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To cite this article: Ann Vanstraelen & Caren Schelleman (2017) Auditing private companies: what do we know?, *Accounting and Business Research*, 47:5, 565-584, DOI: [10.1080/00014788.2017.1314104](https://doi.org/10.1080/00014788.2017.1314104)

To link to this article: <https://doi.org/10.1080/00014788.2017.1314104>



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Published online: 08 Jun 2017.



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# Auditing private companies: what do we know?

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The purpose of this article is to provide an overview of the literature on what we currently know about the costs and benefits of auditing private company accounts. Our main conclusions are the following. First, there is much heterogeneity in factors driving audit demand in private companies and the value derived from the audit. Second, research provides support for improved financial reporting quality due to, and real economic benefits from, private company audits. Third, the cost–benefit analysis for private company audits is firm-specific and mandating the audit does not seem to be cost-effective and thus economically optimal for all private companies. Alternative services may better meet the needs of especially smaller private companies. Furthermore, mandating the audit is not necessarily an optimal solution since private companies with low demand for a high-quality audit are able to find an auditor that meets their requirements even under a mandatory regime. Hence, having a mandatory audit in place is no guarantee for universally high-quality audits and this seems most salient for private companies where auditors may be more prone to independence issues. We conclude by providing a number of directions for future research.

**Keywords:** auditing; private companies

## 1. Introduction

This study provides an overview of the literature on what we currently know about auditing private companies. Compared to the rich body of economics based archival auditing research relating to public companies, economic research on the audit of privately held companies is much more limited. This is somewhat surprising, given that private companies dominate and play a vital role in the world economy in terms of generating wealth, jobs and investment in innovation and growth (e.g. Kobe 2012, Wymenga et al. 2012, Asker et al. 2015). To illustrate, in the US fewer than 1% of all firms are listed and privately held companies generate over 50% of private sector GDP (Minnis 2011). Similarly, small and medium-sized companies (SMEs) represent more than 99% of European companies and are also considered to be the backbone of the European economy (Federation of European Accountants [FEE] 2016). Hence, ‘despite the

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importance of smaller entities to the economy and capital markets, surprisingly little is known about these firms with respect to their accounting and auditing choices or the economic consequence of these choices' (Francis et al. 2011, p. 489). Importantly, private companies are very different from public companies, and research on public companies may therefore not be generalizable to private companies (Langli and Svanström 2014). Furthermore, in his article on the frontiers of auditing research, Hay (2015) concludes that there are number of areas, including assurance for smaller companies, in which there is surprisingly little research, despite the apparent need for auditing research in this field.

Countries differ as to whether they have audit requirements for private companies, even when they have financial reporting requirements for such firms. Interestingly, there is not only cross-sectional variation in mandating audits for private companies, but countries have also made changes to their regulations on mandatory audits for private companies over time. The observed variation in regulation raises the natural question of the need for and value of auditing privately held companies. At a minimum, as outlined by Dedman et al. (2014), compared to listed companies, the reasons for requiring a mandatory audit in private companies are less clear, 'as these companies exist in a different environment, where stakeholders tend to be closer to the company and are able to request extra information directly' (p. 2). Furthermore, while users of financial statements of listed companies have different needs from users of private companies' financial statements, there is also variation in needs between different types of these users (e.g. directors, investors, banks, tax authorities, customers, suppliers). As a result, a one-size-fits-all audit may arguably not be optimal for all types of companies.<sup>1</sup>

The new EU Accounting Directive (2013/34/EU issued 26 June 2013) significantly raised the upper limits for the thresholds that define a small business and could exempt many more small businesses from the audit requirement. Against this background is an active current debate on the costs and benefits of auditing private companies and how auditors can best support and serve small businesses. In the FEE (2016) discussion paper, it was concluded that 'consensus was reached that there were a number of alternative service offerings beside statutory audits which the accountancy profession could use to meet the current and future needs of SMEs'. For example, a review offering a limited level of assurance may be a more appropriate alternative for certain smaller entities compared to an audit offering reasonable assurance. At the same time, 'concern has been raised on whether the growing trend toward audit exemptions may also result in a related move toward lower-quality financial reporting' (Thompson 2014).

Aiming to contribute to this debate with insights from academic research, this study reviews the literature to obtain a better understanding of what we know (and do not yet know) about the costs and benefits of auditing private companies' accounts. We begin our analysis in Section 2 by outlining some of the differences and changes in regulation across and within countries on mandating a statutory audit for privately held companies. One of the advantages for researchers of having institutional settings where certain private companies are not subject to a statutory audit is the opportunity to investigate the drivers of voluntary audit demand. Furthermore, changes in regulation within a country are of special interest to research since they represent a natural experiment, where companies are allocated to different audit regimes on an almost random basis (rather than reflecting a choice that is possibly correlated with other firm-specific factors).

We discuss theory and empirical evidence of private companies' audit demand and audit supply in Section 3. In Section 4 we summarize insights obtained from empirical research on the value of auditing for privately held companies. In Section 5 we discuss audit quality, and we focus particularly on how it affects financial reporting of private companies. In Section 6 we complement research discussed in Sections 4 and 5 and summarize empirical research on the real economic benefits of auditing private companies. Finally, in Section 7 we conclude and discuss what we learn from the literature on the costs and benefits of auditing private companies and provide some directions for future research.

## 2. Regulation

While regulators in the major capital markets around the world require a mandatory audit for publicly listed companies, and by extension for other public-interest entities, there is much more variation in regulatory requirements for the audit of private companies. For example, in the US, most private companies with limited exceptions (e.g. financial firms) are not subject to a mandatory audit (Minnis and Shroff 2017). However, in Europe, the opposite is true, as most private companies, except for the smallest, are required to have a statutory audit. The Fourth EU Directive contained size thresholds for statutory audit exemptions, which were revised periodically. These are maximum thresholds, and member states may decide to impose lower thresholds. Recently, the Fourth and the Seventh EU Directive were merged into a new EU Accounting Directive (2013/34/EU). This Directive further increased the upper limits for the thresholds that define a small business. Specifically, a company is considered to be small and exempted from an audit when the balance sheet total is between €4 million and €6 million (was €4.4 million), the net turnover is between €8 million and €12 million (was €8.8 million) and the average number of employees is below 50 (same as before). If a company exceeds two of the three thresholds for two consecutive years, it is no longer considered to be small and becomes subject to a mandatory audit.

It is interesting to observe that there is not only cross-sectional variation in mandating audits for private companies, but also that countries make changes in their regulations on mandatory audits for private companies over time. For example, in 2007 Finland dropped the requirement that *all* private companies, including the small limited liability companies, are subject to a statutory audit (Niemi et al. 2012). Sweden and Norway did the same in 2011 (Sundgren and Svanström 2014, Langli 2015). Similarly, while all UK private companies were subject to a mandatory audit between 1967 and 1994, the UK has significantly increased its exemption criteria for private companies over time, starting in 1994, with the largest threshold change in 2004 (Dedman et al. 2014). In Australia, private companies were exempted from a mandatory audit until 1998, when the requirement was introduced for large private companies (Carey et al. 2000). In contrast, Canada exempted all private companies from a mandatory audit in 1994 (Senkow et al. 2001).

As already outlined above, institutional settings where certain private companies are not subject to an audit, or where changes in regulation offer a natural experiment, allow researchers to investigate the drivers of voluntary audit demand using more reliable research designs. In the next section, we discuss theory and empirical evidence on audit demand of (and supply to) private companies making use of these settings.

## 3. Audit demand and supply

### 3.1. Audit demand

There are a number of economic theories underlying the value of auditing which could explain an economic (and thus voluntary) demand for auditing in the absence of regulation. These economic explanations for auditing posit that auditing can have an information or signaling role, an agency or monitoring role, an insurance (or 'deep pockets') role, an organizational control role, a confirmation role and a risk management role (Hay et al. 2014). As Hay et al. (2014) point out, evidence supporting the economic reasons for auditing is still relatively scarce and also difficult to obtain in mandatory audit settings. While research on public companies therefore resorts to alternatives such as auditor choice (Big N auditor or not), auditor industry specialization and audit fees, private company auditing research may be very instrumental for this purpose. Recently, a number of studies have exploited changes in regulatory regimes on mandatory audit for private

companies (see Section 2), resulting in some important insights into the real economic benefits of auditing (e.g. Lennox and Pittman 2011, Langli 2015, Kausar et al. 2016). These studies are discussed in more detail in Section 6.

Compared with public companies, where separation of ownership and control is the major agency conflict and driver of audit demand, there are arguably many more reasons for audit demand in private companies. This is due to the significant variety in the nature of public and private companies. As explained in detail by Langli and Svanström (2014), public companies differ from private companies on a number of important dimensions. For example, there is typically less agency conflict between shareholders and managers in private companies since they commonly have more concentrated ownership, or family ties exist between CEOs, shareholders and board members, and major capital providers have direct access to information (e.g. Petersen and Rajan 1994). As a result, the types of agency conflicts in private companies are different (e.g. more agency conflict between majority and minority owners, and/or between owners and creditors and tax authorities) (Langli and Svanström 2014). Apart from the desire to mitigate these agency problems, audit demand can be created by contractual constraints imposed on the organization by creditors (Abdel-Khalik 1993), by other needs including supporting managers' decisions or obtaining business advice (e.g. Chow 1982), as a compensation for organizational loss of control in hierarchical organizations owned by management (Abdel-Khalik 1993), or to improve operational efficiency and effectiveness. Below we further summarize insights obtained from empirical studies on the drivers of voluntary audit demand.

Abdel-Khalik (1993) was one of the first to examine drivers of voluntary demand for auditing. Using survey data on a sample of privately held US companies, of which more than 77% were audited, he concluded that, in line with the discussion above, private firms choose audits to compensate for loss of control when there is a longer chain of command and observability of subordinates' actions decreases, and to comply with creditor-imposed constraints.

Also in the US, Allee and Yohn (2009) find that small private companies are more likely to engage a professional to compile, review or audit their financial statements if the company is older (and thus often more complex, increasing management decision-making needs) and has more employees (resulting in more contracting relationships), but less likely when owners have a higher level of education. However, Cassar and Ittner (2009) find that US private startup companies are more likely to engage an external accountant when the owners have accounting experience, suggesting that they are more aware of the benefits of having an external accountant.<sup>2</sup> In a US-based study that mainly focuses on the role of financial statement verification in debt pricing (see also Section 6), Minnis (2011) also examines the drivers of voluntary audit demand, and finds that audit choice is significantly positively related to company size, negative equity, property, plant and equipment, and a more sophisticated incorporation status. Lisowsky and Minnis (2015) find that more than 60% of the privately held large companies in their US sample is not audited. Extending prior work, they also find that firms are more likely to be audited when they are larger, are growing, have more dispersed ownership, have more debt, have more accounts payable (highlighting the importance of relationships with suppliers) and a more sophisticated incorporation status. Firms are less likely to be audited when they are more profitable and when they are older.<sup>3</sup> Finally, focusing particularly on the US construction industry and on the impact of economic growth, Lisowsky et al. (2016) find that during periods of economic growth external banks require substantially less verification of financial statements, whereas the opposite is true in periods of economic contraction.

A number of studies have addressed (changes in) audit exemption thresholds in examining the voluntary audit demand by private companies. In a UK survey Collis et al. (2004) find that 63% of the privately held companies in their sample that would be exempt when the first largest threshold change was put in place in 1999, would opt for a voluntary audit. This suggests that the majority

of these companies consider the benefits of an audit to outweigh the costs. Furthermore, the respondents considered agency relationships among owners and with lenders to be important determinants of these firms' audit demand, along with the size of the company and the education of the principal director. Also using data collected by means of a survey, Collis (2012) investigates the auditing and filing choices of a sample of 592 small UK private companies (of which 419 are micro-companies) after the UK adopted the modified EU maximum size thresholds in 2004. Collis finds that 39% (22%) of these small (micro) companies opt for a voluntary audit, and that this demand increases in company size. Small companies are also more likely to have an audit when they believe their auditor provides them with useful advice, suggesting management factors play a role in the demand for voluntary audit. Agency factors also play a role, as companies are more likely to have an audit when their investors and lenders ask for it, whereas demands from other stakeholders or family ownership do not seem to have an impact. The results also suggest that companies that voluntarily choose an audit do find that the costs of the audit are outweighed by the benefits. Interestingly, while in non-micro small companies, voluntary audit is mainly determined by cost and agency factors, Collis (2012, p. 23) concludes that 'although there is some commonality between the two size groups, the audit decision in micro-companies is driven by a wider range of benefits that include both management and agency factors.'

To complement these findings with empirical archival data, Dedman et al. (2014) examine audit choices of recently exempted UK private companies and find that these voluntarily choose an audit if they have larger agency costs (i.e. they are larger, more complex, have higher leverage, greater ownership dispersion and larger boards), are riskier, want to raise capital, purchase non-audit services (NAS) from their auditor and demand more assurance under the mandatory regime. Dedman et al. (2014) further document that 71% of these companies retained the auditor in 2004, 60% in 2005 and 52% in 2006, which would suggest a trend away from having an audit. Importantly, the mean total assets of the companies in the sample of Dedman et al. (2014) is £1.2 million.

The percentages of companies voluntarily opting for an audit are much smaller for small private companies. Clatworthy and Peel (2013) report for a sample of over a million UK small companies (minimum total assets of £500 and mean total assets of £286,490) that only 3% choose to be audited. Similarly, Liu and Skerratt (2017) report that the proportion of small companies having an audit (mean total assets of £490,000) – excluding those that would later be classifiable as micro-companies – dropped from 50.6% in 2006 to 9.5% in 2013, and for micro-companies (mean total assets of £60,000), it decreased from 47.3% in 2006 to 4.5% in 2013.

Senkow et al. (2001) and Rennie et al. (2003) also address audit choice in the context of audit exemption regulation, but in a Canadian setting. Where economically significant private companies were subject to a statutory audit before, from 1994 onwards all private companies in Canada were exempted from mandatory audits and were also released from the requirement to file financial statements. Using data collected by means of the same survey, both Senkow et al. (2001) and Rennie et al. (2003) find that although voluntary demand decreased after the exemption was put in place, 73% of the respondent companies still demanded a financial statement audit from their auditor, mainly due to lender and owner requirements. The remainder had either opted for a review or no assurance at all, primarily for cost savings reasons.

Prior to 1998, external audits were not mandated for Australian private companies.<sup>4</sup> Carey et al. (2000) investigate voluntary (internal and external) audit demand by Australian family businesses by means of data collected through a survey. The authors find that family firms are more likely to engage an internal than an external auditor. They also find that a family firm is more likely to engage an external auditor when they have more debt, when the proportion of non-family management is higher and when the proportion of nonfamily directors on the board of directors is higher. No such relationships are found for the demand for an internal auditor.

Niemi et al. (2012) consider the impact of changes in exemption thresholds in Finland. Whereas all Finnish private companies were subject to a statutory audit prior to 2007, a change in legislation exempted smaller private companies under certain size thresholds from such an audit from 2007 on. By means of a survey conducted in 2005, Niemi et al. (2012) examine the audit choice of small private companies that are likely to be affected by the change in legislation. They find that 60% of their sample firms would demand a voluntary audit, and that this audit choice is increasing in company size and respondents' agreement with the statements that the audit is a check on internal records and that the audit increases the quality of financial statement information. Additionally, respondents are also more likely to choose a voluntary audit when they find that financial accounting services and tax services provided by the external accountant are important to the company, and when they are in financial distress. They are less likely to do so when they have received a qualified audit report.

Putting audit demand in a wider international context, for a sample of private companies from 80 countries, Francis et al. (2011) examine whether voluntary use of assurance services is a complement to strong country-level institutions or a substitute for the lack of such institutions. Their results show that in countries with strong institutions, firm incentives and country factors are equally important in explaining the demand for voluntary assurance services, suggesting institutions and assurance services are complements. In contrast, in countries with weaker institutions, firm incentives are more important than country factors in explaining the demand for voluntary assurance services, suggesting that assurance services act as a substitute for weaker institutions. Most recently, Minnis and Shroff (2017) conducted a survey across 33 countries throughout Europe, and concluded that 58% of the 2032 mainly small companies in the sample would not have financial statements audited because of the costs (fees, 60% and management time, 54%) and the perceived lack of benefit (42%).

Next to studies focusing on private companies' voluntary audit demand, a number of studies focused on samples of audited private companies to examine auditor choice issues. Examining a sample of UK private companies subject to statutory audit, Chaney et al. (2004) find that these companies choose the auditor that best fits them based on company characteristics; in particular, companies that are larger, have higher leverage, a relatively higher proportion of current assets and with higher non-UK sales are more likely to hire Big 5 audit firms, consistent with agency and risk-related incentives. Furthermore, based on a concurrent examination of audit pricing for the selected sample, the authors also find that based on their company-specific characteristics, private companies seem to self-select the most cost-effective auditor.<sup>5</sup>

For a similar sample, Lennox (2005) focuses on the relationship between auditor choice and management ownership, testing the impact of agency problems between managers and shareholders. He finds that for both low and high percentages of management ownership the likelihood of selecting a large (high-quality) auditor (measured as Big 5 auditor) is lower, in line with divergence-of-interests effects, whereas in the intermediate range of management ownership, the likelihood is slightly positive, corresponding to an entrenchment effect that allows shareholding managers to act in their own best interest.

US-based research that examines auditor choice in the private company segment is scarce. One of the rare examples is Fortin and Pittman (2007). In their study on the impact of auditor choice on debt pricing (see also Section 6), they examine determinants of auditor choice in the first stage of their analyses, and find that more complex firms (proxied by the square root of the number of employees) are more likely to select larger (Big 4) auditors.

Three studies have examined auditor choice by private companies in Finland. As the data used in these studies date from before 2007, virtually all private companies in these studies' samples were subject to a statutory audit (see above). All three studies also consider the specific characteristics of the Finnish audit market, where there is a two-tier system of auditor certification, with first-tier

auditors considered to deliver higher-quality audits than second-tier auditors; and where very small private companies are allowed to engage non-certified auditors (but other private companies are required to hire certified auditors, either first-tier or second-tier) (Knechel et al. 2008). Knechel et al. (2008) find that these very small companies are more likely to hire certified (as compared to non-certified) auditors when they are more complex and larger. The choice between first-tier and second-tier auditors is affected by company complexity and company size as well, but also by the company's leverage. Finally, companies are more likely to select international (Big 6) rather than other auditors when they are larger, more levered and are financed by external equity.

Niskanen et al. (2010) focus on the role of family ownership and control in auditor choice by small private Finnish firms. They find that family-held or family-controlled firms are less likely to hire a Big 4 audit firm. Furthermore, an increase in family ownership decreases the likelihood of hiring a Big 4 auditor. These results suggest that a higher concentration of family ownership and control decreases these firms' agency costs and hence the need for higher quality outside monitoring by Big 4 audit firms. Finally, for a similar sample Niskanen et al. (2011) examine the relationship between managerial ownership and auditor choice. They find that the demand for audit quality (Big 4 auditors) increases when managerial ownership decreases and when leverage increases, and decreases when CEO duality (i.e. when the CEO is also the chair of the board) increases. According to the authors this suggests that Big 4 audits seem to have more value for the shareholders than for the creditors in their sample of firms.

Hope et al. (2012) examine related issues in a Norwegian setting, where, at the time of their study, all private companies were subject to a statutory audit. They expect firms with higher agency costs to be more likely to hire high-quality auditors, but their results only partially support this expectation. In particular, whereas they find that companies are less likely to hire Big 4 auditors when ownership concentration and the level of ownership of the second-largest owner increases and when there are family relationships between the board and the largest owner, CEO ownership and family relationships between the CEO and owners and between board members and the CEO do not seem to have an impact.

Finally, in similar fashion to Francis et al. (2011), Broye and Weill (2008) examine auditor choice in a multi-country setting. For a sample of primarily unlisted firms from 10 EU countries,<sup>6</sup> the authors examine how a country's legal environment affects the relation between auditor choice and leverage, as a proxy for agency problems between insiders and debt holders. They find that in countries with strong protection of creditor rights and more stringent disclosure requirements companies with high leverage are more likely to select higher quality auditors, suggesting a complementary rather than a substitution relation between legal environment and audit quality. Furthermore, in countries with lower auditor liability exposure, companies with high leverage are more likely to select Big 5 auditors, suggesting audit quality is more important to debtholders when the ability to sue the auditor is lower.

Summarizing, whereas the primary reason for economic audit demand in public companies stems from agency conflicts resulting from separation of ownership and control, there is much greater variation in drivers of private company audit demand. Although private companies are also subject to agency conflicts, the types of conflicts are different and more varied compared to public firms. Studies have shown that private companies tend to require voluntary audits when they are larger, more complex, have more contractual relationships with external parties such as creditors and suppliers, and when they require advice or consulting services that are provided by their external auditor. Results show that private firms require higher audit quality for similar reasons. Results also show that the proportion of firms that (would) voluntarily require an audit decreases over time and is smallest for the smallest companies, suggesting that these companies would stand to benefit least from an audit, and that costs of such an audit are not outweighed by the related benefits.



### 3.2. *Audit supply*

Similar to differences in audit demand between public and private companies, there are also major differences in audit supply. First, the audit market for private companies is much less concentrated compared with the audit market for public companies in which the Big 4 audit firms are the dominant players (Langli and Svanström 2014). At the same time, however, the largest private firms are typically audited by a Big 4 auditor. For example, Oxera (2006) reports that the Big 4 audited 79% of the top 100 UK private companies in 2005. Audit market concentration is an important area of concern to regulators, but it is often confused with a potential lack of market competition. Although concentration levels are much lower for the private segment market, consolidation occurs in the private segment market as well, similar to the consolidation trend between the big international audit firms. For example, Willekens and Achmadi (2003) document for the Belgian audit market of private companies that concentration increases significantly between 1989 and 1997. However, this does not seem to have led to decreased price competition, but rather to increased price competition as the impact of the auditor's market share on audit fees decreased significantly during this period, as did the effect of auditor switching on fees.

Second, many of the new regulations that were implemented in the past decade to promote auditor independence do not apply to private companies. For example, EU regulations that involve issues such as audit firm rotation, audit partner rotation and banning most non-audit services, contained within the Eight EU Directive, only apply to public-interest entities. However, potential threats to independence are arguably higher for the audit of private firms because of the risk of social bonding due to long-term relationships, local anchoring and familiarity (Langli and Svanström 2014). The provision of non-audit services to private audit clients may further increase this social bonding. In addition, private companies are typically serviced by smaller audit firms which have less reputational capital at risk, and the risk of litigation is also lower. Hence, auditors' incentives to provide high-quality audits and serve the public interest rather than pleasing the client may be lower when auditing a private rather than a public client. At the same time, Hope and Langli (2010) do not find evidence that auditors compromise independence through fee dependence.

Third, in contrast to the well-documented audit fee premium paid to Big N auditors in the public client market segment (Hay et al. 2006), evidence of such a premium is much less clear for private companies. For example, based on a sample of UK private companies, Chaney et al. (2004) find no support for a Big 5 premium when controlling for auditor self-selection, suggesting that Big 5 auditors are not viewed as superior in terms of perceived quality of the services. However, both Clatworthy et al. (2009) and Lennox et al. (2012) criticize this finding and argue that the Heckman model that Chaney et al. (2004) use to control for auditor self-selection in examining the Big 5 premium in audit pricing is sensitive to design choices. Using a large cross-sectional sample of UK private firms, and what the authors consider a more stable matching approach, Clatworthy et al. (2009) demonstrate that the Big 4 premium is persistent and in line with that found in prior studies that have employed single-stage OLS techniques.

Finally, audit quality in smaller audit firms servicing smaller private clients may be much more dependent on the competence, judgment and integrity of the individual auditor since audit teams and the pool of colleagues to consult are typically smaller and the quality control systems (including internal monitoring) less sophisticated (Langli and Svanström 2014).

Whether audit quality, and financial reporting quality in particular, is lower for private companies compared to public companies will be addressed in Section 5. Furthermore, in Section 5 we also review studies on audit quality differentiation within the private client market segment. However, in the next section we first address the value of auditing for private companies.

#### 4. Value of auditing

What is the value of auditing for private companies? This is a non-trivial question since, as outlined earlier (Section 2), regulators across the world have imposed different audit requirements for private companies, ranging from exempting all private companies to mandating audits for all but the very smallest of private companies; and they also change regulations over time, from introducing a mandatory audit for private companies meeting certain size criteria to significantly increasing the audit exemption size thresholds. Furthermore, some argue that the audit is an easy to attain commodity and as a result does not add value to the client (e.g. Goldman and Barlev 1974). In addition, creating value is perceived as something that puts audit quality at risk. However, other scholars argue that auditors add value to clients because of value-added items that are related to the audit service, such as business risk analysis, a management letter and feedback on internal client processes (Eilifsen et al. 2011). The idiosyncratic nature and thus uniqueness of an audit, arising from differences in client characteristics, audit teams, timing of work, assessed risk and procedures used, is also believed to translate into quality and value, ideally of a kind that is tailored to the client and its stakeholders (Knechel et al. 2013). Furthermore, audit firms themselves claim to add value.<sup>7</sup>

The value of an audit can be conceptualized as the positive difference between the utility of the audit for the various stakeholders and the costs associated with the audit (Lambert et al. 2016). Similar to public companies, improving and signaling the reliability of accounting information to stakeholders is arguably one of the major aspects of the value of auditing for private companies as well, which we address in Section 5. However, particularly in the private setting, auditors are likely to provide benefits to private companies that go beyond improving the quality of financial reporting. These benefits can be internal and external in nature. The external or real economic benefits of auditing for private companies are discussed in Section 6. In the current section, we focus more on internal benefits. Clearly some of the internal benefits may ultimately translate into external benefits. For example, as auditors provide assurance through comprehensively evaluating the firm's accounting operations and controls, the audit can reduce the likelihood of fraud by management by validating the effectiveness of how cash is transferred and monitored throughout the firm (Cassar 2011).

As pointed out by Van Tendeloo and Vanstraelen (2008), auditing in private firms can be functional to help alleviate agency conflicts between owners, managers and banks, and can also be useful for managerial performance evaluation since these firms lack market measures of firm value. With regard to agency conflicts, Hope et al. (2012) find for a sample of Norwegian private companies that auditors spend more effort (proxied by audit fees) on audits of companies with higher agency costs. Further, as outlined earlier, auditors are perceived as valuable in supporting managers' decisions or obtaining business advice (e.g. Chow 1982), to compensate for organizational loss of control in hierarchical organizations owned by management (Abdel-Khalik 1993), or to improve operational efficiency and effectiveness. Indeed, one of the reasons why firms value auditors is because of the demand for the other services that they provide, such as guidance on application of accounting principles, advice on internal controls and general business advice (Beattie et al. 2000). There is arguably a higher need for these non-audit services (NAS) in private firms (Cassar and Ittner 2009).

There is debate in the auditing literature on the costs and benefits of non-audit services. On the one hand, NAS are argued to increase auditor competence, while on the other hand, they may harm auditor independence. Since the Enron case, provision of NAS to public-interest entities has been gradually restricted both in the US and in Europe. However, in many countries auditors are still allowed to provide NAS to their private clients. Some studies have looked into the impact of NAS on audit quality for private companies but the results appear inconclusive. For example,

based on a sample of Swedish private audited firms, Svanström (2013) finds that audit quality, captured by discretionary accruals and a measure of manager-perceived audit quality, is positively associated with the provision of NAS in general and provision of accounting services in particular. This would provide support for a knowledge spillover rather than impaired independence. In contrast, for a sample of private firms in the US Bell et al. (2015) find evidence of a negative association between NAS and audit quality, captured by audit firms' internal audit quality measures.

The value derived from auditing by private companies also appears to depend on the type of relationship that clients have with their external auditors. Based on a survey of Canadian financial executives in private corporations, Fontaine and Pilote (2012) document that the preferred type of relationship is relational. A relational approach implies a trusting, long-term and cooperative relationship. At the same time, Fontaine and Pilote document that clients do want the auditor to remain at arm's length for the sake of auditor independence.

Focusing on the value creation paradigm derived from the service marketing and business management literature, Lambert et al. (2016) show that value co-creation may be beneficial for both the internal and external value of the audited financial statements. While the results of their study are based on public companies, the findings are likely to be generalizable to the private setting and consistent with Knechel et al. (2015a), arguing that an audit would be more effective if the interactions between auditors and auditees are collaborative, in order to minimize information asymmetries between the client and the auditor.

Overall, similar to audits of public firms, a large part the value of private company audits is associated with verification of the reliability of the company's accounting information for the benefit of its stakeholders. In addition, more so than public companies, for which provision of many such services by the incumbent auditor is prohibited by regulators for auditor independence considerations, private companies derive value from non-audit services provided by their auditor.

## 5. Financial reporting quality<sup>8</sup>

Following Barton and Waymire (2004), mandatory auditing is an important policy mechanism which can be used by governments to regulate the supply of reliable accounting information to investors. Indeed, a number of studies provide empirical evidence suggesting that auditors positively affect financial reporting properties in private firms. For example, Clatworthy and Peel (2013) show that audited UK private companies accounts are less likely to contain accounting errors. Just a few of these studies exploit a regime shift to compare financial reporting quality of private companies opting to retain the audit to that of private companies opting out of the audit. For example, Dedman and Kausar (2012) exploit the major audit exemption threshold change for private companies in the UK in 2004 and examine the impact of voluntary audit choice on earnings quality. Their results show that companies that opt out of the audit have less conservative financial reporting. Langli (2015) examines a similar question for Norway where the smallest private companies were exempted from a mandatory audit in 2011. While the results do not support a general decline in earnings quality among companies that opted out of having an audit, Langli does find that companies that opt out and have a high potential for earnings management have reduced earnings quality. Most recently, and for the same setting, Downing and Langli (2016) find that firms that do not choose to have an audit have lower reporting system quality (using a measure constructed by the authors based on inspections of the Norwegian Directorate of Taxes) than firms that choose to continue to be audited. Furthermore, quality continues to decline for firms that chose not to be audited anymore, but some of these firms mitigate this quality decline by hiring external consultants.

The large majority of studies, however, has focused on the impact of auditor characteristics, or the related institutional setting, on financial reporting quality of private companies that are subject

to a mandatory audit. Most of these studies investigate the impact of the type of auditor (Big N auditor or not). Some of these studies find support for a difference in private company financial reporting quality between Big N and non-Big N auditors. For example, in a Spanish setting Arnedo Ajona et al. (2008) find that Big N auditors are associated with lower discretionary accruals. Cano-Rodríguez (2010) also investigates the Spanish setting and considers the level of conservatism as a proxy for financial reporting quality. His results show that private clients of Big N auditors show more conditional conservatism than those of non-Big N auditors, reflecting a higher level of contracting efficiency for these Big N auditees. At the same time, Cano-Rodríguez finds that private Big N auditees also exhibit higher unconditional conservatism, reducing the quality of accounting information, but only for auditees that represent higher levels of litigation and reputation risk. Van Tendeloo and Vanstraelen (2008) expect to observe a Big 4 audit quality effect for private companies only in high tax alignment countries, where financial statements are more scrutinized by tax authorities and as a result the probability of detection of an audit failure is likely perceived to be higher. Consistent with these predictions, for a sample of EU countries Van Tendeloo and Vanstraelen (2008) find that Big 4 audit firms constrain earnings management in private firms more than do non-Big 4 audit firms, but only in high tax alignment countries. Most recently, Che et al. (2016) report for a sample of Norwegian private companies that companies switching from a non-Big 4 auditor to a Big 4 auditor exhibit less earnings management.

On the other hand, some studies do not find evidence that supports audit firm quality differentiation in the private client market segment. For example, for a sample of Belgian private companies Vander Bauwhede and Willekens (2004) find that discretionary accruals do not differ between clients of Big 6 and non-Big 6 auditors, nor do they find that any of their other auditor size proxies have a significant impact on discretionary accruals. Building on these findings, Gaeremynck et al. (2008) find no difference in financial reporting quality between private Belgian Big 6 auditees and non-Big 6 auditees. However, they do find that audit-firm portfolio characteristics such as visibility and financial health are significantly better predictors of financial reporting quality than the traditional Big N variable, and that financial reporting quality is higher for clients from audit firms that generally have larger and financially healthier clients.

Yet other studies have compared financial reporting quality between audited financial statements of public firms and audited financial statements of private firms. A well-cited study in this regard is Burgstahler et al. (2006). Based on a sample of companies from different EU countries they find evidence of significantly more earnings management in private firms than in public firms, and particularly in countries with low-quality legal enforcement. Similarly, Ball and Shivakumar (2005) find that private firms incorporate losses in a less timely fashion than public firms. Similar studies have been conducted in individual countries, which do not always provide similar conclusions. For example, Vander Bauwhede et al. (2003) find for a sample of public and private audited Belgian firms that earnings management is higher for public firms than for private firms when they have above-target earnings and have incentives to smooth earnings downward. In this regard, it is important to note that measures of financial reporting quality which are typically used in public firms may not necessarily apply to private firms (Hope and Vyas 2017). Future research could benefit from the development of appropriate accounting quality measures in private firms.

In general, research shows that private companies that are voluntarily audited have higher financial reporting quality than those that are not. Similarly, financial reporting quality is higher for private companies that are audited by higher quality auditors, but this latter finding depends on the institutional setting. This also applies to studies that compare financial reporting quality of audited public firms with that of audited private firms.

## 6. Real economic benefits of auditing

Other than improving the reliability of financial information, auditing is expected to result in real economic benefits for companies that subject their financial statements to an audit. A number of studies have investigated this issue for private firms, which has resulted in some interesting insights.

In an early study, Blackwell et al. (1998) find for a US sample of private firms of which 37% were voluntarily audited that the audited firms pay significantly lower interest rates on revolving bank loans than unaudited firms, even though these audited firms are riskier than unaudited firms. At the same time, the authors document that the interest rate savings are decreasing in firm size. Overall, the interest rate savings seem economically substantial as they cover between 28% and 50% of the firm's audit fees. Allee and Yohn (2009) further find that US private firms are more likely to be granted access to credit when they choose to have their financial statements audited compared to when they do not. Kim et al. (2011) make use of a sample of private Korean companies, where audits are voluntary below a certain size threshold, to examine the impact of a voluntary audit and audit quality (proxied by the Big 4–non-Big 4 dichotomy) on debt pricing. They find that interest rates are significantly lower – both statistically and economically – for voluntarily audited compared to unaudited private companies, but that interest rates do not differ significantly depending on auditor type. Furthermore, the results show that clients that change from no audit to a voluntary audit enjoy greater interest rate savings than do clients that change from no audit to a mandatory audit, suggesting, as the authors say, that financial statement credibility increases more from voluntary than from mandatory audits.

Further building on research examining the relationship between auditing and debt pricing, Minnis (2011) argues that auditing is expected to improve the predictive ability of (the accrual component in) reported net income for future cash flows, reducing information asymmetry which would explain why firms with audited financial statements are expected to have a lower cost of debt than firms with unaudited financial statements. Consistent with this prediction, Minnis (2011) finds for a large proprietary dataset of US private firms, of which only 25% are audited, that audited firms pay a significantly lower interest rate on debt, and that debt providers place more weight on audited information than on unaudited information in pricing the debt. In other words, Minnis (2011) confirms the empirical evidence of Blackwell et al. (1998) and Kim et al. (2011) that financial statement verification influences lenders' pricing decisions, but finds that in addition to verification affecting the average level of debt pricing, lenders also use audited financial statements more intensively in establishing the interest rate.

Prior studies that find that audited companies benefit from lower debt financing and less credit rationing (e.g. Blackwell et al. 1998, Allee and Yohn 2009) typically compare voluntarily audited private companies with unaudited companies. In contrast, Lennox and Pittman (2011) are the first to investigate a regime shift in the UK from mandatory to voluntary auditing as a natural experiment. As discussed in Section 2, a number of changes in the size thresholds for mandatory audits of private companies exempted progressively more private firms from these mandatory audits, making the audit voluntary instead. Considering firms that are audited under both the mandatory and voluntary regime allows the researchers to isolate the signaling role of an audit from the assurance benefits provided by an audit, as the latter are unlikely to change for audited firms when going from a mandatory to a voluntary regime. Indeed, as Lennox and Pittman (2011, p. 1659) argue: 'Private companies provide an opportune setting for analyzing the assurance and signaling benefits of auditing, given that their information structure is typically poor relative to public companies.' In line with their expectations, the results show that credit ratings are upgraded for UK private firms that voluntarily choose to stay audited after a regime change that allows exemption, and downgraded for firms that opt out of a voluntary audit after the regime change, suggesting that

a voluntary audit indeed has a signaling role, a role that is missing in a mandatory setting. Making use of the same regime shift, Dedman and Kausar (2012) find results consistent with Lennox and Pittman (2011), in that they show that UK private companies that choose to stay audited have higher credit scores than companies that opt out of an audit, despite the audited firms having lower profitability than the unaudited firms.

Similar to Lennox and Pittman (2011) and Dedman and Kausar (2012), Langli (2015) uses the Norwegian setting as a natural experiment since the smallest private companies were exempted from a mandatory audit in 2011. However, Langli (2015) finds no support for a negative impact on interest rates and access to credit for the small Norwegian private firms that opted out of an audit after the regime change allowed them to do so. What is more, he computes the net savings (i.e. the savings from not paying audit fees adjusted for other effects, including increased fees to accountants and higher interest rates on loans) from opting out for these companies to amount to around NOK 20,000 (or €2000) per company. At the same time, Langli (2015) does find that the quality of tax returns has declined for companies that opt out, but only if these companies also do not get help from an accountant. In a US setting, Cassar et al. (2015) examine whether and to what extent different information sources reduce information symmetry, decreases likelihood of loan denial and cost of debt. In line with Langli's (2015) results, they find that provision of audited financial statements has no impact on loan denial or cost of debt for small business debt.

Most recently, Kausar et al. (2016) further exploit the natural experimental setting offered by the UK regime shifts to complement the insights of Lennox and Pittman (2011). They find that firms that voluntarily retain the audit significantly increase their debt (between 4% and 7%) and investment (between 7% and 12%), have lower cost of debt (4–9%), and higher operating income (6–12%). Also, firms that go back to mandatory audits decrease their debt and investment and have higher cost of debt, since, as the authors indicate, their audit choice becomes unobservable. The authors argue that their study not only shows the verification benefits of the audit, but also the additional information contained within the choice to retain the audit (i.e. the audit choice). Hence, consistent with Lennox and Pittman (2011), the authors conclude that mandating the audit for private firms obscures information in firms' voluntary audit choice.

Finally, like Broye and Weill (2008) and Francis et al. (2011) discussed earlier, Hope et al. (2011) consider financial reporting credibility in an international context. For a sample of private firms from 68 countries they examine the impact of financial reporting credibility and the role of controlling ownership in the firm on financing constraints. They find that firms that have their financial statements reviewed by an external auditor face lower financing costs and have fewer problems in gaining access to external finance. This effect is even more pronounced in the presence of a controlling shareholder, but only for firms in countries with weak creditor rights.

For samples of private audited companies, studies have generally shown that the type of auditor and audit outcomes matter for the extent of enjoyed economic benefits. DeFranco et al. (2011) focus on the private company discount (PCD) that prior research has shown to exist when companies sell off all their shares or assets. They indicate that in such a setting incentives for managing earnings upwards are particularly salient, suggesting there are benefits from engaging a high-quality (Big 4) auditor, particularly given the relatively poor information environment of private firms. In line with their arguments, DeFranco et al. (2011) find that the PCD is lower for US private firms with Big 4 auditors compared with firms with non-Big 4 auditors.

Both Karjalainen (2011) and Cano Rodríguez and Sánchez Alegría (2012) examine the relationship between audit quality and the cost of debt.<sup>9</sup> For a sample of private Finnish firms that are all subject to a mandatory audit, Karjalainen (2011) documents that firms with Big 4 auditors and with more than one responsible auditor have a lower cost of debt. Furthermore,

companies with a modified audit report and with lower quality accruals have a higher cost of debt. These results suggest that both perceived audit quality (auditor type) and audit outcomes (audit report type and earnings quality) affect the cost of debt in private firms. For a sample of public and private Spanish companies, Cano Rodríguez and Sánchez Alegría (2012) examine whether providers of debt take audit quality (captured by the choice between Big N and non-Big N auditors) into consideration in pricing debt. They find that Big N auditors are associated with significantly lower cost of debt for private companies, but not for public companies. The authors argue that this is due to higher information asymmetry between a private firm's manager and external stakeholders, and the unavailability of alternative monitoring mechanisms for the manager of a private firm.

In contrast, Fortin and Pittman (2007) fail to find evidence consistent with the results above that suggest private firms benefit from hiring a high-quality auditor. For a sample of audited US private firms, they examine the association between audit quality and debt pricing and find that private firms' bond yield spreads or credit ratings are not associated with auditor choice (Big 4 versus non-Big 4 auditor). They find that these results are equally valid for private firms that are likely to have particularly high information asymmetry (and hence, would stand to benefit most from engaging a high-quality auditor). The authors caution that their results may not generalize to financial statement users outside those considered in their study, encouraging future research to consider the issue in a wider context.

Overall, it seems that private company audits generate real economic benefits in the form of lower interest rates on debt, higher credit ratings and better access to credit, particularly when the audit is voluntary rather than mandatory. In contrast, findings on the economic benefits of auditor choice for private companies are less clear, with some studies finding lower cost of debt for private firms with higher quality auditors, while another finds that private companies' debt pricing is not associated with auditor choice.

## **7. Conclusion and directions for future research**

Countries differ as to whether they have audit requirements for private companies, even when they have financial reporting and filing requirements for such firms. There are also disagreements as to whether audit requirements should be the same for all companies or should differentiate among companies, for example, according to the companies' public or private status and their size. Views also differ as to how far audit is simply a burden or whether it produces benefits that outweigh its costs. Hence, the question of the value of auditing for private companies is a legitimate and non-trivial one. The purpose of this study is to provide an overview of insights from the literature on what we currently know about the costs and benefits of auditing private company accounts.

Our main conclusion is that the cost-benefit analysis for private companies' audits is firm-specific. Research has shown that voluntary audit demand in private companies is a function of different firm characteristics including the size, complexity, level of debt and financial condition of the company, its ownership structure and the quality of the institutional environment in which it operates. In addition, there is much greater heterogeneity in reasons driving audit demand in private companies compared to public companies caused by the very different nature of private companies. The drivers of audit demand for private companies range from mitigating agency conflicts and meeting contractual constraints to improving operational efficiency and effectiveness and obtaining business advice. Hence, auditors are likely to provide benefits to private companies beyond financial reporting. Overall, private company audits generate real economic benefits in the form of lower interest rates on debt, higher credit ratings and better access to credit. At the same time, while prior research provides support for real economic benefits

for private companies choosing to have their financial statements audited, some private companies choose not to be audited if they are not required to do so. For example, as argued by Lennox and Pittman (2011), the most likely reason why private companies choose to opt out of the audit despite the resulting downgrades in their credit ratings found by these authors in their study is that the cost of the audit is insufficient to compensate for the cost of a lower credit rating.

Recently, Langli (2015) estimated that Norwegian small companies opting out of the audit after a regime switch that exempts small private companies from mandatory audits can save around NOK 20,000 (€2000) per company net. It is interesting to note that Langli (2015) further finds that the audit industry seems to have managed the adjustment well since revenues in the Norwegian audit industry have remained relatively unchanged in the period surrounding the regime shift. Figures from different countries where a regime shift from mandatory to voluntary audit took place also show that a substantial proportion of larger private companies choose to continue to be audited when exempted (e.g. Rennie et al. 2003, Collis et al. 2004, Niemi et al. 2012).

Importantly, researchers investigating a regime shift from a mandatory to a voluntary audit conclude that mandating the audit for private firms obscures information in firms' voluntary audit choice (Lennox and Pittman 2011, Kausar et al. 2016). In other words, the benefits of mandatory audits of private companies are not clear. As explained, private companies may have incentives to voluntarily demand an audit. By making the audit mandatory, part of the signaling function appears to get lost. Furthermore, mandating the audit also does not seem to be cost-effective for all private firms and thus optimal from an economic point of view. Instead of an audit, a review may be a more cost-effective way for some private companies to add credibility to their financial statements. In this regard, the FEE (2016) recently also concluded that the current and future needs of SMEs could be met with a number of alternative service offerings (e.g. a review) besides statutory audits.

At the same time, concern has been expressed about the trend of increasing size thresholds exempting private companies to be audited. In particular, following Barton and Waymire (2004), mandatory auditing is an important policy mechanism which can be used by governments to regulate the supply of reliable accounting information. Hence, there is concern that increasing audit exemptions may result in a move toward lower financial reporting quality of private companies. There is some merit in this argumentation since a number of studies provide empirical evidence suggesting that auditors have an impact on financial reporting properties and positively affect earnings quality in private firms. However, the results of Lennox and Pittman (2011) show that the audit fees of companies deciding to opt out of an audit after being exempted were relatively low compared to the fees of companies voluntarily choosing to continue to be audited. This would suggest that private companies with low demand for high-quality audit are able to find such an auditor. Hence, having a mandatory audit in place is no guarantee for high-quality audits and this seems most salient for private companies since auditors of private companies may be more prone to independence issues. Future research would be able to provide more evidence on whether and how audit exemptions for private companies affect financial reporting quality over time. We note that such type of studies should be aware of the fact that there might be a data selection bias because as soon as one requires audit fee data (or other income statement data), a large number of firms that did not file an income statement are automatically excluded from selection.

Another interesting avenue for further research is to investigate the macro-effects of a policy that significantly lifts the size thresholds for private company audits, or abandons it altogether. For instance, in periods of loose credit supply lenders may misallocate capital to a larger share of the economy if private company information is unaudited and hence of lower quality. In other words,



the policy effects of lifting mandatory audits for private companies are likely not confined to costs for the contracting parties only.

To further understand how private company audits affect financial reporting information and disclosures, research could benefit from having access to proprietary pre-audited financial statements and working documents. This would provide insights in the type and extent of misstatements detected and how these are evaluated by the auditor, and the impact of auditors on financial reporting disclosures. Investigating the auditor's evaluation of misstatements and their role in financial reporting information and disclosures allows assessing the direct impact or value of the audit, which is in contrast to commonly used and arguably noisy measures (e.g. abnormal accruals) of audit quality in the literature. This would also be in line with a recent call for research on the link between financial reporting quality and audit quality (Gaynor et al. 2016). While we acknowledge that obtaining access to proprietary data of audit firms is challenging, this may not be impossible, and especially for private client companies audit firms may be more willing to cooperate.<sup>10</sup>

While empirical evidence supports the notion that private company audits affect financial reporting quality, there appears to be less consensus on the extent of audit firm quality differentiation in the private client market segment. Furthermore, audit quality in the private client market segment may be much more dependent on the competence, judgment and integrity of the individual auditor, especially for smaller audit firms servicing smaller private clients. We believe that is an interesting avenue for future research. DeFond and Zhang (2014) recently also called for more research on individual auditor characteristics, such as professional skepticism, which is a critical feature of the audit process. Individual auditors may also influence economic outcomes. For example, Knechel et al. (2015b) provide empirical evidence on the impact of Big 4 auditors on economic outcomes by showing that the market penalizes public and private client firms audited by aggressive partners. For private firms this is reflected in higher implicit interest rates, lower credit ratings and higher assessed insolvency risk. Further investigating the impact of individual auditors and their characteristics in non-Big 4 audit firms on audit quality and economic outcomes of private companies seems warranted. In this regard, we believe it would also be fruitful to deepen our understanding of audit firm culture and tone at the top and how this influences cognitive processing, the functioning of teams in terms of learning and knowledge sharing, and ultimately audit outcomes. In recent reports and discussion documents of regulators and standard setters (e.g. International Forum of Independent Audit Regulators 2015), a lot of attention is given to 'audit firm culture' and 'tone at the top' as underlying drivers or root causes of audit quality. It would be interesting to investigate how audit firm culture differs between audit firms servicing both public and non-public interest entities versus audit firms with only non-public interest entities in their portfolio, and whether and how this affects the audit process and outcomes. Future research could also look into the impact of public oversight on the quality of private company audits and whether it reduces the documented differences in financial reporting quality between public and private firms.

Overall, research on the role of auditing in private companies is still relatively scarce compared to the rich body of related archival-based auditing research on listed companies. However, this should not be interpreted as a sign of such research being less relevant. On the contrary, obtaining a sound understanding of the functioning and value of private company audits is of high importance given the dominant and vital role that private companies play in the world economy in terms of generating wealth, jobs and investing in innovation and growth. Furthermore, as Cassar (2011, p. 526) points out: 'The private firm setting offers many opportunities to understand fundamental accounting issues. Researchers that exploit the varied environmental, regulatory and other forces that affect private firms and the empirical variation in this setting can provide important new insights.' We can only encourage researchers to make use of these opportunities.

## Acknowledgements

This study was prepared for the ICAEW Information for Better Markets Conference, Private Company Financial Reporting, 19–20 December 2016, London. The authors thank the participants of this conference for helpful comments. We also thank our anonymous reviewer for the constructive comments and feedback that we received.

## Disclosure statement

No potential conflict of interest was reported by the authors.

## Notes

1. As illustrated in the recent FEE discussion paper on the future of audit and assurance (2016), a respondent noted:

Many public company investors believe that an audit should give some sort of assurance over KPIs or risks that are disclosed. However, this assurance is clearly not needed for owner-manager private companies whose shareholders will have a good understanding of business. (p. 4)

2. Note that the demand for external accountants that Cassar and Ittner (2009) study is broader than (just) the demand for an external audit; as the authors indicate, they consider decision-making and planning-oriented explanations for engaging external accountants to provide a wide variety of outside advice.
3. Age seems to have a different effect depending on the size of the company. In particular, while Allee and Yohn (2009) find a positive relationship between company age and audit demand within a group of small private US companies, Lisowsky and Minnis (2015) document a negative relationship within a group of large private US companies.
4. From July 1998, large private Australian companies are subject to a mandatory external audit (Dedman et al. 2014).
5. Note that this latter finding is contended by both Clatworthy et al. (2009) and Lennox et al. (2012), who argue that the Heckman procedure used by the authors to control for self-selection is sensitive to changes in model specification.
6. In their 10-country EU sample comprising almost 47,000 firms for the year 2000, the percentage of listed firms ranges from 0% (Ireland; 360 observations) to 3.86% (Denmark, 2564 observations).
7. On its website, PwC states:

Creating value that makes a real difference to a client's business is intrinsic to the PwC audit. Quality audits that bring unexpected and far-reaching benefits do not come from an unthinking compliance mindset but from a knowledgeable, questioning, imaginative and insightful approach. (retrieved 28/11/2016 from <http://www.pwc.co.uk/audit-assurance/statutory-audit.jhtml>)

8. At the request of ICAEW, we restrict our review to the quality of financial reporting information and disclosures of private companies and how this is affected by auditing and audit quality.
9. Recall that, as discussed above, Kim et al. (2011) also examine the role of audit quality in pricing debt in addition to examining the role of a voluntary audit in debt pricing.
10. As an illustration, we refer to the recently established Dutch Foundation of Audit Research which offers a unique opportunity to bring about collaboration between individuals and organizations in practice and the academic world, by granting researchers conditional access to proprietary data and research subjects in audit firms in the Netherlands (<http://foundationforauditingresearch.org>).

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