0.000	-.0469731	-.0202102
COUNTRY_D7	-.034383	.0064112	-5.36	0.000	-.0469487	-.0218174
COUNTRY_D8	-.0554427	.0131296	-4.22	0.000	-.0811764	-.0297091
COUNTRY_D9	-.0471034	.0106878	-4.41	0.000	-.0680511	-.0261557
COUNTRY_D10	-.0085194	.0143217	-0.59	0.552	-.0365895	.0195506
COUNTRY_D11	-.0454481	.0204184	-2.23	0.026	-.0854675	-.0054287
COUNTRY_D12	0	(omitted)				
COUNTRY_D13	-.04089	.006632	-6.17	0.000	-.0538884	-.0278916
COUNTRY_D14	-.0539701	.0116409	-4.64	0.000	-.0767859	-.0311543
COUNTRY_D15	-.0367796	.0073895	-4.98	0.000	-.0512627	-.0222965
COUNTRY_D16	0	(omitted)				
Year_D1	0	(omitted)				
Year_D2	.0117494	.0053668	2.19	0.029	.0012307	.0222681
Year_D3	-.0027322	.0052199	-0.52	0.601	-.012963	.0074985
Year_D4	.0065552	.0045766	1.43	0.152	-.0024147	.0155252
Year_D5	0	(omitted)				
_cons	.0334843	.0182497	1.83	0.067	-.0022845	.0692532
sigma_u	.03081901					
sigma_e	.04908299					
rho	.28277027	(fraction of variance due to u_i)				