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# Journal of International Accounting, Auditing and Taxation



## Audit committee effectiveness and non-audit service fees: Evidence from UK family firms

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### ARTICLE INFO

*Article history:*  
Available online 10 November 2020

*JEL Classification:*  
M41  
M42  
G34

*Keywords:*  
Agency problem  
Audit committee  
Auditor independence  
Corporate governance  
Family firms  
Non-audit service fees  
UK

### ABSTRACT

This study examines whether the presence of an ineffective audit committee at family and non-family firms can influence the firms' non-audit service purchases from the incumbent auditor. Using a sample of 1736 observations of UK-listed companies from 2005 to 2013, we find a significant positive association between ineffective audit committees and non-audit service fees. This association is more pronounced for family than for non-family firms, suggesting that in the UK, family firms with ineffective audit committees tend to buy more non-audit services from their incumbent auditors than non-family firms. The results also show that family firms with ineffective audit committees pay higher non-audit service fees when their family members own shares or hold board positions, indicating that both types of involvement lead to larger non-audit service expenditures.

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## 1. Introduction

Family firms are the backbone of the world economy (Trotman & Trotman, 2010). According to the US Census Bureau, about 90 percent of US firms are family-owned or controlled, and they account for half of the nation's employment and gross national product (GNP). In the UK, two-thirds of firms, or about 4.8 million businesses, are family-owned, and more than 16,000 of these firms are medium and large businesses (UK Institute for Family Business (IFB), 2017). They generate over a quarter of the UK gross domestic product (GDP), and many are recognized worldwide for their innovative and long term outlook. Despite focusing more on the long term than non-family firms, family firms also devote their energies to the present because they operate within a complex and unique work setting shaped by the overlap of family and business issues.

Over the last decade, there has been widespread global interest in the study of listed family firms and the differences between family and non-family firms in terms of corporate financial performance, quality of financial reporting, and corporate disclosure (e.g., Anderson & Reeb, 2003; Prencipe & Bar-Yosef, 2011; Poutziouris, Savva, & Hadjielias, 2015). Recently, emerging researchers have questioned the relationship between firm type (family vs. non-family) and non-audit service (NAS) fees. For instance, Kang (2017) found that US family firms tend to purchase more NAS from their incumbent auditors

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than their non-family counterparts. However, researchers have not considered the role of corporate governance, specifically the audit committee (AC), in evaluating the NAS fees that family firms pay to their external auditor.

In the wake of recent financial scandals, regulators have been strengthening the AC function, including independence, composition, expertise, and disclosure of activities (e.g., SOX, 2002; Smith report, 2003). The UK Corporate Governance Code (2014, p. 5) states that “the board and its committees should have their appropriate balance of skills, experience, independence and knowledge of the company to enable them to discharge their respective duties and responsibilities effectively.” Whereas the monitoring role of effective boards of directors depends on their structure and organization (Peasnell, Pope, & Young, 2005), we contend that the monitoring role of ACs depends on their expertise, composition, and activity.

In the UK, the AC is generally perceived as the cornerstone of the process that oversees the integrity of financial statements and develops and implements the NAS policy (UK Corporate Governance Code, 2014). Empirical studies document mixed evidence on the association between audit committee effectiveness (ACE) and NAS fees. For instance, Abbott, Parker, Peters, & Raghunandan (2003) found that independent and active AC members are negatively associated with the magnitude of NAS fees. Similarly, Abbott, Parker, & Peters (2011) report a negative relationship between ACE and auditor-provided NAS, specifically in settings where NAS fee disclosures are mandated. However, other studies found either a non-significant or a positive association between AC characteristics and NAS fees (Zaman, Hudaib, & Haniffa, 2011). Notwithstanding this information, the literature has failed to examine the impact of ineffective ACs on the NAS fees of family firms.

Firms have distinct governance needs based on firm-specific and environmental conditions (Leung, Richardson, & Jaggi, 2014). Family firms can differ from non-family firms in their governance structures (Songini & Gnan, 2015) and, therefore, in the effectiveness of their AC. Ineffective ACs can lead to a host of problems. For example, “auditors assess family firms with weak ACs to have the highest fraud risk and to be the least desirable audit clients” (Krishnan & Peytcheva, 2019, p. 1). If auditors perceive increased fraud risk with a family firm (in line with the entrenchment theory), they might seek a risk premium or even reject the engagement to avoid the risk exposure (Johnstone & Bedard, 2004). Accordingly, family firms should prefer effective ACs, which would decrease auditors’ perceptions of risk and consequently reduce the firm’s economic and reputational costs.

Relying on agency theory (Jensen & Meckling, 1976) and resource dependence theory (Beasley, Carcello, Hermanson, & Neal, 2009), and using insights from prior literature (Abbott et al., 2003; Abbott et al., 2011; Ye, Carson, & Simnett, 2011; Zaman et al., 2011; Kang, 2017), this paper investigates the impact of ineffective ACs on NAS fees paid by UK-listed family and non-family firms. Specifically, we examine the interaction of ineffective ACs and family control and involvement on NAS fees. The sample is drawn from the FTSE (Financial Times Stock Exchange) 350 companies listed on the London Stock Exchange between 2005 and 2013.

Firms that involve family members, founders, or descendants are referred to as family firms. These members are the principal owners of the business (majority stake), and they hold top management positions ((Chief Executive Officer (CEO) or Chief Financial Officer (CFO)) and/or sit on the board of directors (Anderson & Reeb, 2003; Ali, Chen, & Radhakrishnan, 2007). Family firms have been found to have better performance, better management control, lower cost of debt (Anderson & Reeb, 2003), and lower earnings management (Al-Okaily, BenYoussef, & Chahine, 2020) than non-family firms. However, compared to non-family firms, they are more likely to exhibit material weakness in their internal control and commit fraud (Chen, Chen, Cheng, & Shevlin, 2010). Also, they may have a longer relationship with their auditor (Khalil, Cohen, & Trompeter, 2011), which can threaten auditor independence (Dobler, 2014; Krishnan & Peytcheva, 2019). They also tend to recruit lower-quality auditors (non-Big 4)<sup>1</sup> and incur lower audit fees (Ho & Kang, 2013).

Family firms have specific agency problems. Compared to non-family firms, they deal with fewer Type I agency problems due to the “alignment effect”<sup>2</sup>, which occurs when family members are both owners and managers (Ali et al., 2007). However, they face significant Type II agency problems because of the conflict between large and small shareholders.<sup>3</sup> In this problem, managers/owners act in their own interest rather than in the interest of small shareholders. To minimize agency issues, companies are expected to have strong corporate governance structures, especially when they are family firms. The AC, a central pillar of effective corporate governance, is actively involved in several audit-related activities. Specifically, it plays a vital role in overseeing the integrity of financial statements, reviewing the auditor’s independence and objectivity, and developing and implementing the NAS policy (UK Corporate Governance Code, 2014).

This study is the first to examine whether ACE can affect the purchase level of NAS by family vs. non-family firms. In doing so, it responds to Trotman and Trotman’s (2010) call to compare NAS purchases by family and non-family firms and Kang’s (2017) suggestion to investigate the impact of corporate governance factors on the latter association. It also fulfills Tepalagul and Lin’s (2015) invitation to study NAS in countries with low litigation risk, unlike the US. The UK was selected, as it is known to have a less litigious setting than the US (Wu, Hsu, & Haslam, 2016).

<sup>1</sup> Audit quality is a complex construct that cannot be observed directly. Prior studies frequently use auditor type (Big 4 vs. non-Big 4) as a proxy for auditor quality.

<sup>2</sup> Type I agency problems arise between the principal and the agent, while type II agency problems occur between controlling and non-controlling shareholders.

<sup>3</sup> Small shareholders have been defined as non-controlling shareholders (Ali et al., 2007), dispersed non-family shareholders (Srinidhi, He, & Firth, 2014), outside investors (Krishnan & Peytcheva, 2019), and minority non-influential owners - who may be either members of the same family or outsiders (Prencipe, Bar-Yosef, & Dekker, 2014). Large shareholders have been described as dominant family members (Prencipe et al., 2014), controlling shareholders (Ali et al., 2007), controlling insider shareholders (Srinidhi et al., 2014), and family owners (Krishnan & Peytcheva, 2019).

Our study contributes to three streams of research. The first stream analyzes the determinants of NAS fees without differentiating between family and non-family firms (Abbott et al., 2003; Abbott et al., 2011; Ye et al., 2011; Zaman et al., 2011). The second stream of research examines the impact of ACE on NAS fees. Extant research provides evidence on the latter association in the US (e.g., Abbott et al., 2003; Abbott et al., 2011), but few studies have investigated this relationship in the UK, where more flexible regulations exist and a different corporate governance system is in place. Moreover, prior research in the UK investigated this association without accounting and controlling for ownership structure (family vs. non-family) and before significant changes were made to the UK Corporate Governance Code through the incorporation of the Smith report in 2003. The third stream investigates family involvement (e.g., Anderson & Reeb, 2003; Wang, 2006; Poutziouris, et al., 2015; Kang, 2017). Whereas most of the studies show an association between performance and family involvement in management, directorship, and ownership (active family firms hereafter) (e.g., Anderson & Reeb, 2003; Poutziouris et al., 2015), limited research exists on the influence of family involvement on the purchase of NAS within publicly listed firms.

The results indicate a significant positive association between ineffective ACs and NAS fees. This association is more pronounced for family than for non-family firms, suggesting that in the UK, the former tend to purchase more NAS from their incumbent auditor when they have an ineffective AC. The results also show that these firms pay higher NAS fees when they have ineffective ACs and when family members own shares or hold board positions.

The remainder of the study is organized as follows. Section 2 presents the literature review and hypothesis development, and Section 3 describes the research methodology. Section 4 reports the empirical results, while Section 5 concludes the paper.

## 2. Literature review and hypotheses development

In this section, we review the literature on NAS fees paid by family firms and the association between NAS fees and ineffective ACs. We then integrate both strands of research to derive testable hypotheses about the relationships between NAS fees paid by family firms and ineffective ACs.

### 2.1. NAS used by family firms

There are two theoretical perspectives on the provision of NAS by incumbent auditors. According to the knowledge spillover perspective, it is cost-effective for firms to purchase NAS from the incumbent auditor because it avoids the cost of a new consultant search and reduces the risk of receiving bad quality advice from a new consultant (Ye et al., 2011). Moreover, this practice improves auditors' knowledge of a firm and may result in a higher-quality and more efficient and effective financial statement audit (Tepalagul & Lin, 2015). However, from an agency or an economic bonding perspective, the purchase of NAS is expected to increase moral hazard agency conflicts (Quick, Sattler, & Wiemann, 2013) and impair auditor independence (Habib, 2012). Auditor independence may be jeopardized when a company uses NAS provided by their auditor, and thereby possibly pressuring the auditor to portray the company in a more favorable light. Also, in asking the auditor to take on more NAS, the company might negotiate lower auditing fees, which may impact audit quality negatively and impair auditor independence (Klumpes, Komarev, & Eleftheriou, 2016).

UK regulatory recommendations on the purchase of NAS from incumbent auditors are more consistent with agency theory than with the knowledge spillover perspective. While UK regulators have not banned companies from purchasing NAS from their incumbent auditors, they delegate to the AC the responsibility to monitor the impact of NAS on external auditor independence and financial reporting quality (Corporate Governance Code, 2014; Wu et al., 2016).

Prior studies focused on the role of the AC in reducing Type I agency problems but rarely analyzed ACE in decreasing the Type II agency problem (Srinidhi et al., 2014). In family firms, owners and managers experience fewer Type I agency problems because of the alignment effect (Ali et al., 2007; Ho & Kang, 2013). Family members' involvement in the firm's management and increased ownership concentration minimize agency conflicts between owners and managers (Krishnan & Peytcheva, 2019). The fact that family firms incur more benign Type I agency costs could lead them to "tolerate higher levels of NAS to appreciate the potential benefits of auditors' knowledge spillovers" (Kang, 2017, p. 214).

Moreover, due to their concerns about confidentiality, family firms tend to purchase NAS from their incumbent auditor to "limit the number of external parties that have access to potentially sensitive information" (Dobler, 2014; Kang, 2017, p. 214). However, Type II agency problems are more challenging for small and large shareholders (Ali et al., 2007; Ho & Kang, 2013; Prencipe et al., 2014). Family owners may use their positions and privileged access to superior information to make decisions at the expense of less influential shareholders, leading to the entrenchment effect (Ali et al., 2007; Prencipe et al., 2014, p. 364).<sup>4</sup> As such, when family firms have Type II agency problems and need to maintain higher audit quality, they tend to purchase fewer NAS from their incumbent auditors. Other deterrents include additional grounds for litigation that may arise from more extensive use of NAS (Kang, 2017).

We are aware of only two papers that examine a potential link between family firms and NAS fees. Both studies (Dobler, 2014; Kang, 2017) found that family firms are likely to purchase more NAS from their incumbent auditors due to knowledge

<sup>4</sup> These decisions include advantageous related-party transactions, excessive compensation, and special dividends (Anderson & Reeb, 2003, 2004; Srinidhi et al., 2014, p. 2298).

spillover purposes and to reduce the number of consultants who have access to critical internal information. However, neither paper considered the link between ineffective ACs at family firms and NAS fees. This study extends the literature by providing evidence on the possible effect of the family firm's AC on the company's decision to purchase NAS from the incumbent auditor.

## 2.2. Ineffective ACs and auditor-provided NAS

The AC plays an essential role in overseeing the integrity of financial statements, reviewing the auditor's independence and objectivity, and developing and implementing the NAS policy (UK Corporate Governance Code, 2014). From an agency theory perspective, effective AC members are presumed to vigilantly monitor management, reduce the agency costs of the ownership structure, assure the objectivity of external auditors, and improve the integrity of financial reporting (Beasley et al., 2009; Al-Okaily, Dixon, & Salama, 2019). They face a trade-off between the costs and benefits of auditor-provided NAS, having to decide whether it is worth increasing the auditor's knowledge of the client to improve the audit process (Simunic, 1984) at the expense of possibly eroding the auditor's independence by using additional management consulting services.

Agency and resource dependence theories are widely used as theoretical foundations to examine the role of the AC. Agency theory asserts that directors are vigilant, active, and effective monitors of management. Drawing on this theory, previous studies examined the association between ACE and financial reporting quality and audit quality (e.g., Mustafa & Ben Youssef, 2010; Srinidhi et al., 2014). They found that the attributes of effective ACs are likely to improve financial reporting quality. For example, having financial experts on the AC potentially reduces the level of earnings management (Alzoubi, 2018) and the incidence of misappropriation of assets (Mustafa & Ben Youssef, 2010). Likewise, AC diligence, measured by the number of AC meetings, is negatively associated with earnings management levels (Srinidhi et al., 2014) and accounting restatements (Abbott, Parker, & Peters, 2004). These findings provide evidence that effective ACs<sup>5</sup> can fulfill their role of oversight and governance.

From the perspective of resource dependence theory, the role of AC members is to assist managers with strategy and resource acquisition (Beasley et al., 2009). Through their expertise and diligence, effective committee members provide advice to the firm as a substitute for external services, resulting in lower NAS fees being charged by incumbent auditors.

Empirical research on the impact of AC attributes on auditor-provided NAS is inconclusive. In their US study, Abbott et al. (2003) posit that the AC has reputational and litigation incentives to decrease purchases of NAS from the incumbent auditor. They hypothesize that independent and active AC members are negatively associated with the magnitude of NAS fees. Similarly, Abbott et al. (2011) report a negative relationship between ACE and auditor-provided NAS, especially where NAS fees are required to be disclosed.

In the UK, using data for only one year after the incorporation of the Smith report in 2003, contrary to their expectations, Zaman et al. (2011) find a significant positive association between the relative level of NAS and ACE, measured by a composite score capturing diligence, independence, financial expertise, and size.<sup>6</sup> Testing the four components separately, they report that AC size is significantly and positively associated with NAS fees, while AC member independence and expertise are negatively associated with NAS fees. They also note that larger clients with effective ACs are more likely to buy NAS due to their complex activities. According to Zaman et al. (2011), effective (high-quality) AC members are more likely to fulfill their responsibilities and oversight role in order to avoid any litigation risk or concerns about their reputation.

Whether AC members have oversight or advising roles, we predict that their effectiveness will affect NAS purchases from the incumbent auditors. The preceding discussion leads to the first hypothesis (stated in the alternative form):

*H1: There is an association between ineffective ACs and auditor-provided NAS.*

## 2.3. Ineffective ACs, family vs. non-family firms, and auditor-provided NAS

As documented in the last section, prior studies reported mixed evidence on the relationship between NAS fees and ACE (see Abbott et al., 2003; Abbott et al., 2011; Zaman et al., 2011), but did not distinguish between family and non-family firms. Ownership structure is a critical factor because governance needs vary with firm-specific conditions (Lane, Astrachan, Keyt, & McMillan, 2006). Failure to control for ownership structure may result in spurious findings and erroneous conclusions. The relationship between ACE and NAS fees could differ between family and non-family firms because family firms have unique control and monitoring mechanisms (Short, Payne, Brigham, Lumpkin, & Broberg, 2009). The interaction effect between ineffective ACs and family control on NAS fees is important because family firms typically have very close relationships with their auditors (Jaffe, Lane, Dashew, & Bork, 1997),<sup>7</sup> and those that have an ineffective AC could exploit this weakness to purchase more NAS.

<sup>5</sup> Following prior studies, we consider that an AC is effective if it is large and if its members are financial experts who display diligence and independence (e.g., Zaman et al., 2011).

<sup>6</sup> Zaman et al (2011) examined the ACE based on the recommendations of the Smith report and used the sample period 2001–2004.

<sup>7</sup> Family firms use their auditor's advice on family-related matters, such as compensation, succession, and employment of family members (Jaffe et al., 1997).

From an agency perspective, and in comparison with non-family firms, family firms tend to experience deeper Type II agency problems with their small and large shareholders. Managerial entrenchment causes more significant agency conflicts in family firms than in non-family firms (Morck & Yeung, 2003). Family members' incentives to preserve the family's wealth can lead to biased financial reports (Prencipe & Bar-Yosef, 2011), expropriation of minority shareholders' wealth (Morck & Yeung, 2003), and engagement in earnings management to hide opportunistic practices and mislead financial report users (Wang, 2006). However, investors may anticipate this expropriation problem and, thus, discount the share prices of the company, making it costly and challenging for the company to issue new shares (Claessens, Djankov, Fan, & Lang, 2002). Accordingly, to alleviate type II agency conflicts, the controlling shareholders may voluntarily use different monitoring devices to assure minority owners that their welfare is secure (Fan & Wong, 2005) and to signal high-quality financial reporting to external users. Srinidhi et al. (2014) showed that effective board governance mitigates the adverse effects of type II agency problems on family firms' financial reporting.

Moreover, external auditors can detect and deter biased financial reports and, therefore, decrease agency costs. For this purpose, external auditors should avoid any circumstances that may compromise their independence. The provision of both audit and non-audit services to a client firm can reduce actual and perceived auditor independence and perceived audit quality (Quick & Warming-Rasmussen, 2009). DeAngelo (1981) and Beck & Jung (1989) showed that an auditor's tendency to accept manipulated financial statements rises as the audit and non-audit revenues they receive from their client firm increase. Hence, with family firms, where family and business overlap, an effective AC is needed to restrict the purchase of NAS and to reduce the family's entrenchment. However, whether this actually occurs is an empirical issue.

On the other hand, resource dependence theory asserts that directors provide specific resources, such as expertise and advice in different areas, help in obtaining commitments or support from essential elements outside the firm, and promote legitimacy (Pfeffer & Salancik, 2003, p. 145). In family firms, effective AC members may provide advisory services beyond financial accounting, thereby substituting for the external consulting services available from incumbent auditors. In addition, high family ownership concentration could foster strong corporate governance and spur shareholders and managers to enforce monitoring mechanisms to protect the firm's assets and reputation (Schulze, Lubatkin, & Dino, 2003).

Focusing on the difference between family and non-family firms, prior literature examined the impact of corporate governance attributes on firm performance and financial reporting quality. For example, Anderson and Reeb (2004) find that active boards improve family firm performance, while Srinidhi et al. (2014) show that strongly governed family firms tend to have higher earnings quality. Thus, ACE can potentially moderate the Type II agency problem by reducing family owner entrenchment and expropriation.

Recently, Krishnan and Peytcheva (2019) conducted an experimental study in the US to examine the joint effects of family firms and ACE on auditors' judgments about the desirability of the firm as a potential audit client. Consistent with the entrenchment perspective, the authors found that auditors assess ex-ante (before accepting the client) that family firms with weak ACs have higher fraud risk and lower audit client desirability than non-family firms. This suggests that when the AC is weak, family members opportunistically extract rents and expropriate wealth from their small shareholders. Therefore, it is expected that the interaction between ineffective ACs and family control would exacerbate Type II agency problems.

Based on corporate governance theories (i.e., agency and resource dependence theories) and prior studies (Anderson & Reeb, 2004; Dobler, 2014; Srinidhi et al., 2014; Kang, 2017; Krishnan & Peytcheva, 2019), and given that family firms have a unique structure and specific agency problems, we predict that the presence of an ineffective AC would lead a family firm to purchase more NAS from the incumbent auditor than it would for a non-family firm. The preceding discussion leads to the second hypothesis (stated in the alternative form):

*H2a: Compared to non-family firms, there is a positive association between family firms with ineffective ACs and the purchase of NAS from the incumbent auditor.*

Family members at family firms may be involved in ownership (Family Involvement in Ownership (FIO)), and/or the board of directors (Family Involvement in the Board (FIB)), and/or an individual family member may also be involved in management as the CEO (Family Involvement in Management (FIM)). Due to the alignment effect, it has been assumed that FIM eliminates the conflict between owners and managers (Villalonga & Amit, 2006) and does away with unneeded agency cost control mechanisms (i.e., governance) (Songini & Gnan, 2015). Abbott et al. (2003) document a non-significant relationship between insider ownership in US companies and the provision of NAS fees, suggesting that managers are limited in their ability to influence the level of NAS purchased by their firms.

FIO can lead to type II agency problems, whereby controlling family members use their ownership and control to expropriate wealth from the minority owners. This situation may reduce altruism, efficient collaboration, and information exchange (Gomez-Mejia, Nuñez-Nickel, & Gutierrez, 2001). Therefore, FIO could foster strong corporate governance and shareholder and manager collaboration in monitoring (i.e., an effective AC) as a way to reduce conflicts and agency costs (Schulze et al., 2003). However, in the absence of an effective AC, FIO could lead to greater purchases of NAS from the incumbent auditor to reduce the likelihood of receiving bad advice and to protect the firm's assets and reputation, consistent with the knowledge spillover perspective.

When a firm has a founder CEO, power and control are concentrated in that family member's hands. The founder CEO has greater discretion in carrying out the firm's affairs and is better positioned to work on goals other than profit maximization (Gedajlovic, Lubatkin, & Schulze, 2004). For example, the CEO can usually pursue family interests without concern for other

stakeholders. Owing to their emotional attachment and identification with their business and the facility with which they can exercise power, founder CEOs are strongly inclined to protect the company's socioemotional wealth. To prevent this wealth from deteriorating due to agency conflicts with non-family stakeholders, founder CEOs may attempt to influence firm performance and increase NAS purchases to build close relations with the firm's auditor. They may also be inclined to weaken the board and the aspects of ACE that interfere with the family's controls and objectives. This is why the AC might not effectively act to restrict NAS expenditures at family firms where family members are involved in top management.

Conversely, family members at firms with an effective AC may be hindered in their attempts to opportunistically expropriate minority shareholders' wealth and to increase the purchase of NAS. Accordingly, family involvement in board and executive positions at such firms does not deter AC monitoring effectiveness in limiting NAS expenditures. Firms in general appoint independent members to the AC to deflect undue pressure on committee members from controlling shareholders. However, when family members serve on the board, outside members within the AC are unlikely to clash with them because their reappointment relies on their relations with the family directors who hired them. Therefore, these members are constrained into following the controlling family directors, a scenario that compromises ACE and independence (Jaggi & Leung, 2007). In addition, family members may have trust and privacy concerns that propel them to purchase NAS from their incumbent auditors to limit the number of outsiders who have access to vital and sensitive information. Hence, auditors would show loyalty to family members and may accept manipulated financial statements to preserve their non-audit revenues from the firm (DeAngelo, 1981; Beck & Jung (1989).

The intensified entrenchment effect associated with active family involvement may result in fewer effective corporate governance devices (Wang, 2006). In line with this argument, Chen et al. (2010) showed that family firms exhibit greater internal control weaknesses relative to non-family firms. Based on the above argument, the AC may not be as effective in limiting NAS purchases by family firms when family members are involved in the firm's board and management.

Active FIB and FIM can weaken corporate governance and monitoring (Wang, 2006). When this is this case, an effective AC may be needed to inhibit expropriation by controlling family shareholders and to improve the quality of internal control and reporting. The entrenchment effect may result in less effective corporate governance devices. In other scenarios, some family members are directors or employees, while others are shareholders. Family members who are shareholders may care more about long term firm performance and value maximization, and demand the creation of effective ACs and internal controls. We expect that when families are actively involved in the firm, an ineffective AC will be associated with higher NAS expenditures and, therefore, with lower auditor independence.

*H2b: Active family firms with ineffective ACs are positively associated with the purchase of NAS.*

### 3. Methodology

#### 3.1. Sample selection

Table 1 represents the sample selection procedures. We conduct our analysis on UK FTSE 350 firms, excluding all firms in the utilities industry (Industry Classification Benchmark (ICB) 7000), and in the financial and insurance industries (ICB 8000). In addition, 86 firms were removed from the sample due to missing corporate governance and financial values, resulting in a final sample of 214 firms (comprising 1736 firm-year observations) in eight industries. The study covers the 2005–2013 period. We collected data after 2005, when the UK embraced IFRS, to build a homogeneous sample and isolate the impact of family control and ineffective ACs on NAS fees. Moreover, we covered a nine-year period due to the manual collection of family and governance data and to build a relatively comparable sample between pre and post 2008 financial crisis periods. Based on our definition of a family firm, our sample consists of 400 family firm observations (23%). Data regarding firm ownership structure and corporate governance (i.e., board and AC characteristics) were extracted from the firms' annual reports. Financial figures and data regarding audit and NAS fees were obtained from DataStream.

To test our hypotheses, we used the following regression model:

$$\begin{aligned} LNNAF = & \alpha + \beta_1 \text{FAMILYFIRM} + \beta_2 \text{ACELOW} + \beta_3 \text{FAMILYFIRM} * \text{ACELOW} + \beta_4 \text{NEDs} + \beta_5 \text{DUAL} + \beta_6 \text{BMEET} \\ & + \beta_7 \text{BSIZE} + \beta_8 \text{MANOWN} + \beta_9 \text{BLOCK} + \beta_{10} \text{LOSS} + \beta_{11} \text{RECTA} + \beta_{12} \text{LEV} + \beta_{13} \text{CASSETS} + \beta_{14} \text{ATO} + \beta_{15} \text{SIZE} \\ & + \beta_{16} \text{CRISIS} + e \end{aligned} \quad (1)$$

#### 3.2. Variables definition

The dependent variable is NAS fees (LNNAF) measured by the natural logarithm of NAS. We use a dummy variable FAMILYFIRM, which equals one if the company is considered a family firm, to investigate family firms' purchases of NAS from their auditors. Following Anderson and Reeb (2003) and Poutziouris et al. (2015), an organization receives this designation if family members sit on the board, occupy management positions (CEO), or own 10% or more of the company's shares.

To measure the effect of ineffective ACs (ACELOW) on the purchases of NAS, we use a composite measure (ACELOW) including AC size (ACS), relevant financial expertise (ACX), and meeting frequency (ACM). ACS is a continuous variable denoting the number of AC directors in a given year. Based on the UK Corporate Governance Code (2014), ACX is a

**Table 1**  
Sample selection and distribution by industry and year.

<i>Panel A. Sample Selection Procedures</i>											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total Sample	
Total firms on the FTSE 350 at year end	352	352	353	358	355	356	356	354	354	3190	
Companies in the financial and insurance industries (ICB 8000)	-101	-108	-104	-113	-112	-116	-113	-116	-116	-999	
Companies in the utilities industry (ICB 7000)	-13	-12	-11	-10	-9	-9	-8	-7	-7	-86	
Companies with missing corporate governance and financial values	-81	-46	-45	-43	-20	-37	-32	-32	-33	-369	
<b>Total Sample</b>	<b>157</b>	<b>186</b>	<b>193</b>	<b>192</b>	<b>214</b>	<b>194</b>	<b>203</b>	<b>199</b>	<b>198</b>	<b>1736</b>	

  

<i>Panel B. Distribution of Sample Firms by Industry and Year</i>											
ICB code	Industry	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total Sample
0001	Oil and Gas	13	14	15	16	18	15	17	15	15	138
1000	Basic materials	14	15	16	19	18	18	29	23	19	171
2000	Industrials	49	64	67	62	67	58	62	58	59	546
3000	Consumer goods	20	26	25	23	26	24	23	25	27	219
4000	Health care	6	6	6	6	9	8	7	9	9	66
5000	Consumer services	42	51	54	56	59	55	48	49	50	464
6000	Telecommunications	4	3	3	3	4	3	6	8	7	41
9000	Technology	9	7	7	7	13	13	11	12	12	91
<b>Total Sample</b>		<b>157</b>	<b>186</b>	<b>193</b>	<b>192</b>	<b>214</b>	<b>194</b>	<b>203</b>	<b>199</b>	<b>198</b>	<b>1736</b>

continuous variable representing the percentage of AC members with relevant financial experience. Relevant financial expertise includes both finance and accounting competence related to the industry in which the company operates. ACM is a continuous variable designating the number of AC meetings held in a given year. Following Zaman et al., (2011), we measure our composite score based on the recommendations of the UK corporate governance code, but instead our coding focuses on those who do not meet the recommendations. Therefore, the composite score (ACELOW) equals one if the AC includes less than three members, does not contain at least one member with relevant financial experience, and meets less than three times a year.

We also derive from prior research some control variables that capture firm-specific attributes that may affect purchases of NAS. Companies with strong corporate governance are motivated to limit purchases of NAS from their auditors. Hence, we control for some board characteristics, including the percentage of non-executive directors on the board (NEDs), a CEO–Chairman duality dummy variable (DUAL), the number of board meetings in a given year (BMEET), and the number of board directors in a given year (BSIZE). We also control for other variables related to ownership structure, including managerial ownership (MANOWN) and percentage of substantial shareholders who have at least 5% ownership in the firm and are not executives (BLOCK). Finally, we control for other firm-specific variables including firm size (SIZE), leverage (LEV), receivables over total assets (RECTA), current assets (CASSETS), asset turnover ratio (ATO), whether the firm experienced a loss in one or both of the previous two years<sup>8</sup> (LOSS), and whether observations were for 2008 or 2009 (CRISIS).

#### 4. Empirical results

Table 2 displays the descriptive statistics for the whole sample and the family and non-family sub-samples. Firms pay an average of £1.685 million for NAS, and £2.626 million for audit services. Family members occupy the CEO position in 13% of the cases. The AC has an average of four members and meets four times a year. A mean of 34% of AC members has relevant financial expertise.

Family firms pay an average of £1.394 million for NAS, while non-family firms pay £1.771 million. The average ratio of NAS to audit fees (NAFAF) paid by family firms is higher than that for non-family firms (1.36 vs. 0.98).

Moreover, the average NAS fees ratio (NAFTAF) of family firms is higher than that of non-family firms (43% vs. 37%). These statistics imply that, on average, the ratio of NAS fees is significantly higher (by 6%,  $p < 0.001$ ) for family firms relative to non-family firms. These statistics are consistent with Kang (2017), who argued that due to lower Type I agency problems in family firms, which result in lower information asymmetry, the latter tend to purchase more NAS than non-family firms to derive potential benefits from the auditors' knowledge spillover.

As for corporate governance characteristics, family firms seem to have a less effective AC, lower board independence (NEDs), fewer annual board meetings (BMEET), and higher institutional ownership (BLOCK). Also, CEO duality is a higher factor in family firms relative to non-family firms (6.5% vs. 2.7%,  $p < 0.001$ ). Relative to their non-family counterparts, family firms are smaller and have lower leverage ratios (15.7% vs. 19.3%,  $p < 0.001$ ). Moreover, family firms seem to have fewer current assets (CASSETS), a lower receivable ratio (RECTA), and a lower assets turnover ratio (ATO).

Table 3 presents Pearson and Spearman correlations. The family firm dummy exhibits positive correlations with NAS fee ratios (NAFAF and NAFTAF), but a negative correlation with NAS fees level (LNNAF). Moreover, NAS fee ratios show a positive correlation with ACELOW, CEO duality, and board meeting frequency, but a negative correlation with board independence. Also, NAS fee ratios are positively correlated with managerial ownership and institutional ownership, while the NAS fee level is negatively correlated with the latter variables. Further, the Spearman correlation shows that NAS fee ratios are positively associated with LOSS. Pearson correlation shows that NAS fee ratios are positively associated with firm leverage. The table also shows that NAS fees are negatively correlated with the receivables ratio, current assets, asset turnover ratio, and firm size. There are no multicollinearity problems between other independent variables, the highest correlation being 0.87.

To check the appropriateness of the regular ordinary least squares (OLS) regression or random effect model for our data, we conducted the Breusch-Pagan LM test. The result indicates that panel data regression is more appropriate than the regular OLS one. We then used the firm and year fixed effect model after the Hausman test revealed a significant difference between the fixed and random effect models<sup>9</sup>. We then used standard errors clustered by firm and year to account for possible serial correlation and heteroscedasticity.

Table 4 presents the estimation results for the regression that examines the relationship between the continuous measure of NAS fees and family control, the ACELOW composite measure, and other firm-specific control variables. Column 1, reported in the first column of the table, shows that NAS fees are not significantly related to family control, and are positively and significantly related to ACELOW (at the 5% level). Nonetheless, when we incorporate an interaction variable between FAMILYFIRM and ACELOW in Column 2, the ACELOW coefficient becomes insignificant, while the coefficient of the interaction variable is positive and significant at the 1% level. Hence, the significance of ACELOW in Column 1 relates mainly to family firms in the sample. This result is confirmed when we split the sample into family and non-family sub-samples (Columns

<sup>8</sup> We did not add a control variable for audit firm size as all sample firms are audited by one of the Big Four audit firms.

<sup>9</sup> We also tested our hypotheses using robust-regression and the un-tabulated results are qualitatively similar to those from the fixed effect models.

**Table 2**  
Descriptive statistics.

Variable	Full Sample (1736)		Non-Family Firms (N = 1336)		Family firms (N = 400)		T-test for Difference
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	
NAFAF	1.071	1.810	0.983	1.674	1.364	2.184	-3.706***
NAFTAFAF	0.384	0.213	0.370	0.207	0.430	0.226	-4.957***
Non-Audit Fees (millions)	1.685	5.403	1.771	5.933	1.394	3.009	1.224
LNNAF	13.148	1.490	13.196	1.484	12.986	1.499	2.478***
Audit Fees (millions)	2.626	7.937	2.960	8.872	1.512	2.990	3.209***
FAMILYCEO	0.126	0.334	0.000	0.000	0.548	0.503	-39.783***
FAMILYDIR	0.033	0.072	0.000	0.000	0.145	0.079	-67.107***
FAMILYOWN	0.041	0.127	0.000	0.000	0.176	0.214	-30.143***
ACELOW	0.207	0.405	0.189	0.391	0.267	0.443	-3.427***
ACM	4.172	1.546	4.237	1.543	3.953	1.538	3.241***
ACS	3.639	0.902	3.701	0.935	3.433	0.743	5.272***
ACX	0.337	0.278	0.340	0.286	0.325	0.249	0.999
NEDs	0.660	0.330	0.669	0.368	0.629	0.139	2.121**
DUAL	0.036	0.186	0.027	0.162	0.065	0.247	-3.609***
BMEET	8.709	2.926	8.931	2.858	7.965	3.030	5.849***
BSIZE	9.248	2.417	9.204	2.311	9.393	2.738	-1.366
MANOWN	0.038	0.130	0.012	0.047	0.123	0.238	-16.012***
BLOCK	0.250	0.177	0.227	0.159	0.326	0.212	-10.075***
LOSS	0.140	0.347	0.139	0.346	0.143	0.350	-0.166
RECTA	0.152	0.119	0.161	0.121	0.124	0.108	5.535***
LEV	0.185	0.160	0.193	0.157	0.158	0.165	3.943***
CASSETS	13.237	1.743	13.346	1.743	12.873	1.696	4.790***
ATO	1.045	0.696	1.091	0.702	0.893	0.657	5.004***
SIZE	14.376	1.495	14.474	1.489	14.049	1.472	5.015***
CRISIS	0.234	0.423	0.233	0.423	0.237	0.426	-0.195

Notes: \*, \*\*, \*\*\* Represent significance at the 0.10, 0.05, and 0.01 levels respectively. All variables are defined in Appendix A.

3 and 4), where we find that the ACELOW coefficient is positive and significant only in the family firm sub-sample (Column 4, at the 1% level)<sup>10</sup>.

A one-unit change in the independent variable will cause the log of the dependent variable to change by the magnitude of the coefficient (BenYoussef & Khan, 2018). The formula ( $e^{\alpha} - 1$ ) provides the percentage change in the dependent variable. The coefficient estimate for ACELOW is 0.468 (Table 4, Column 4), meaning that a unit increase in ACELOW is associated with predicted NAS fees that are 60% ( $\exp^{0.468} - 1 = 0.60$ ) higher. Considering average non-audit fees for family firms of £1.394 million, this corresponds to additional fees of £0.84 million. These results indicate that the positive relationship between ineffective ACs in family firms and the purchase of NAS is both economically and statistically significant. In comparison with non-family firms, the interaction between ineffective ACs and family control tends to facilitate the purchase of NAS from the incumbent auditor.

The positive relation between ACELOW and NAS fees is consistent with our expectations. Many studies have shown that the purchase of NAS from the incumbent auditor would harm auditor independence (Hay, Knechel, & Li, 2006). Accordingly, to enhance auditor independence, effective ACs tend to prohibit the purchase of NAS. The significant positive effect of ACELOW on NAS fees paid by family firms could only be explained by the significantly higher ratios of NAS fees incurred by these firms relative to non-family firms. The findings may imply that, in comparison to non-family firms, family firms tend to take advantage of the presence of ineffective ACs to purchase higher levels of NAS from their incumbent auditors.

As for control governance variables, we find board meeting frequency (BMEET) positively and significantly related to LNNAF at the 1% level. Board meeting frequency may reflect the board diligence level. Carcello, Hermanson, Neal, & Riley (2002) confirm that frequent board meetings can indicate greater control over a firm. Hence, board meetings may be associated with lower NAS fees and higher audit fees.

As for control variables related to the firm's financial status, LOSS is negatively and significantly related to LNNAF paid by family firms. This result is unexpected, as poorly performing firms are likely to have problems with internal control and are, therefore, expected to demand more consulting services to enhance profitability (Whisenant, Sankaraguruswamy, & Raghunandan, 2003). On the other hand, it could be argued that firms experiencing losses would attempt to reduce their purchases of NAS to decrease their expenditures. Except for family firms, leverage is positively and significantly related to the three measures of NAS fees. Firms with high leverage levels require careful monitoring to be protected from financial and business risks, as they will incur high audit and NAS fees (Zaman et al., 2011).

<sup>10</sup> These results are also robust to the inclusion of LNAF (natural logarithm of audit fees paid by a firm) as an independent variable to account for the joint determination of audit fees and non-audit fees as suggested by Antle, Gordon, Narayanamoorthy, & Zhou (2006).

**Table 3**  
Spearman (upper triangle) and Pearson (lower triangle) correlations\*.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
NAFAF (1)	1	<b>1</b>	<b>0.49</b>	<b>0.11</b>	<b>0.09</b>	<b>-0.08</b>	<b>0.1</b>	<b>0.05</b>	<b>-0.05</b>	<b>0.05</b>	<b>0.06</b>	<b>0.04</b>	<b>-0.16</b>	0.04	<b>-0.11</b>	<b>-0.1</b>	<b>-0.09</b>	-0.01
NAFTAF (2)	<b>0.72</b>	1	<b>0.49</b>	<b>0.11</b>	<b>0.09</b>	<b>-0.08</b>	<b>0.1</b>	<b>0.05</b>	<b>-0.05</b>	<b>0.05</b>	<b>0.06</b>	<b>0.04</b>	<b>-0.16</b>	0.04	<b>-0.11</b>	<b>-0.1</b>	<b>-0.09</b>	-0.01
LNNAF (3)	<b>0.3</b>	<b>0.48</b>	1	<b>-0.07</b>	-0.03	<b>0.26</b>	-0.03	<b>-0.04</b>	<b>0.39</b>	<b>-0.33</b>	<b>-0.17</b>	0.02	<b>-0.04</b>	<b>0.17</b>	<b>0.54</b>	<b>-0.17</b>	<b>0.57</b>	0.02
FAMILYFIRM (4)	<b>0.09</b>	<b>0.12</b>	<b>-0.06</b>	1	<b>0.08</b>	<b>-0.07</b>	<b>0.09</b>	<b>-0.16</b>	0.01	<b>0.41</b>	<b>0.21</b>	0.00	<b>-0.16</b>	<b>-0.12</b>	<b>-0.14</b>	<b>-0.15</b>	<b>-0.11</b>	0.05
ACELOW (5)	<b>0.06</b>	<b>0.09</b>	-0.02	<b>0.08</b>	1	<b>-0.16</b>	0.02	-0.04	<b>-0.09</b>	<b>0.09</b>	0.01	0.00	0.02	-0.02	<b>-0.13</b>	<b>0.06</b>	<b>-0.16</b>	<b>-0.05</b>
NEDs (6)	-0.03	-0.03	<b>0.12</b>	<b>-0.05</b>	<b>-0.08</b>	1	<b>-0.05</b>	<b>-0.06</b>	<b>0.14</b>	<b>-0.39</b>	<b>0.07</b>	0.00	<b>-0.16</b>	<b>0.1</b>	<b>0.32</b>	<b>-0.14</b>	<b>0.36</b>	<b>-0.04</b>
DUAL (7)	<b>0.08</b>	<b>0.11</b>	-0.03	<b>0.09</b>	0.02	-0.03	1	-0.04	<b>-0.08</b>	<b>0.18</b>	<b>0.05</b>	-0.02	-0.02	-0.03	<b>-0.12</b>	<b>-0.1</b>	<b>-0.12</b>	-0.03
BMEET (8)	<b>0.06</b>	<b>0.08</b>	0	<b>-0.14</b>	<b>-0.04</b>	-0.02	-0.02	1	<b>-0.12</b>	<b>-0.1</b>	-0.01	<b>0.04</b>	<b>0.07</b>	0.02	<b>-0.05</b>	<b>0.16</b>	<b>-0.06</b>	<b>0.05</b>
BSIZE (9)	0	-0.03	<b>0.42</b>	0.03	<b>-0.07</b>	<b>0.07</b>	<b>-0.08</b>	<b>-0.08</b>	1	<b>-0.2</b>	<b>-0.16</b>	0.01	<b>-0.11</b>	<b>0.1</b>	<b>0.47</b>	<b>-0.18</b>	<b>0.53</b>	0.00
MANOWN (10)	<b>0.08</b>	<b>0.09</b>	<b>-0.05</b>	<b>0.36</b>	<b>0.07</b>	<b>-0.07</b>	<b>0.15</b>	<b>-0.09</b>	<b>-0.09</b>	1	<b>0.12</b>	0.01	<b>0.05</b>	<b>-0.22</b>	<b>-0.41</b>	0.02	<b>-0.45</b>	0.01
BLOCK (11)	<b>0.05</b>	<b>0.06</b>	<b>-0.12</b>	<b>0.24</b>	0.01	<b>0.05</b>	<b>0.08</b>	-0.04	<b>-0.06</b>	<b>-0.05</b>	1	<b>0.12</b>	<b>-0.07</b>	<b>-0.07</b>	<b>-0.25</b>	-0.03	<b>-0.25</b>	<b>0.08</b>
LOSS (12)	0.04	0.04	0.01	0.00	0.00	0.02	-0.02	<b>0.06</b>	0.02	0.02	<b>0.11</b>	1	<b>-0.05</b>	0.01	-0.01	-0.01	-0.02	<b>-0.04</b>
RECTA (13)	<b>-0.07</b>	<b>-0.11</b>	<b>-0.08</b>	<b>-0.13</b>	<b>0.05</b>	<b>-0.08</b>	0	<b>0.06</b>	<b>-0.09</b>	<b>-0.05</b>	<b>-0.08</b>	-0.03	1	<b>-0.15</b>	0.02	<b>0.48</b>	<b>-0.25</b>	0.01
LEV (14)	<b>0.06</b>	<b>0.07</b>	<b>0.12</b>	<b>-0.09</b>	-0.01	0.02	-0.01	0.01	<b>0.06</b>	<b>-0.13</b>	<b>-0.04</b>	0.01	<b>-0.19</b>	1	<b>0.11</b>	<b>-0.15</b>	<b>0.31</b>	<b>0.04</b>
CASSETS (15)	-0.04	<b>-0.07</b>	<b>0.45</b>	<b>-0.11</b>	<b>-0.10</b>	<b>0.12</b>	<b>-0.09</b>	0	<b>0.4</b>	<b>-0.12</b>	<b>-0.14</b>	0	0.03	<b>0.04</b>	1	-0.01	<b>0.87</b>	-0.01
ATO (16)	<b>-0.04</b>	<b>-0.07</b>	<b>-0.17</b>	<b>-0.12</b>	<b>0.05</b>	-0.03	<b>-0.08</b>	<b>0.15</b>	<b>-0.16</b>	0.02	-0.01	<b>-0.01</b>	<b>0.43</b>	<b>-0.17</b>	-0.01	1	<b>-0.24</b>	-0.03
SIZE (17)	<b>-0.07</b>	<b>-0.1</b>	<b>0.59</b>	<b>-0.12</b>	<b>-0.14</b>	<b>0.17</b>	<b>-0.11</b>	<b>-0.04</b>	<b>0.56</b>	<b>-0.15</b>	<b>-0.21</b>	-0.02	<b>-0.25</b>	<b>0.2</b>	<b>0.78</b>	<b>-0.25</b>	1	0.00
CRISIS (18)	<b>-0.05</b>	-0.02	0.02	0.01	<b>-0.05</b>	-0.03	-0.03	<b>0.06</b>	0.01	-0.01	<b>0.08</b>	<b>-0.04</b>	-0.00	<b>0.04</b>	-0.02	-0.02	-0.00	1

Notes: \*Bolted coefficients are statistically significant at the 10% level. All variables are defined in Appendix A.

**Table 4**  
Regression of firm type (family vs. non-family) and ineffectiveness of audit committees on NAS fees.

	Full Sample		Non-family	Family
	Column 1	Column 2	Column 3	Column 4
	Coeff. (t-stat)	Coeff. (t-stat)	Coeff. (t-stat)	Coeff. (t-stat)
Constant	12.10*** (7.52)	11.78*** (7.37)	11.01*** (5.78)	12.98*** (4.68)
FAMILYFIRM	0.059 (0.16)	-0.055 (-0.15)		
ACELOW	0.147** (2.17)	0.023 (0.30)	0.020 (0.26)	0.468*** (3.51)
ACELOW*FAMILYFIRM		0.474*** (3.13)		
NEDS	-0.054 (-1.11)	-0.055 (-1.13)	-0.046 (-0.94)	-1.125* (-1.83)
DUAL	0.151 (0.67)	0.119 (0.55)	0.107 (0.32)	0.113 (0.45)
BMEET	0.040*** (2.94)	0.042*** (3.16)	0.050*** (3.12)	0.020 (0.89)
BSIZE	0.030 (1.25)	0.032 (1.33)	0.037 (1.34)	0.017 (0.38)
MANOWN	0.169 (0.76)	0.083 (0.38)	0.059 (0.13)	0.054 (0.24)
BLOCK	0.178 (0.74)	0.201 (0.85)	0.127 (0.43)	0.419 (0.87)
LOSS	0.077 (0.96)	0.074 (0.90)	0.154 (1.59)	-0.272** (-2.19)
RECTA	-0.357 (-0.34)	-0.215 (-0.20)	-0.393 (-0.29)	0.766 (0.46)
LEV	0.789** (2.56)	0.757** (2.42)	1.022** (2.41)	0.074 (0.16)
CASSETS	0.260** (2.27)	0.256** (2.26)	0.353 (1.64)	0.142 (0.52)
ATO	-0.157 (-1.25)	-0.158 (-1.27)	-0.104 (-0.92)	-0.378* (-1.66)
SIZE	-0.210 (-1.45)	-0.186 (-1.29)	-0.232 (-1.00)	-0.101 (-0.34)
CRISIS	0.020 (0.39)	0.016 (0.32)	0.015 (0.26)	-0.058 (-0.45)
Firm & Year Fixed Effect	Yes	Yes	Yes	Yes
Number of Observations	1736	1736	1336	400
R-squared	0.030	0.037	0.036	0.081

Notes: \*, \*\*, \*\*\* Represent significance at the 0.10, 0.05, and 0.01 levels respectively.  
All variables are defined in Appendix A.

Moreover, we find current assets to be positively and significantly related to LNNAF. Prior studies found that current assets are positively related to NAS fees, which might be artifacts of the receivables and inventory components of current assets (Hay et al., 2006). Several studies suggest that inherent risk is positively related to audit fees, as certain components of the audit may have higher error risk and require specialized audit processes (e.g., Simunic, 1980). Receivables and inventory are two areas often cited as hard to audit (Simunic, 1980). Hence, current assets are expected to be positively related to NAS fee measures.

To test the impact of active family firms with ineffective ACs on NAS fees (H2b), we modify our main model with replacing FAMILYFIRM by each of the family involvement variables: FAMILYCEO, FAMILYDIR, and FAMILYOWN. The results presented in Panel A of Table 5, Columns 1, 2, and 3, reveal positive coefficients for the interaction terms ACELOW\*FAMILYDIR and ACELOW\*FAMILYOWN significant at the 5% and 1% levels, respectively. These findings support H2b. This suggests that family firms with ineffective ACs and where family members are involved in ownership and directorship are more likely to purchase NAS from the incumbent auditor. The results of all control variables are consistent and qualitatively similar to those resulting from our main model and presented in Table 4.

The results remain qualitatively the same after we examined the impact of ineffective audit committees on NAS fees using family firms only. Columns 4, 5, and 6 in Panel B of Table 5 present the results for family's involvement in management (FAMILYCEO > 0), directorship (FAMILYDIR > 0), and ownership (FAMILYOWN > 0), respectively. These results reveal a positive and significant (at the 1% and 5% levels) association between ACELOW and LNNAF. This also supports H2b with the same conclusions as in the previous paragraph.

**Table 5**  
Impact of active family firms with ineffective audit committees on NAS fees.

	Panel A (Full Sample)			Panel B (Family Firms Only)		
	Management	Directorship	Ownership	FAMILYCEO > 0	FAMILYDIR > 0	FAMILYOWN > 0
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
Constant	12.050*** (7.51)	11.830*** (7.37)	11.940*** (7.55)	10.310*** (3.14)	13.260*** (4.51)	12.980*** (4.66)
FAMILYCEO	0.144 (0.74)					
FAMILYDIR		-0.146 (-0.13)				
FAMILYOWN			-0.477 (-0.85)			
ACELOW	0.120* (1.66)	0.070 (0.96)	0.047 (0.68)	0.334** (1.95)	0.492*** (3.55)	0.431*** (3.02)
ACELOW*FAMILYCEO	0.197 (1.20)					
ACELOW*FAMILYDIR		1.985** (2.34)				
ACELOW*FAMILYOWN			1.951*** (4.58)			
NEDS	-0.055 (-1.13)	-0.054 (-1.12)	-0.055 (-1.12)	0.358 (0.33)	-1.411** (-2.22)	-1.231** (-1.99)
DUAL	0.151 (0.66)	0.099 (0.44)	0.069 (0.34)	0.183 (0.89)	0.110 (0.45)	0.111 (0.44)
BMEET	0.040*** (3.00)	0.041*** (3.12)	0.042*** (3.18)	0.017 (0.56)	0.021 (0.96)	0.015 (0.67)
BSIZE	0.032 (1.32)	0.032 (1.34)	0.037 (1.58)	0.064 (0.91)	0.028 (0.60)	0.009 (0.19)
MANOWN	0.130 (0.58)	0.095 (0.44)	-0.070 (-0.35)	0.306** (2.09)	0.037 (0.17)	0.069 (0.31)
BLOCK	0.175 (0.73)	0.188 (0.79)	0.261 (1.12)	0.0697 (0.13)	0.310 (0.64)	0.424 (0.87)
LOSS	0.080 (0.99)	0.077 (0.95)	0.079 (0.98)	0.208 (0.90)	-0.287** (-2.30)	-0.244* (-1.95)
RECTA	-0.385 (-0.36)	-0.251 (-0.23)	-0.206 (-0.19)	-3.831 (-1.48)	0.222 (0.13)	0.807 (0.47)
LEV	0.799** (2.59)	0.761** (2.47)	0.780** (2.52)	0.271 (0.31)	0.032 (0.07)	0.098 (0.21)
CASSETS	0.274** (2.52)	0.251** (2.29)	0.261** (2.39)	0.492 (1.50)	0.147 (0.55)	0.120 (0.44)
ATO	-0.153 (-1.24)	-0.154 (-1.24)	-0.158 (-1.28)	0.214 (0.53)	-0.327 (-1.48)	-0.412* (-1.73)
SIZE	-0.222 (-1.56)	-0.186 (-1.30)	-0.206 (-1.47)	-0.322 (-0.83)	-0.120 (-0.39)	-0.070 (-0.23)
CRISIS	0.021 (0.40)	0.021 (0.41)	0.020 (0.39)	0.069 (0.36)	-0.066 (-0.48)	-0.073 (-0.53)
Firm & Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1736	1736	1736	218	379	387
R-squared	0.031	0.035	0.042	0.085	0.089	0.074

Notes: \*, \*\*, \*\*\* Represent significance at the 0.10, 0.05, and 0.01 levels respectively. All variables are defined in Appendix A. T-statistics are in parentheses.

#### 4.1. Robustness tests

##### 4.1.1. Alternative measure of NAS fees

In Table 6, we use the ratio of NAS fees to audit fees (NAFAF) and the ratio of NAS fees to total audit and NAS fees (NAFTAF) as alternative dependent variables. The results of these regressions are consistent and qualitatively similar to those obtained with the original model. Specifically, we find that the interaction variable between FAMILYFIRM and ACELOW is positive and significant at the 5% level (Table 6, Columns 2 and 6), and that the ACELOW coefficient is positive and significant only in the family firms sub-sample (at the 5% level in Column 4, and at the 1% level in Column 8).

Moreover, except for family firms, the number of board directors (BSIZE) is positively and significantly related to NAFTAF at the 5% level. Hence, firms with larger boards purchase fewer NAS. This could be because larger boards have a wider pool of talent, which improves board effectiveness and the ability to monitor management actions (Zahra and Pearce, 1989). SIZE is also shown to be negatively and significantly related to NAFAF and NAFTAF. This is inconsistent with prior research, which

**Table 6**  
Regression of firm type (family vs. Non-family) and ineffectiveness of audit committees on NAFAF and NAFTAF.

	NAFAF				NAFTA F			
	Full Sample		Non-family	Family	Full Sample		Non-family	Family
	Column 1 Coeff. (t-stat)	Column 2 Coeff. (t-stat)	Column 3 Coeff. (t-stat)	Column 4 Coeff. (t-stat)	Column 5 Coeff. (t-stat)	Column 6 Coeff. (t-stat)	Column 7 Coeff. (t-stat)	Column 8 Coeff. (t-stat)
Constant	10.250*** (3.88)	9.805*** (3.76)	7.859*** (2.78)	12.770** (2.42)	1.617*** (4.81)	1.564*** (4.67)	1.518*** (4.00)	1.604*** (2.69)
FAMILYFIRM	-0.336 (-0.73)	-0.491 (-1.03)			0.005 (0.08)	-0.013 (-0.20)		
ACELOW	0.135 (1.08)	-0.033 (-0.23)	-0.0475 (-0.33)	0.607** (2.29)	0.023* (1.65)	0.003 (0.18)	-0.001 (-0.02)	0.084*** (3.08)
ACELOW*FAMILYFIRM		0.643** (2.05)				0.079** (2.52)		
NEDS	-0.014 (-0.33)	-0.015 (-0.36)	-0.0159 (-0.39)	-1.032 (-0.93)	-0.004 (-0.34)	-0.004 (-0.35)	-0.002 (-0.20)	-0.213* (-1.76)
DUAL	0.278 (1.15)	0.235 (1.06)	0.212 (1.07)	0.0669 (0.19)	0.033 (0.82)	0.028 (0.73)	0.020 (0.34)	0.025 (0.60)
BMEET	0.047 (1.38)	0.050 (1.47)	0.0334 (1.55)	0.0944 (0.82)	0.007*** (2.69)	0.008*** (2.87)	0.009*** (2.91)	0.004 (0.83)
BSIZE	0.034 (0.99)	0.037 (1.05)	0.0448 (1.23)	-0.00190 (-0.02)	0.009** (2.14)	0.010** (2.22)	0.012** (2.42)	0.006 (0.74)
MANOWN	0.743 (1.09)	0.627 (0.90)	-0.0356 (-0.07)	0.677 (0.92)	0.054 (1.17)	0.040 (0.87)	-0.042 (-0.49)	0.043 (1.07)
BLOCK	0.703 (1.18)	0.734 (1.23)	0.719** (1.99)	1.308 (0.70)	0.045 (0.97)	0.049 (1.08)	0.057 (1.10)	0.079 (0.81)
LOSS	0.083 (0.54)	0.079 (0.51)	0.160 (0.92)	-0.322 (-1.22)	0.012 (0.68)	0.011 (0.65)	0.021 (1.11)	-0.041 (-1.29)
RECTA	-1.291 (-0.90)	-1.100 (-0.77)	-0.155 (-0.11)	-2.945 (-0.54)	-0.028 (-0.18)	-0.004 (-0.03)	0.015 (0.08)	0.206 (0.61)
LEV	1.446* (1.91)	1.402* (1.83)	2.625*** (2.68)	-1.825 (-1.48)	0.142** (1.99)	0.137* (1.88)	0.206** (2.14)	-0.050 (-0.47)
CASSETS	0.342 (1.51)	0.337 (1.50)	0.059 (0.24)	1.132 (1.20)	0.067*** (2.97)	0.066*** (2.92)	0.067* (1.68)	0.049 (0.83)
ATO	-0.022 (-0.08)	-0.025 (-0.09)	0.138 (0.59)	-0.368 (-0.55)	-0.046 (-1.33)	-0.046 (-1.34)	-0.027 (-0.92)	-0.128*** (-2.74)
SIZE	-1.015*** (-3.41)	-0.982*** (-3.34)	-0.631** (-2.19)	-1.822* (-1.81)	-0.157*** (-5.32)	-0.153*** (-5.18)	-0.156*** (-3.64)	-0.121* (-1.85)
CRISIS	-0.232*** (-3.16)	-0.237*** (-3.22)	-0.207** (-2.50)	-0.490** (-2.39)	-0.011 (-1.09)	-0.012 (-1.16)	-0.006 (-0.57)	-0.049* (-1.86)
Firm & Year Fixed Effect	Yes							
Number of Observations	1736	1736	1336	400	1736	1736	1336	400
R-squared	0.038	0.042	0.035	0.103	0.066	0.072	0.060	0.144

Notes: \*, \*\*, \*\*\* Represent significance at the 0.10, 0.05, and 0.01 levels respectively. All variables are defined in Appendix A.

suggested that larger companies are more likely to demand higher levels of NAS, in part due to their more complex operations (Abbott et al., 2003; Zaman et al., 2011; Kang, 2017). Nonetheless, larger companies may also have stronger internal controls and restrict the purchase of NAS.

#### 4.1.2. Endogeneity

Similar to other comparative studies in family ownership and corporate governance literature (Anderson & Reeb, 2003; Villalonga & Amit, 2006; Kang, 2017), our results may suffer from endogeneity problems. We accounted for the possible unobserved heterogeneity in our main models by using firm and year fixed effects regression. (Villalonga & Amit, 2006; Pham, Suchard, & Zein, 2011). Moreover, as an additional test following Villalonga and Amit (2006) and Miller, Le Breton-Miller, Lester, & Cannella (2007), we account for endogeneity by estimating the Heckman two-step procedure as separate regressions on sub-samples that include effective and ineffective audit committees as two different categories. Specifically, we first regress the ACELOW variable as a dependent variable in a Probit regression model to estimate the predicted probability of having an ineffective AC. Then we calculated the Inverse Mills ratio and included it as an explanatory variable in the original model examining the association between NAS fees and ineffective ACs in family versus non-family firms. The Inverse Mills variable “controls for omitted variables bias in the second regression” (Miller et al., 2007, p.850). The results in Table 7 remain qualitatively similar to those of our main models reported in Table 4, and the lambda coefficient that assess the selection bias is insignificant, indicating that endogeneity is not a significant concern.

**Table 7**  
Results after allowing for self-selection bias.

	Coefficient	t-value
Constant	11.75	7.35***
FAMILYFIRM	-0.091	-0.25
ACELOW	0.016	0.21
ACELOW*FAMILYFIRM	0.476	3.14***
NEDS	-0.025	-0.36
DUAL	0.126	0.58
BMEET	0.042	3.16***
BSIZE	0.031	1.30
MANOWN	0.057	0.26
BLOCK	0.213	0.90
LOSS	0.073	0.89
RECTA	-0.242	-0.23
LEV	0.697	2.19**
CASSETS	0.259	2.28**
ATO	-0.159	-1.28
SIZE	-0.163	-1.09
CRISIS	0.056	0.77
INVMILLS	-0.240	-0.73
Firm & Year Fixed Effect	Yes	
Number of Observations	1736	
R-squared	0.038	

Notes: \*\*, \*\*\* Represent significance at the 0.05 and 0.01 levels, respectively. All variables are defined in Appendix A.

**Table 8**  
Ineffective audit committees, NAS, and financial reporting quality.

	Coefficient	t-value
CONSTANT	-0.134	(-0.41)
LNNAF	0.008	(1.15)
FAMILYFIRM	0.005	(0.07)
ACELOW	0.028	(1.58)
LNNAF*FAMILYFIRM	0.024	(2.21)**
LNNAF*ACELOW	-0.005	(-0.67)
FAMILYFIRM*ACELOW	0.018	(2.64)***
FAMILYFIRM*ACELOW*LNNAF	0.011	(1.82)*
NEDS	-0.004	(-0.21)
DUAL	0.001	(0.02)
BMEET	-0.002	(-0.70)
BSIZE	0.002	(0.41)
MANOWN	0.132	(1.85)*
BLOCK	-0.002	(-0.03)
LOSS	0.007	(0.36)
RECTA	-0.264	(-1.35)
LEV	0.020	(0.24)
CASSETS	0.033	(0.94)
ATO	0.032	(1.24)
SIZE	-0.025	(-0.66)
CRISIS	-0.016	(-1.12)
Firm & Year Fixed Effect	Yes	
Number of Observations	1695	
R-squared	0.027	

Notes: \*, \*\*, \*\*\* Represent significance at the 0.10, 0.05, and 0.01 levels respectively. All variables are defined in Appendix A.

#### 4.1.3. AC, NAS, and financial reporting quality

To explore whether the purchase of higher NAS by family firms with ineffective ACs bring in desirable benefits (knowledge spillover benefits), we examined the impact of NAS fees and ineffective ACs on financial reporting quality proxied by discretionary accruals<sup>11</sup>. The results presented in Table 8 show positive and significant coefficients for the interaction terms LNNAF\*FAMILYFIRM, FAMILYFIRM\*ACELOW, and LNNAF\*FAMILYFIRM\*ACELOW. Thus, indicating that in the presence of ineffective ACs, family firms' purchase of NAS would not bring knowledge spillover benefits, but it would rather impair auditor

<sup>11</sup> Discretionary accruals are measured using the Kothari, Leone, & Wasley (2005) model.

independence and deteriorate financial reporting quality<sup>12</sup>. This finding is consistent with Al-Okaily et al. (2020) who found that in the presence of weak governance mechanisms, client-auditor economic bonding in family firms is associated with higher discretionary revenues<sup>13</sup>.

## 5. Conclusion

This study examines the impact of ineffective ACs on NAS purchases from incumbent auditors by family and non-family firms. The sample consists of 1736 observations from UK-listed companies during 2005–2013. Relying on agency theory, resource dependence theory, and empirical studies, the empirical analyses demonstrate that an ineffective AC is positively associated with NAS fees. This association is more pronounced for family firms than for non-family firms. This suggests that in the UK, family firms with ineffective ACs tend to purchase more NAS from their incumbent auditors than their non-family counterparts. In addition, this study investigates the joint effect of ineffective ACs and various family firm attributes (involvement of family members in ownership, management, and board directorship) on NAS fees. The results suggest that family firms with ineffective ACs purchase more NAS when their family members own shares and hold board positions.

Our study has theoretical and practical contributions. From a theoretical perspective, it explores the role that ineffective ACs could play in determining the level of NAS purchases by family firms. In the UK, ACs have responsibilities in (1) developing and implementing the NAS policy, (2) overseeing the integrity of financial statements, and (3) reviewing the auditor's independence and objectivity. Effective AC members in family firms, which have unique control and monitoring mechanisms, would try to optimize the level of NAS provided by external auditors by weighing benefits and costs (knowledge spillover vs. economic bonding). This study adds new evidence to the growing body of literature that tackles NAS fees (e.g., Abbott et al., 2003, 2011; Ye et al., 2011; Zaman et al., 2011). This study is likely to be of interest to policy-makers, since in April 2014, the European Union (EU) issued Regulation 537/2014. It prohibits certain types of NAS from being provided to audit clients (European Commission, 2014), and leaves the choice to Member States of EU to ban services that represent a threat to auditor independence (EU Reg. 537/2014, art1, par.2).

The results provide useful insight into ACE and family control as part of corporate governance that ensures a high-quality audit and financial reporting process. They also suggest that the level of NAS purchased from the incumbent auditor depends on the effectiveness of ACs, firm type, and the nature of family members' involvement. As such, regulators should design policies that reduce the variation of corporate governance effectiveness between family and non-family firms and deal with the two overlapping systems in family firms: the family and the business.

This study is subject to two caveats. First, the results cannot be generalized to a different context or small private (non-listed) family firms. Second, this study focuses on the total amount of NAS without distinguishing between the different types of these services. It would be interesting for further research to address specific NAS and alternative governance mechanisms. It would be interesting for future research to conduct a qualitative study using the interview method to have a better understanding of an AC oversight role among family and non-family firms.

## Funding

This work was supported by the American University of Beirut (URB Award Number: 103606, 2018).

## Declaration of Competing Interest

None.

## Acknowledgements

The authors gratefully acknowledge the insightful comments provided by the editor Prof. Robert Larson, two anonymous reviewers, and various participants at the 2018 BAFA Annual Conference in London, UK.

<sup>12</sup> We mean-centered our variables of interest before constructing the interaction terms to reduce "multicollinearity without altering the structure of the relationships between variables" (Hunter and Thatcher 2007, p. 959).

<sup>13</sup> Auditor-client economic bonding is measured as the ratio of non-audit fees paid by the client over the total national revenues earned by the auditor.

## Appendix A. Variable definitions

LNNAF	Natural logarithm of NAS fees paid by a firm
LNAF	Natural logarithm of audit fees paid by a firm
NAFAF	The ratio of NAS fees to audit fees
NAFTAF	The ratio of NAS fees to total audit and NAS fees
FAMILYFIRM	Dummy variable with a value of one if family members sit on the board (FAMILYDIR), occupy the CEO position (FAMILYCEO), or own 10% or more (FAMILYOWNN) of the company's shares, and otherwise 0
FAMILYCEO	Dummy variable coded 1 if the CEO is a family member, and otherwise 0
FAMILYDIR	Percentage of board who are family members
FAMILYOWN	Ratio of total shares held by family members to total number of shares
ACELOW	Dummy variable coded 1 if the audit committee comprises less than three members, does not include at least one member with relevant financial experience, and meets less than three times a year, and otherwise 0
ACM	A continuous variable designating the number of AC meetings held in a given year
ACS	A continuous variable denoting the number of AC directors in a given year
ACX	A continuous variable representing the percentage of AC members with relevant financial experience
NEDs	Percentage of non-executive directors on the board
DUAL	Dummy variable coded 1 if the CEO serves as chairman of the board, and otherwise 0
BMEET	Number of board meetings in a given year
BSIZE	Number of board directors in a given year
MANOWN	Ratio of total shares held by executive directors to total number of shares
BLOCK	Blockholders, percentage of substantial non-executive shareholders with at least 5% ownership in the firm
LOSS	Dummy variable coded 1 if company had a loss in one or both of the previous years, and otherwise 0
RECTA	The sum of inventory and receivables over total assets
LEV	Total long term debt to total assets
CASSETS	Natural logarithm of current assets
ATO	Asset turnover ratio calculated as net sales or revenues over total assets
SIZE	Natural logarithm of total assets at year end
CRISIS	Dummy variable coded 1 if years 2008 or 2009, and otherwise 0
INVMILLS	Inverse Mills ratio for the endogenous choice of less effective audit committees by family firms

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