



Auditor-provided non-audit services in listed and private family firms

Auditor-provided non-audit services

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Abstract

Purpose – The aim of this paper is to provide evidence on the extent and the consequences of the provision of non-audit services (NAS) by statutory auditors to German family firms.

Design/methodology/approach – The study analyzes hand collected fee data of 368 listed and private family firms in Germany. It employs univariate tests, ordinary least squares and two-stage least squares regressions to investigate potential threats to perceived auditor independence and knowledge spillovers between jointly provided NAS and audit services.

Findings – Incumbent auditors are shown to be a significant source of various types of NAS to family firms. There is weak evidence on threats to perceived auditor independence and support for reciprocal knowledge spillovers between the services. While listed and private family firms do not differ in regard to the proportion of NAS fees, comparative findings suggest that key threats and benefits of jointly provided services are more prevalent among private than among listed family firms.

Research limitations/implications – The study suffers from limited data availability and is restricted to the initial year of mandatory audit fee disclosure of private firms in Germany. Particularities of family firms and the German setting, as well as differential results for listed and private family firms, suggest fruitful avenues for future research.

Practical implications – The study addresses the current issues in audit regulation. Regulatory bodies should consider that key threats and benefits of auditor-provided NAS decrease with stronger exogenous restrictions. Attempts to restrict jointly provided services in the EU suggest family firms to reconsider their reliance on auditors as a trusted source of NAS.

Originality/value – This study is the first to provide evidence on the extent and consequences of auditor-provided NAS in family firms based on fee disclosure. It is also among the few studies that investigate private firms in a code law country and complements prior evidence from Germany that is restricted to listed firms. More generally, it contributes to limited evidence at the intersection of audit and family business research.

Keywords Germany, Audit fees, Family firm, Advisory services, Auditor independence, Knowledge spillovers, Non-audit services, Fee disclosure, Listing

Paper type Research paper

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1. Introduction

Financial accounting and auditing are institutional mechanisms to mitigate agency problems in firms. Early agency theory assumed that when ownership and management are inherent in a family, agency costs would be low, if not absent (Jensen and Meckling, 1976; Fama and Jensen, 1983). If the family as main shareholder is represented in the firm's corporate governance, family members have access to information beyond financial statements and can effectively monitor managers. However, given the family's particular role, agency conflicts may arise due to entrenchment and altruism (Schulze *et al.*, 2001; Chrisman *et al.*, 2004; Ali *et al.*, 2007; Chen *et al.*, 2008). While entrenchment, i.e. conflicts between family and external, non-controlling shareholders may primarily arise in listed family firms, it should be less pronounced among private family firms given that the family is the only shareholder in most of these firms. Altruism and conflicts between family shareholders may be more pronounced among private family firms given that less control mechanisms are put into place compared to listed family firms which are subject to capital market regulation (Young *et al.*, 2008; Carney *et al.*, 2013). In listed and private family firms, there are incentives to protect the family's private benefits of control not least stemming from socio-emotional wealth (Gomez-Mejia *et al.*, 2007; Stockmans *et al.*, 2010). These incentives can give rise to biased financial statements of family firms (Cascino *et al.*, 2010; Yang, 2010; Bar-Yosef and Prencipe, 2011).

A typical way to prevent, deter, and detect biased financial statements and thereby reduce agency costs is to have them audited by an external auditor (Mautz and Sharaf, 1961; Carey *et al.*, 2000). However, the auditor is just another agent whose performance is a function of knowledge, effort, and independence (Antle, 1984; Ballwieser, 1987). Concerning the latter, an auditor must avoid any facts and circumstances that compromise independence in fact and as perceived by third parties (Dopuch *et al.*, 2003; International Federation of Accountants, 2013, Sec. 290.6). In this context, the joint provision of non-audit services (NAS) and audit services to a client has been a contentious issue in audit regulation, practice and research (Public Company Accounting Oversight Board, 2011; Quick, 2012). Jointly provided NAS and audit services can compromise auditor independence and particularly impair perceived auditor independence and the perceived quality of audited financial statements (Khurana and Raman, 2006; Quick and Warming-Rasmussen, 2009). In turn, knowledge spillovers between the services might enhance the quality of NAS and audit services and result in cost savings (Beck *et al.*, 1988; Whisenant *et al.*, 2003).

Limited research has been undertaken at the intersection of external auditing and family firms (Carey *et al.*, 2000; Trotman and Trotman, 2010). It is particularly surprising that research has neglected the extent and the consequences of auditor-provided NAS in family firms because family firms tend to choose external advisors based on prior experience, reputation, and trust (Nicholson *et al.*, 2010; Strike, 2012). Thus, the family firm's auditor is among the preferred external advisors (Jaffe *et al.*, 1997; Chrisman *et al.*, 2009). In the US setting, Khalil *et al.* (2011) show that family firms tend to have long-term relationships with their auditors, suggesting a fertile environment for both, threats to perceived independence and knowledge spillovers. In consequence, issues of jointly provided services by auditors are likely to be prevalent in family firms and deserve particular interest.

The purpose of this paper is to provide evidence on the extent and the consequences of the provision of NAS by statutory auditors to German family firms. In particular, the study investigates:

- whether the joint provision of services implies a threat to perceived auditor independence;
- whether it indicates beneficial knowledge spillovers; and
- whether listed and private family firms differ in these regards as implied by differential agency conflicts and regulation they face.

These are interesting issues that have not been explored in the family firm context and seek empirical evidence.

To address these issues, I exploit the recently amended disclosure requirements on fees charged by statutory auditors in Germany. Fee disclosure provides information on the types of auditor-provided NAS and audit services as well as information about their magnitude. While fee disclosure has been required for listed firms since 2005, it just became mandatory for German private firms of a certain size in 2009 following the Accounting Law Modernization Act (Sec. 285 No. 17, 319 (3) No. 3 German Commercial Code (GCC)). Family firms dominate the German economy (Klein, 2000). Recent statistics suggest that family-owned firms constitute over 90 percent of all German firms, generate more than half of the business revenues, and employ about half of the workforce of the German private sector (Broer *et al.*, 2008; Gottschalk *et al.*, 2011). Germany provides an ideal setting for this study since the German economic landscape comprises not only small and medium-sized family firms but a significant number of large listed and private family firms (Achleitner *et al.*, 2011).

For this research, sample firms are drawn from the list of the 500 largest German family firms compiled by the Foundation of Family Businesses in Germany and Europe (Niefert *et al.*, 2009). This list comprises the largest family firms domiciled in Germany in terms of business revenues and the number of employees. Two further features are important. First, the list defines a family firm by reference to the majority of voting ownership of the firm in the hands of a family (Niefert *et al.*, 2009, pp. 7-8 and 33). As a matter of fact, my empirical study follows this definition[1]. Second, the list does not distinguish between listed and private family firms. To separate between the two types of family firms, I exploit the German institutional setting which allows identifying private family firms by reference to the application of German accounting principles in their consolidated financial statements.

For a sample of 368 large German family firms, including 67 listed family firms, I hand collect disclosed fees for various NAS and for audit services charged by auditors and assess the types and the extent of NAS. Analyzing the relative fee composition at the family firm-level allows drawing inferences on potential threats to perceived auditor independence. In this regard, a widely accepted critical ratio of 25 percent of NAS fees to total fees (TF) is used as a reference (Securities and Exchange Commission, 2001; Quick and Warming-Rasmussen, 2009) because data restrictions preclude a more direct assessment[2]. Consistent with contemporary research (Hay *et al.*, 2006a; Köhler and Ratzinger-Sakel, 2012), I employ single-equation ordinary least squares (OLS) fee models and two-stage least squares (2SLS) fee models to assess the existence of knowledge spillovers. I additionally test for differences between listed and private

family firms since these two types of firms differ with regard to agency conflicts (Steijvers *et al.*, 2010) as well as regulation (Ballwieser, 2011).

There are two very recent papers that examine audit fees among listed family firms. For S&P 1500 constituents in the USA, Ho and Kang (2013) find that, compared to non-family firms, family firms tend to incur lower audit fees. This finding suggests that family firms have lower demand for audit quality. Lei and Lam (2013) obtain similar results for a sample of Hong Kong listed firms. Both papers, however, do not incorporate fees for auditor-provided NAS which is the center of this study. Both papers compare listed family and non-family firms but do not include private family firms. My study, however, focuses on family firms and provides comparative evidence on listed versus private family firms. Exploiting the German setting, my study thus responds to the call by Trotman and Trotman (2010) for research at the intersection of audit and family business research that particularly compares NAS fees and audit fees as well as listed and private family firms.

This paper contributes to the literature in three major ways. First, results on the occurrence and extent of NAS fees suggest that auditors are a significant source of various advisory services in family firms in Germany as a typical code law country. Findings complement survey or anecdotal evidence in common law countries, such as the USA or New Zealand (Chrisman *et al.*, 2009; Nicholson *et al.*, 2010). Second, the paper is the first to provide various insights into the relations between NAS fees and audit fees that allow drawing inferences on attributes and key consequences of jointly provided services in the family firm environment. Third, the paper shows differences in the extent and the consequences of auditor-provided services between listed and private family firms. Findings add to family business literature from an audit perspective which is rather underexplored to date (Salvato and Moores, 2010; Trotman and Trotman, 2010) and to empirical-archival audit research that has focused on listed firms. Results should be of interest for research, practice, and regulation that currently strives for limited provision of NAS by incumbent auditors (European Commission, 2011; Public Company Accounting Oversight Board, 2011).

The remainder of the paper is organized as follows. The next section discusses the economic and regulatory background and develops the research hypotheses. Section 3 explains the empirical research design. Section 4 presents the results including sensitivity analyses. The final section concludes the study.

2. Background and hypotheses development

2.1 NAS, auditor independence, and knowledge spillovers

Auditor-provided NAS to an audit client increase the economic bond between the auditor and the client (Simunic, 1984; Beck *et al.*, 1988). This can be economically beneficial because the joint provision of services reduces the number of external parties that have access to sensitive information which assists the family firm's need for trust and discretion (Schaefer and Frishkoff, 1992; Strike, 2012). More generally, it can enhance the quality of NAS and audit services through a more comprehensive understanding of the client and, thus, result in economies of scope by knowledge spillovers between the joint services (Peel and O'Donnell, 1995; Joe and Vandervelde, 2007). Conversely, auditor-provided NAS can impair auditor independence and, thus, audit quality due to the following main reasons (Firth, 2002; Quick *et al.*, 2013). Auditor can be inclined to conceal errors in financial accounting or weaknesses in accounting systems that relate

to their or their audit firm's NAS. The risk that an auditor identifies with the client's interests is likely to increase with the extent of NAS provided. Material NAS provided by the auditor can result in financial dependence on the client, who can in turn threaten the auditor with withdrawing the NAS and the audit engagements in case of an unfavorable audit opinion. Even if an auditor remains independent in fact, any impairment of perceived auditor independence is likely to compromise the users' confidence in the reliability of financial statements (Mautz and Sharaf, 1961; Khurana and Raman, 2006).

Agency theory implies that auditor independence can be impaired by side-payments for NAS (Antle, 1984; Kornish and Levine, 2004). Models based on quasi-rents show that an auditor will be more inclined to accept improper financial statements as the NAS fees and the audit fees from the client increase (DeAngelo, 1981a; Beck *et al.*, 1988)[3]. The body of evidence fails to systematically document a negative association between the extent of auditor-provided NAS and proxies for independence in fact (e.g. based on measures of earnings management: Ashbaugh *et al.* (2003); on modified audit opinions: Basioudis *et al.* (2008); on restatements of financial statements: Kinney *et al.* (2004)). However, there is extant evidence that the joint provision of NAS and audit services has a negative effect on perceived auditor independence (e.g. based on experiments: Jenkins and Krawczyk (2002); on surveys: Gaynor *et al.* (2006); on archival data: Francis and Ke (2006); on audit restatement-related litigation: Schmidt (2012)).

Knowledge spillovers between services jointly performed by the auditor can be regarded as economies of scope arising from interdependencies in the production function between the services. In an experimental setting, Joe and Vandervelde (2007) show that audit quality as perceived by the auditor is higher when NAS and audit services are jointly provided. This perception suggests knowledge spillovers between jointly provided services. Based on an analytical model, Simunic (1984) argues that NAS fees and audit fees should be positively related in the presence of reciprocal knowledge spillovers. The basic idea is that the profitability of NAS and audit segments of the auditor increases and some cost savings are passed on to the client. Extant audit literature has followed this line of reasoning (Beck *et al.*, 1988; Abdel-Khalik, 1990; DeBerg *et al.*, 1991; Whisenant *et al.*, 2003; Cahan *et al.*, 2008; Krishnan and Yu, 2011; Chan *et al.*, 2012). In contrast, a negative relation could be consistent with the loss leader argument. The argument predicts that auditors reduce audit fees to obtain lucrative NAS engagements from the client and that this behavior potentially results in impaired auditor independence (Hillison and Kennelley, 1988; O'Keefe *et al.*, 1994). While neglecting family firms, empirical evidence on the relation between NAS fees and audit fees, to date, concentrates on listed firms and seems to rely on the use of OLS rather than on 2SLS regression models. As summarized by Hay *et al.* (2006b) and Hay (2013), a large body of studies employing OLS regressions document a positive association implying knowledge spillovers. Using 2SLS regressions to control for the joint determination of NAS fees and audit fees likely alters this result, e.g. as recently shown by Köhler and Ratzinger-Sakel (2012) for a sample of listed firms in Germany.

2.2 Regulatory setting in Germany

In Germany, as a typical code law country, financial accounting and auditing is traditionally regulated by law. While there are no specific rules for family firms, regulation significantly differs between listed and private firms. Listed firms (including firms with listed debt securities) have to provide consolidated financial statements for

the group using International Financial Reporting Standards (IFRS) instead of domestic accounting principles (Sec. 315a (1) and (2) GCC) and overall face enhanced regulation (Dobler, 2004; Köhler *et al.*, 2008; Ballwieser, 2011). Listed firms face more restricted rules on auditor-provided NAS.

According to the GCC, some NAS are not allowed to be provided by auditors to their audit clients. Such services relate to significant involvement in: bookkeeping; preparation of financial statements; internal auditing; management and financial services; actuarial and valuation services that significantly affect financial statements (Sec. 319 (3) No. 3 GCC). For an auditor of a listed client, the prohibited services further include: developing, establishing, and implementing accounting information systems unless such an activity is insignificant; tax and legal advisory services that extend beyond the presentation of structuring alternatives and which significantly affect financial statements (Sec. 319a (1) Nos 2 and 3 GCC). All these prohibited services are particularly likely to indicate a self-review threat and, thus, to impair auditor independence (Quick and Warming-Rasmussen, 2009).

Fees for audit and various types of NAS provided by the auditor are subject to disclosure in financial statements. The idea is to achieve transparency regarding the extent and composition of fees to assist users of financial statements in assessing potential threats to auditor independence (Antle, 1984; Dye, 1991). In Germany, fee disclosure has been mandatory for listed firms since 2005, and has been amended and extended by the Accounting Law Modernization Act to concur with Art. 43 (1) No. 15 of Directive 78/660/EEC and Art. 34 No. 16 of Directive 83/349/EEC. From 2009 on, both listed and private firms have to disclose the fees charged by their auditor split into four types of service in their annual financial statements (Sec. 285 No. 17 and 314 (1) No. 9 GCC; Dobler and Fichtl, 2013). These service types are:

- (1) audit services for the statutory audit of annual financial statements and management reports;
- (2) other assurance services, apart from the statutory annual audit, e.g. for the review of corporate transformations or the review of interim reports of listed firms;
- (3) tax advisory services; and
- (4) other NAS provided by the auditor such as human resource, legal or IT advising.

The last three service types are referred to as NAS. With regard to Art. 43 (1) No. 15 of Directive 78/660/EEC, the German law provides firms with the option to omit fee disclosure in individual financial statements if the fees are included in fee disclosure in consolidated financial statements of the group in which the firm is taken into account (Sec. 285 No. 17 GCC). It should be noted, however, that fees charged by other advisors apart from the incumbent statutory auditor of the consolidated financial statements are not subject to disclosure.

2.3 Hypotheses development

Extant literature reviews show that fee disclosure has been widely used in empirical audit research but do not indicate particular evidence on family firms (Hay *et al.*, 2006b; Humphrey, 2008; Lesage and Wechtler, 2012; Hay, 2013). There are, however, two very

recent papers that examine audit fees among listed family firms. Ho and Kang (2013) for the USA and Lei and Lam (2013) for Hong Kong show that, compared to listed non-family firms, listed family firms tend to incur lower audit fees. Yet both papers neither incorporate NAS fees nor include private family firms. Exploiting the German setting, my study investigates the relation between NAS fees and audit fees in family firms whereby analyses differentiate between listed and private family firms.

The first research issue relates to the extent of auditor-provided NAS and to the implied threats to perceived auditor independence. Fee disclosure provides insights into the types of service provided by the auditor to the family firm. Users of financial statements, particularly non-family stakeholders, can use the relative proportion of NAS fees to TF charged by the auditor as an indicator for impaired independence (Antle, 1984; Dye, 1991). Survey studies, including Quick and Warming-Rasmussen (2009) for Germany, suggest that perceived auditor independence is impaired when NAS fees account for more than 25 percent of fees charged by the auditor. This threshold coincides with assessments by the Securities and Exchange Commission (2001) and is the critical threshold applied in this study to indicate a threat to perceived auditor independence[4]. Existing evidence implies that German listed firms tend to pay a larger proportion of fees to their auditor at the market level (Bigus and Zimmermann, 2008; Köhler and Ratzinger-Sakel, 2012; Quick *et al.*, 2013). Recent statistics published by the Wirtschaftsprüferkammer (2011), a corporation under public law overseeing German auditors, show that in 2009 36.47 percent of TF paid to auditors of listed firms are for NAS. Given their particular incentives, family firms are likely to be associated with an even larger proportion of NAS fees. Yet to date, there is no evidence on family firms, either listed or private.

Several arguments suggest that the proportion of NAS fees to TF differs between listed and private family firms. Based on agency theory, Carney *et al.* (2013) argue that private family firms are likely to be less susceptible to entrenchment problems commonly found in listed family firms. Lower agency cost then suggests that higher proportions of NAS fees will be tolerated in private family firms. In similar vein, private firms are less exposed to public scrutiny when provided with advisory services by their statutory auditor (Van Caneghem, 2010). As a consequence, private family firms are likely to have higher relative proportions of NAS fees compared to listed family firms. Another argument relates to interests in confidentiality (Schaefer and Frishkoff, 1992; Strike, 2012). This argument suggests larger confidentiality among private family firms since listed family firms are forced to a greater transparency and, in part, have accepted less confidentiality by going public. In particular, private family firms are more reluctant to engage various external advisors but rather rely on NAS provided by their incumbent auditor. As a result, private family firms are likely to have higher relative proportions of NAS fees compared to listed family firms. Implications of differential regulation reviewed in the preceding section are mixed (Dobler and Fichtl, 2013). Private family firms are likely to be associated with lower relative proportions of fees for other assurance services because there are additional assurance requirements for listed family firms such as the review of interim reports. In turn, however, private family firms are likely to be associated with higher relative proportions of fees for tax advisory and other NAS because these services are restricted to a larger extent for auditors of listed family firms. These arguments lead to the following hypotheses:

H1a. The relative proportion of NAS fees to TF exceeds 25 percent for German family firms.

H1b. The relative proportion of NAS fees to TF is higher for private than for listed German family firms.

The second research issue relates to the existence of knowledge spillovers between jointly provided NAS and audit services. Knowledge spillovers can be seen as economies of scope arising from interdependencies in the production function between the services. Consistent with prior audit research, I focus on the relation between absolute NAS fees and audit fees charged by the family firm's auditor. A positive relation would be consistent with reciprocal knowledge spillovers between the jointly performed services (Beck *et al.*, 1988; DeBerg *et al.*, 1991; Whisenant *et al.*, 2003; Cahan *et al.*, 2008; Krishnan and Yu, 2011). For German listed firms, Bigus and Zimmermann (2009) and Fleischer and Göttsche (2012) document a positive relation indicating knowledge spillovers between jointly provided services. An alternative explanation for this finding from an econometric point of view may simply relate to the fact that NAS fees and audit fees are jointly determined, based on the same factors (Simunic, 1984; Hay *et al.*, 2006b). Recent studies suggest that NAS fees and audit fees are indeed endogenously related. For listed firms from the USA, New Zealand, and Germany, respectively, Whisenant *et al.* (2003), Hay *et al.* (2006a) and Köhler and Ratzinger-Sakel (2012) find a positive relation when using a single-equation fee model in OLS regressions. However, all three studies find no significant relation when using a 2SLS regression model. The only study including listed and private firms in both OLS and 2SLS regressions is Hay *et al.* (2006a) who consistently find that the listing status does not affect the relation between NAS fees and audit fees.

Empirical audit research has not addressed knowledge spillovers in listed and private family firms to date. However, there is evidence indicating that family firms tend to rely on advisory services provided by their auditors (Jaffe *et al.*, 1997; Chrisman *et al.*, 2009; Nicholson *et al.*, 2010). Against the above background, this finding suggests that family firms, both listed and private, provide a particularly fertile environment for knowledge spillovers between NAS and audit services, leading to the following hypotheses:

H2a. The relation between NAS fees and audit fees is positive for German family firms.

H2b. The relation between NAS fees and audit fees is positive for both listed and private German family firms.

3. Research design

3.1 Sample selection

Sample firms in this study are drawn from the list of the 500 largest German family firms provided by the Foundation of Family Businesses in Germany and Europe (Niefert *et al.*, 2009). As explained in the Introduction, the list identifies family firms by reference to the majority of voting ownership of the firm in the hands of a family (Niefert *et al.*, 2009, pp. 7-8 and 33); includes the largest family firms by reference to business revenues and the number of employees; and does not distinguish between listed and private family firms.

Consistent with prior research (Hay *et al.*, 2006b), I exclude firms in the financial sectors, firms with an abbreviated financial year, and firms with joint audits. This study is based on fee disclosure in consolidated financial statements for 2009, i.e. the first year for which fee data are available for private firms in Germany.

Excluding firms that only provide individual financial statements or for which consolidated financial statements with fee data are unavailable, the research sample consists of 368 large German family firms.

For my specific sample and German private family firms in particular, databases do not yet include detailed fee data and provide only limited access to reliable financial data. Thus, I decided to hand collect all data for this study from consolidated financial statements as provided online by the Federal Gazette (*Bundesanzeiger*)[5]. To ensure data reliability, all data were collected independently by the author and an experienced student coder. Any disagreements were examined and reconciled.

3.2 Variables of interest

Variables of interest in this study are the fees charged by the auditor and the listing status of sample family firms. In accordance with the recent fee disclosure requirements in Germany, I collected the following fee variables: TF charged by the auditor with AF as audit fees and NAF as NAS fees. The latter are split into fees for other assurance services (NAF_OAS), for tax advisory services (NAF_TAS), and for other NAS (NAF_ONS)[6].

The variable LIST is a dummy variable equal to 1 for listed family firms (including those with listed debt securities), and 0 otherwise. To determine LIST, I used the financial accounting standards in consolidated financial statements as an indicator. LIST is coded 0 if consolidated financial statements are prepared under German accounting principles. Using German accounting principles strictly indicates that neither the parent company nor any subsidiary in the group has listed securities (Sec 315a (1) and (2) GCC). I refer to these firms as private family firms. All remaining family firms provide their consolidated financial statements under IFRS. LIST is coded 1 for these firms, since there was no evidence for voluntary application of IFRS. I refer to these firms as listed family firms.

3.3 Test procedures and fee models

Dividing audit fees, NAS fees, and each type of NAS fees by TF charged by the auditor for each sample family firm, respectively, yields the relative fee proportions. Consistent with audit studies in similar contexts (Krishnan *et al.*, 2011; Ianniello, 2012), I employ robust non-parametric tests to investigate my first set of hypotheses. Particularly, I compare the distribution of relative proportions of NAS fees:

- to the critical 25 percent threshold in order to assess potential threats to perceived auditor independence (Securities and Exchange Commission, 2001; Quick and Warming-Rasmussen, 2009); and
- between listed and private family firms to assess differences in the composition of fees charged by the auditor.

In order to examine my second set of hypotheses on the relation between NAS fees and audit fees, I use both, OLS and 2SLS regression models[7]. Following prior research (Firth, 2002; Hay *et al.*, 2006a), either model transforms fees using the natural logarithm and regresses audit fees on NAS fees (LN(AF), LN(NAF), and LN(NAF)), respectively and control variables. A positive and significant coefficient on NAS fees would be consistent with reciprocal knowledge spillovers between the jointly provided services. Benchmarking traditional audit fee research, I first estimate the following single-equation OLS fee model to address *H2a*:

$$\begin{aligned} \text{LN}(\text{AF}) = & \alpha_0 + \alpha_1 \text{LN}(\text{NAF}) + \alpha_2 \text{BIG4} + \alpha_3 \text{CHANGE} + \alpha_4 \text{SIZE} + \alpha_5 \text{LEVERAGE} \\ & + \alpha_6 \text{PROFITABILITY} + \alpha_7 \text{LIST} + \varepsilon_{\text{AF}} \end{aligned} \quad (1)$$

The model includes control variables for auditor attributes, client size, and client risk. BIG4 and CHANGE are dummy variables on auditor attributes. BIG4 takes the value 1 if the family firm is audited by a Big-4 audit firm expected to charge higher audit fees than others, and 0 otherwise (Niskanen *et al.*, 2010; Campa, 2013). CHANGE takes the value 1 if the auditor changed compared to the previous year, and 0 otherwise. It controls for the auditor's pricing strategy and tenure. A negative coefficient on CHANGE would be consistent with fee-cutting for initial audit engagements (Craswell and Francis, 1999; Quick *et al.*, 2013)[8]. SIZE is client size as measured by the natural logarithm of total assets. Since larger clients are likely to be more complex and demanding, they can be expected to be charged higher fees (Simunic, 1980; Firth, 2002). As proxies for client risk, LEVERAGE and PROFITABILITY represent the ratio of total liabilities to total assets and the return on assets of a family firm for the sample year, respectively. Consistent with prior studies (Ashbaugh *et al.*, 2003; Bigus and Zimmermann, 2009), I expect a positive sign on the coefficient on LEVERAGE and a negative sign on the coefficient on PROFITABILITY. LIST is a dummy variable that takes the value 1 if the family firm is listed, and 0 otherwise. It is included to assess the incremental effect of listing on audit fees. I expect a positive coefficient on LIST since listed family firms face enhanced financial accounting and auditing requirements to mitigate specific agency problems due to entrenchment. This way, LIST also controls for client complexity given data restrictions imposed on my family firm sample[9].

To control for endogeneity of NAS fees, I also employ a 2SLS approach (Whisenant *et al.*, 2003; Krishnan and Yu, 2011; Köhler and Ratzinger-Sakel, 2012). In the first stage, equation (2a) is used to provide estimated values of NAS fees that are not influenced by audit fees (LN(NĀF)). In the second stage, equation (2b) explores the impact of these estimated NAS fees on audit fees[10].

Following the argument by Hay *et al.* (2006a) to prevent exact multicollinearity, I include a sequence of industry dummy variables in equation (2a). Using the industry variables as instruments is also justified because their influence seems to be more closely related to NAS fees than to audit fees, and the coefficients on a number of industry variables are significant in the first stage for the full sample and for the subsamples of listed and private family firms[11]. Particularly, I estimate the following 2SLS regression model:

$$\begin{aligned} \text{LN}(\hat{\text{N}}\text{AF}) = & \beta_0 + \beta_1 \text{BIG4} + \beta_2 \text{CHANGE} + \beta_3 \text{SIZE} + \beta_4 \text{LEVERAGE} \\ & + \beta_5 \text{PROFITABILITY} + \beta_6 \text{LIST} + \sum_j \beta_{6+j} \text{INDUSTRY}_j + \varepsilon_{\hat{\text{N}}\text{AF}} \end{aligned} \quad (2a)$$

$$\begin{aligned} \text{LN}(\text{AF}) = & \gamma_0 + \gamma_1 \text{LN}(\hat{\text{N}}\text{AF}) + \gamma_2 \text{BIG4} + \gamma_3 \text{CHANGE} + \gamma_4 \text{SIZE} \\ & + \gamma_5 \text{LEVERAGE} + \gamma_6 \text{PROFITABILITY} + \gamma_7 \text{LIST} + \varepsilon_{\text{AF}} \end{aligned} \quad (2b)$$

A positive and significant coefficient γ_1 would be consistent with reciprocal knowledge spillovers between the jointly auditor-provided services as predicted by the second set

of hypotheses. Both, the OLS and the 2SLS model are estimated to examine *H2a*. In order to examine *H2b*, I exclude the dummy variable LIST from the fee models and estimate the OLS and the 2SLS model separately for listed and private family firms.

4. Results

4.1 Descriptive statistics

Table I presents descriptive statistics on my sample of large German family firms. Fees observed show a large range and variation. Mean audit fees charged are €405,536 and mean NAS fees are €245,875. At the market level, fee data indicates a ratio of NAS fees to TF of 37.74 percent which is slightly higher than the ratio reported by Wirtschaftsprüferkammer (2011) for listed German firms in the sample year. More particularly, other attestation services contribute 4.29 percent, tax advisory services 15.97 percent, and other NAS 17.48 percent to TF observed in this study.

Interestingly, the vast majority of sample family firms (85.33 percent) actually obtain NAS by their statutory auditor as reflected by fee disclosure. This finding complements prior evidence – in common law countries and based on different research designs – which indicates that auditors play a vital role as external advisors of family firms (Jaffe *et al.*, 1997; Chrisman *et al.*, 2009). Adding to existing knowledge, my results show that the types of auditor-provided NAS differ in their occurrence and extent. Particularly, fees for tax advisory services and other NAS are more frequently observed and are larger than for other attestation services. Findings show that auditors jointly provide a broad set of advisory services to family firms beyond the scope of financial accounting.

Sample family firms vary considerably in size, leverage, and profitability. For 14 private family firms PROFITABILITY could not be collected since German accounting regulation allows omitting the disclosure of consolidated profit figures under certain circumstances. The sample contains 67 listed family firms (18.21 percent), none of which is cross-listed in the USA. Approximately half of the sample employs a Big-4 auditor. Only seven family firms switched the statutory auditor of their consolidated financial statements in 2009 (1.90 percent). This proportion is low compared to prior evidence on auditor changes among German listed firms (Köhler and Ratzinger-Sakel, 2012) and in line with the assumed long-term relationship between family firms and their auditor as documented by Khalil *et al.* (2011) in the USA.

4.2 Fee composition results

Table II, Panel A shows firm-level results on the relative fee composition for the full sample and for the subsamples of listed and private family firms. Results indicate that auditors obtain the majority of fees for audit services. At the firm-level, the mean ratio of NAS fees to TF is equal to 28.15 percent and it is almost the same for listed and private family firms. These proportions seem large compared to Bigus and Zimmermann (2008, p. 176), who report a proportion of 14.6 percent for German listed firms in 2005. Median proportions of NAS fees are only slightly lower than the means, indicating that family firms with no or large NAS fees largely balance each other.

Untabulated results indicate that in 11 (16.41 percent) listed family firms and in 58 (19.27 percent) private family firms, over half the TF charged by auditors is consumed for NAS purposes. The maximum relative proportions of NAS fees observed are 92.64 percent

Table I.
Descriptive statistics

Fee variables (€) ^a	n	Mean	SD	Median	Min.	Max.	No. (fee > 0)	% (fee > 0)
TF	368	651,411	1,456,188	317,000	18,500	17,000,000	368	100.00
AF	368	405,536	921,787	205,000	18,500	12,000,000	368	100.00
NAF	368	245,875	693,074	84,500	0	8,125,000	314	85.33
NAF_OAS	368	27,992	137,054	0	0	2,000,000	150	40.76
NAF_TAS	368	104,033	210,350	37,612	0	2,100,000	265	72.01
NAF_ONS	368	113,850	474,030	7,000	0	5,776,000	213	57.88
<i>Other continuous variables^b</i>								
SIZE	n	Mean	SD	Median	Min.	Max.		
	368	19.781	1.155	19.601	16.823	24.240		
LEVERAGE	368	0.645	0.173	0.656	0.146	1.167		
PROFITABILITY	354	0.027	0.082	0.026	-0.419	0.394		
<i>Dummy variables^c</i>								
LIST = 1	n	%						
	67	18.21						
BIG4 = 1	182	49.46						
CHANGE = 1	7	1.90						

Notes: ^aTF – total fees charged by the auditor, AF – audit fees, NAF – NAS fees, NAF_OAS – NAS fees for other attestation services, NAF_TAS – NAS fees for tax advisory services, NAF_ONS – NAS fees for other non-audit services; ^bSIZE – natural logarithm of total assets of the client, LEVERAGE – ratio of total liabilities to total assets, PROFITABILITY – return on assets; ^cLIST – dummy variable that takes the value 1 if the family firm has listed securities, and 0 otherwise, BIG4 – dummy variable that takes the value 1 if the family firm is audited by a Big-4 auditor, and 0 otherwise; CHANGE – dummy variable that takes the value 1 if the auditor changed compared to the previous year, and 0 otherwise

Listed and private family firms		Listed family firms (LIST = 1)		Private family firms (LIST = 0)		Listed vs private family firms	
Mean	Median (%)	Mean	Median (fee > 0)	Mean	Median (fee > 0)	Mean	No. (fee > 0)
<i>Panel A: total sample (n = 368)</i>							
AF/TF	74.52	71.85%	75.35%	71.84%	73.96	0.238	301
NAF/TF	25.48	28.15%	24.65%	28.16%	26.04	0.238	250
NAF_OAS/TF	0.00	4.01%	0.89%	1.74%	0.00	3.697***	112
NAF_TAS/TF	12.15	12.93%	7.91%	17.60%	13.73	1.520	214
NAF_ONS/TF	1.96	11.21%	5.00%	8.82%	1.53	2.320**	165
No. (NAF/TF > 25%)	185	33		152			
% (NAF/TF > 25%)	50.27	49.25		50.50			
NAF/TF vs 25% ^b Z (p)	1.854* (0.064)	0.681 (0.496)		1.646* (0.100)			
<i>Panel B: subsample of firms with NAF > 0 (n = 314)</i>							
AF/TF	69.23	70.54%	73.84%	66.10%	68.38	1.630	250
NAF/TF	30.77	29.46%	26.16%	33.90%	31.62	1.630	250
NAF_OAS/TF	0.00	4.19%	0.99%	2.10%	0.00	2.983***	112
NAF_TAS/TF	16.23	13.54%	8.27%	21.19%	18.20	3.344***	214
NAF_ONS/TF	4.30	11.73%	5.86%	10.61%	3.78	1.226	165
No. (NAF/TF > 25%)	185	33		152			
% (NAF/TF > 25%)	58.92	51.56		60.80			
NAF/TF vs 25% ^b Z (p)	5.696*** (<0.001)	1.150 (0.250)		5.683*** (<0.001)			

Notes: Significant at: *10, **5 and ***1 percent levels; ^aMann-Whitney tests comparing the relative proportions of fees between listed and private family firms; ^bWilcoxon tests comparing NAF/TF at the firm level with the critical value 25 percent; variables are defined in the notes to Table I

Table II.
Relative fee composition results

in listed family firms and 87.29 percent in private family firms (untabulated). These findings imply that a threat to perceived auditor independence is likely, at least for some family firms.

As shown in Table II, Panel A, about half of the sample family firms (50.27 percent) show a relative proportion of NAS fees exceeding the 25 percent threshold that is applied in this study to indicate a threat to perceived auditor independence. A Wilcoxon test indicates that the proportion of NAS fees exceeds the critical threshold for the full sample ($p = 0.064$). This finding supports *H1a*. The proportion of NAS fees also exceeds the critical in the subsample of private family firms ($p = 0.100$) but not in the subsample of listed family firms.

Since the result can be driven by family firms that do not obtain NAS by their auditor, I replicate the test for a reduced sample of 314 family firms with positive NAS fees. Panel B of Table II presents the results. For the 314 family firms, the relative proportion of NAS fees increases to 33.00 percent and is significantly higher than 25 percent ($p < 0.001$). This finding supports *H1a*. After splitting the sample, Wilcoxon tests again show that the proportion of NAS fees exceeds the critical threshold for private family firms ($p < 0.001$) but not for listed family firms. Threats to perceived auditor independence, thus, seem to be an issue for private family firms – but not for listed ones – that obtain NAS from their statutory auditor. This finding is interesting even beyond the family firm focus since prior evidence from Germany neglects private firms. It suggests that private family firms that decide to obtain NAS by their statutory auditor may have greater incentives to demand more NAS compared to listed family firms. An obvious thought is that listed family firms are in the spotlight of the public and demand less NAS from their auditor to avoid threats to perceived independence.

Results of Mann-Whitney tests presented in Table II, however, show that the relative proportion of NAS fees does not differ significantly between listed and private family firms. This result does not support *H1b* and retains in the full and the reduced sample. Interestingly, I find differences in the composition of NAS fees between listed and private family firms. Consistently, the relative proportion of fees for other attestation services is larger for listed family firms ($p < 0.001$ in the full sample, $p = 0.003$ in the reduced sample). This finding is consistent with additional assurance requirements imposed on listed family firms such as the review of interim reports. In the full sample, the proportion of fees charged for other NAS is larger for listed family firms ($p = 0.020$). In the reduced sample, the proportion of fees charged for tax advisory services is lower for listed family ($p = 0.001$). The latter finding is consistent with listed family firms facing more legal restrictions on auditor-provided tax advisory services than private family firms. These findings suggest that, albeit similar in sum, the composition of fees of auditor-provided NAS differs between listed and private family firms. The differences seem largely consistent with differential regulation on auditor-provided services to listed and private firms in Germany. The results indicate that differential regulation actually impacts upon the structure of NAS provided.

4.3 Regression results

Table III presents the Pearson correlations between the variables used in fee models for listed and private family firms that obtain NAS by their auditor[12]. In both groups, correlations between NAS fees and audit fees are positive and significant at the 1 percent level (0.657 or 0.535, respectively). The positive and significant correlations seem consistent with reciprocal knowledge spillovers. Consistently, audit fees, NAS fees and

	LN(AF)	LN(NAF)	BIG4	CHANGE	SIZE	LEVERAGE	PROFITABILITY
LN(AF)	1	0.657***	0.261**	-0.065	0.827***	0.305**	-0.382***
LN(NAF)	0.535***	1	0.075	-0.138	0.641***	0.201	-0.272**
BIG4	0.233***	0.241***	1	0.073	0.214*	0.043	-0.084
CHANGE	0.010	-0.057	0.005	1	-0.037	0.031	0.145**
SIZE	0.681***	0.372***	0.309***	0.001	1	0.104	-0.272**
LEVERAGE	0.015	0.026	0.102	0.045	-0.172***	1	-0.392***
PROFITABILITY	0.010	0.087	-0.002	0.027	0.125*	-0.292***	1

Notes: Significant at: *10, **5 and ***1 percent levels; Pearson correlations for listed family firms (LIST = 1, $n = 64$) above the diagonal, and for private family firms (LIST = 0, $n = 238$) below the diagonal; variables are defined in the notes to Table I; audit fees (AF) and NAS fees (NAF) are transformed to their natural logarithm

Table III.
Pearson correlations
between continuous
variables

Big-4 auditor engagement are positively and significantly correlated with firm size. Correlations between explanatory variables and audit fees generally show the predicted sign albeit differing in their significance between listed and private family firms.

To assess the existence of knowledge spillovers between jointly auditor-provided services as indicated by a positive relation between NAS fees and audit fees, I first run a set of OLS regressions as employed in traditional audit research. Table IV shows the results for the full sample and for the subsamples of listed and private family firms.

For the full sample, I find a positive and significant relation between NAS fees and audit fees ($p < 0.001$). This finding supports *H2a* and is consistent with the existence of knowledge spillovers. The significant and positive coefficient on LIST implies that listed family firms are charged higher audit fees than private ones. This finding is in line with more enhanced financial reporting and auditing requirements faced by listed firms that are more complex and demanding to audit.

The relation between NAS fees and audit fees is also positive and significant in each subsample. It is weaker for listed than for private family firms ($p = 0.045$ vs $p < 0.001$). The results support *H2b*. In addition, the consistent positive association indicates that threats to auditor independence as put forward by the loss leader argument do not prevail across sample family firms. Interestingly, Big-4 auditor engagement and auditor changes do not significantly affect audit fees in the multivariate analysis[13]. This finding implies that neither fee premiums for Big-4 auditors nor fee-cutting for initial audit engagements are prevalent in my sample. As expected, audit fees significantly increase with SIZE and LEVERAGE and decrease with PROFITABILITY. Only for listed family firms the coefficient on PROFITABILITY is insignificant.

Results of OLS regressions, however, are likely to be biased by the joint determination of NAS fees and audit fees. Hausman (1978) specification tests consistently suggest that NAS fees are endogenous ($p < 0.100$ for listed and private family firms and for the subsamples of listed and private family firms)[14]. Thus, data indicates that NAS fees and audit fees are indeed jointly determined. Controlling for the endogeneity of NAS fees, Table V presents the results for the set of 2SLS audit fee models.

As shown in Table V, there is still a positive and significant relation between NAS fees and audit fees for the full sample and for private family firms, yet at lower levels of significance compared to the results of the OLS regressions reported in Table IV ($p = 0.032$ or $p = 0.033$, respectively). In contrast to the results of OLS regressions reported in Table IV, the relation between the fees is now no longer significant in the subsample of listed family firms. The latter result seems consistent with recent findings by Köhler and Ratzinger-Sakel (2012) on German listed firms.

Results of the 2SLS regressions thus support *H2a* but do not support *H2b*. The findings indicate knowledge spillovers between NAS and audit services provided to private family firms which are absent for listed family firms after controlling for the joint determination of fees. As a major implication, private family firms that obtain NAS from their auditors seem to be more likely to benefit from knowledge spillovers than listed family firms do.

Results on the control variables are very similar to those in the OLS regressions. After controlling for joint determination of fees, results still imply that larger, more risky and listed family firms are charged higher audit fees. There is no evidence for fee premiums charged by Big-4 auditors or for fee-cutting behavior for initial audits in my sample of larger German family firms. These findings seem robust to employing OLS or 2SLS fee models.

	Expected sign	Listed and private family firms		Listed family firms (LIST = 1)		Private family firms (LIST = 0)	
		Coeff.	p	Coeff.	p	Coeff.	p
Intercept	?	0.552	0.362	1.111	0.311	0.318	0.683
LN(NAF)	+	0.162	<0.001	0.107	**	0.178	***
BIG4	+	-0.007	0.911	0.225	0.157	-0.064	0.388
CHANGE	-	0.122	0.614	-0.143	0.795	0.164	0.545
SIZE	+	0.485	***	0.483	***	0.492	***
LEVERAGE	+	0.519	***	0.931	**	0.421	*
PROFITABILITY	-	-0.877	***	-1.032	0.023	0.421	*
LIST	+	0.273	0.001	-1.032	0.276	-0.874	*
n		302		64		238	
Adjusted R ²		0.676		0.738		0.546	
F-statistics		90.836	***	30.539	***	52.105	***

Notes: Significant at: *10, **5 and ***1 percent levels; OLS regressions with LN(AF) as dependent variable (equation (1)); variables are defined in the notes to Table I; audit fees (AF) and NAS fees (NAF) are transformed to their natural logarithm

Table IV. Results of the single-equation approach (OLS regressions)

Table V.
Results of the two-stage
least squares approach
(2SLS regressions)

	Expected sign	Listed and private family firms		Listed family firms (LIST = 1)		Private family firms (LIST = 0)	
		Coeff.	<i>p</i>	Coeff.	<i>p</i>	Coeff.	<i>p</i>
Intercept	?	0.640	0.310	0.540	0.665	0.307	0.696
LN(NAF)	+	0.215*	0.033	-0.052	0.688	0.230*	0.032
BIG4	+	-0.020	0.775	0.189	0.272	-0.085	0.318
CHANGE	-	0.170	0.515	-0.376	0.541	0.203	0.475
SIZE	+	0.452**	<0.001	0.599**	<0.001	0.465**	<0.001
LEVERAGE	+	0.462*	0.038	1.107*	0.016	0.373	0.129
PROFITABILITY	-	-0.918**	0.026	-1.172	0.252	-0.946*	0.047
LIST	+	0.276**	0.001				
<i>n</i>		302		64		238	
Adjusted <i>R</i> ²		0.670		0.698		0.556	
<i>F</i> -statistics		82.711**		25.964**		43.890**	

Notes: Significant at: *5 and **1 percent levels; second stage of 2SLS regressions with LN(AF) as dependent variable (equation (2b)); variables are defined in the notes to Table I; audit fees (AF) and estimated NAS fees (NAF) are transformed to their natural logarithm

Overall, the models explain the majority of the variation in audit fees. Adjusted R^2 values range from 54.6 to 73.8 percent in the OLS regressions and from 55.6 to 69.8 percent in the 2SLS regressions. F -statistics show that adjusted R^2 values are each significant at $p < 0.001$ indicating a sound model fit across the model specifications employed in this study.

4.4 Sensitivity analyses

In order to test the robustness of my results, I conduct several sensitivity analyses and results of my main analyses hold.

An alternative explanation for a positive association between NAS fees and audit fees relates to distressed firms which might require a greater quantity of both, NAS and audit services (Simunic, 1984; Solomon, 1990). The issue can be addressed by excluding potentially distressed firms by reference to PROFITABILITY and LEVERAGE. Particularly, I restrict the sample:

- to family firms with PROFITABILITY > -0.100 ; or
- to family firms with PROFITABILITY > 0 and LEVERAGE < 0.750 , respectively.

The results of the OLS and 2SLS regressions remain virtually unchanged ($H2a$ and $H2b$). In general, fee composition results also hold[15].

In similar vein, there can be firm-specific circumstances or events such as business restructuring or takeovers that create a high demand for NAS and potentially require increased audit effort (Firth, 1997, 2002). To address the issue, I exclude family firms with NAS fees exceeding audit fees (NAF/TF > 0.500) and replicate all tests. Still, results on differences in the fee composition between listed and private family firms ($H1b$) and on the relation between NAS fees and audit fees ($H2a$ and $H2b$) hold[16].

Finally, the regression models control for auditor tenure by the dummy variable CHANGE indicating initial auditor engagement. Since there are very few initial auditor engagements in the sample, I alternatively use a dummy variable TENURE that takes the value 1 if the auditor changed in the three years preceding the sample period, and 0 otherwise. That measurement of TENURE captures auditors that are relatively new to the engagement (Hay *et al.*, 2006b; Gul *et al.*, 2007). All regression results remain virtually unchanged ($H2a$ and $H2b$)[17].

5. Discussion and conclusions

By exploiting recently amended fee disclosure requirements, this paper presents empirical evidence on the extent and the consequences of the joint provision of NAS and audit services by statutory auditors to listed and private German family firms. It extends the limited evidence at the intersection of audit and family business research in multiple ways.

First, I find that the large majority of family firms obtain NAS by their statutory auditor in Germany as a typical code law country. Results complement findings in common law countries (Chrisman *et al.*, 2009; Nicholson *et al.*, 2010) that indicate that auditors are among the most preferred external advisors of family firms. This preference is consistent with evidence on family firms selecting advisors based on experience, reputation, and trust (Strike, 2012). More particularly, I document that family firms rely on a broad range of auditor-provided services beyond the scope of financial and tax accounting. Although fee disclosure does not allow controlling for

services provided by other advisors, my findings seem consistent with family firms preferring services by one incumbent source thereby limiting the number of external parties with access to internal information.

Second, although agency conflicts, opportunities to protect confidentiality, and regulation all differ in the listing status, I do not find a difference in the relative proportion of NAS fees between listed and private family firms. Rather there are differences in the relative proportions of fees for individual types of NAS provided. These differences are largely consistent with differential regulation in Germany which seems to have an effective impact on the provision of NAS by statutory auditors. Higher proportions of fees for other attestation services and lower proportions of fees for tax advisory services observed for listed family firms seem to relate to additional assurance requirements such as the review of interim reports and additional restrictions on auditor-provided tax advisory services, respectively. Relative proportions of NAS fees provide only weak evidence for a threat to perceived auditor independence. About half of both listed and private family firms show a relative proportion of NAS fees exceeding the critical threshold of 25 percent used as an indicator of threats to perceived auditor independence. The excess is significant in statistical terms for private family firms but not for listed ones. This finding seems consistent with private family firms having less exogenous pressure and a lack of experience with skeptical reactions fee disclosure might induce among their stakeholders.

Third, evidence differs with regard to the existence of reciprocal knowledge spillovers between jointly provided services as indicated by a positive relation between NAS fees and audit fees. Results of single-equation audit fee models imply knowledge spillovers across the sample. However, NAS fees and audit fees seem to be jointly determined. After controlling for this effect in 2SLS models, there is still a positive relation for the full sample. Detailed results reveal that knowledge spillovers are prevalent for private but not for listed family firms. This finding implies economic benefits from jointly provided services in private family firms that face lower exogenous restrictions and have particular incentives, e.g. related to trust and confidentiality, to engage their auditor as an advisor. The finding for listed family firms is in line with prior evidence on the joint determination of fees in listed and thus highly regulated firms (Hay *et al.*, 2006a; Köhler and Ratzinger-Sakel, 2012). Results for private family firms are unique to date and contribute to limited evidence on knowledge spillovers among private firms even beyond the family firm focus (Svanström, 2013).

Combining the results, it seems that threats to perceived auditor independence and knowledge spillovers are not prevalent for listed family firms in my sample. They rather concern private family firms. Albeit similar in the relative extent of NAS fees, the consequences of jointly advising and auditing family firms differ in the listing status of family firms. The differential results have several implications. On a conceptual level, they add to existing evidence on consequences of the listing status of family firms from an audit perspective. Particularly, results suggest that the role of the auditor as an external advisor and the effects of her/his services differ between listed and private family firms. On the level of regulation, results imply that the key threats and benefits of auditor-provided NAS decrease with stronger exogenous restrictions and suggest that differential regulation in Germany is effective. Findings can contribute to recent regulatory debates which strive for limited opportunities for auditors to jointly advise their audit clients. On the level of business practice, results imply that private family firms in particular should consider the consequences of multiple engagements of their statutory auditor. Further restrictions on

auditor-provided NAS – as recently discussed by the European Commission (2011) – are likely to force a considerable proportion of family firms to reduce their reliance on their statutory auditors as a trusted source of advisory services.

This study has several limitations which in turn suggest fruitful avenues for future research. First, exploiting recently amended fee disclosure, this study is limited to the initial year where fee data are available for private family firms in Germany. Future research could exploit time-series in order to test how fees and effects develop over time and address the impact of large proportions of NAS fees on other proxies for auditor independence, e.g. by reference to earnings management. Second, while the sample of this study is based on an established list of family firms, detailed ownership and governance data could not be collected from public sources for the subsample of private family firms. Including such data in the analyses could yield implications on differential agency problems in family firms. Third, this study focuses on listed vs private family firms. Future research could compare family and non-family firms, both listed and private, to generate comparative insights into the extent and consequences of auditor-provided NAS and the specific role of auditors in family firms. Fourth, this study is limited to a single country. Extensions to other countries and comparative studies, e.g. between code law and common law countries or between countries where the significance and the attributes of family firms differ, will be warranted. Although the present study is subject to data restrictions that particularly concern private family firms, it provides novel and unique insights at the intersection of audit and family business research that may deserve further exploration using other settings and approaches and exploiting ownership and governance data in particular.

Notes

1. There is a long-standing discussion on how to define a family firm (Lansberg *et al.*, 1988; Litz, 1995; Günther, 2011). A recent review by Günther (2011) suggests that majority voting ownership in the hands of a family is an operational distinction of family and non-family firms in Germany either listed or private. This distinction coincides with the definition of a family firm employed in the list used for sample selection in this study (Niefert *et al.*, 2009).
2. Other approaches to investigate perceived auditor independence include the relation between NAS fees and share prices, bond ratings or earnings response coefficients (Ashbaugh *et al.*, 2003; Brandon *et al.*, 2004; Francis and Ke, 2006). All the latter proxies are unavailable for the private family firms in my sample. Major changes in German accounting principles and lack of sufficient data do not allow addressing independence in fact by reference to consistent measures of earnings management (Srinidhi and Gul, 2007; Quick and Sattler, 2011). I also desist from analyzing the relation between NAS fees and modified audit opinions (Basioudis *et al.*, 2008; Ianniello, 2012) because I observe very few modified audit opinions in my sample. Still the paper provides initial evidence on potential threats to perceived auditor independence in the family firm environment.
3. This strand of literature implies that the impact of threatening an auditor with withdrawing engagements depends on the significance of both, the fees charged for NAS and the family firm's significance in the auditor's client portfolio (DeAngelo, 1981b; Quick and Warming-Rasmussen, 2009). For the latter reason, Big-4 auditors are assumed to be less likely to face impaired independence than small audit firms. This assumption may be impaired when considering incentives on the level of partners and offices of audit firms. The more general assumption that Big-4 auditors are associated with high audit quality is widespread in the family firm environment (Cascino *et al.*, 2010; Niskanen *et al.*, 2010).

4. As explained in note 2, data restrictions do not allow taking a more direct approach to assess auditor independence for my German family firm sample.
5. According to Sec. 325 GCC, German listed firms and private firms of a certain size have to file their financial statements to the *Bundesanzeiger* (www.bundesanzeiger.de). Filings are sometimes heavily delayed. Particularly for non-limited companies, there are options to omit some disclosures in the filings to the *Bundesanzeiger*.
6. To facilitate comparability of fee data used in this study, I consistently collected fees charged by the German auditor of the consolidated financial statements (Sec. 314 (1) No. 9 GCC).
7. To date, only few studies take into account that NAS fees and audit fees are potentially jointly determined. For instance, Hay (2013, p. 173) concludes that “[t]here are insufficient studies using the 2SLS approach to conduct a worthwhile meta-analysis”.
8. Alternatively, I use a dummy variable reflecting a change in auditor in the three preceding years in the sensitivity analyses. As shown in Section 4.4, the regression results of my main analyses remain unchanged.
9. Typical proxies for client complexity include the number of foreign subsidiaries and the number of business segments. However, fee disclosure as required in Germany does not generally include fees charged for services provided to foreign subsidiaries (Sec. 314 (1) No. 9 GCC), which puts some doubt on the use of this proxy in the German context. Moreover, I lack data on the number of business segments for private family firms. This data cannot be hand collected from consolidated financial statements since private firms in Germany are not required to present segment reporting in their consolidated financial statements (Sec. 297 (1) GCC).
10. The “cap” in $\text{LN}(\hat{N}AF)$ indicates estimated as opposed to observed values of NAS fees transformed to their natural logarithm.
11. Hay *et al.* (2006a) and Köhler and Ratzinger-Sakel (2012) use Big-4 dummy variables as instruments. I could not use BIG4 as an instrument in my study since the coefficients on BIG4 were not significant in the first stage of respective 2SLS specifications. The results of the OLS regressions presented in Table IV hold when including a sequence of industry variables in model (1).
12. I exclude 12 private family firms for which PROFITABILITY could not be collected since German accounting regulations allow to omit the disclosure of consolidated profit figures in some circumstances.
13. Since there are only seven auditor changes compared to the previous year, I alternatively use another variable on auditor tenure in the sensitivity analyses presented in Section 4.4. All regression results remain unchanged.
14. The Hausman (1978) specification test compares the estimators obtained from two specifications of a model, and assesses whether the covariance matrices are consistent and efficient in comparison to each other. I employ this test to check for the exogeneity of NAS fees by comparing the OLS estimators and 2SLS instrument variable estimators. The null hypothesis is that there is no difference between the two estimators, suggesting that OLS estimators are efficient and consistent estimators of the true parameters. The null hypothesis is rejected. Thus, I conclude that NAS fees are endogenous.
15. The only exception is that, compared to results of the Wilcoxon test presented in Panel A of Table II, the proportion of NAS fees of private family firms does not significantly exceed the 25 percent threshold in case (ii).
16. As a matter of fact, results on *H1a* change for the restricted sample. Compared to results presented in Panel A of Table II, Wilcoxon tests now indicate that the relative proportion of

NAS fees is below the 25 percent threshold for this sample ($p < 0.001$) and for private family firms ($p < 0.001$). Compared to results presented in Panel B of Table II, Wilcoxon tests now do not indicate any significant difference between the proportion of NAS fees and the 25 percent threshold.

17. There are 28 auditor changes over the three year period (ten in listed and 18 in private family firms). The switching rate in listed family firms (15 percent) is about twice as high as in private family firms and even higher than the switching rate reported by Köhler and Ratzinger-Sakel (2012) in German listed firms between 2005 and 2008. This finding seems to put some doubt on the assumed long-term relationship between listed family firms and their auditors (Khalil *et al.*, 2011).

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Further reading

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