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AUDITOR GENDER, EXPERIENCE AND REPORTING IN NONPROFIT ORGANIZATIONS

Purpose: This study investigates the association between individual auditor characteristics (gender, experience and sector expertise) and audit opinions in Belgian nonprofit organizations (NPOs). The purpose is to identify auditor characteristics that imply a better assurance of financial statement (FS) quality. FS quality is essential to enhance financial accountability towards the resource providers of NPOs and the public at large.

Design: Multinomial regressions are conducted on a data set of Belgian NPOs. Propensity Score Matching is used to control for potential self-selection bias.

Findings: Auditors with sector expertise are found to provide better assurance than their non-sector-expert counterparts. The former are more likely to disclose FS errors and uncertainties in their audit report.

Originality/value: This study contributes to the auditing literature by focusing on an understudied audit market, namely the nonprofit audit market. The number of nonprofit studies that investigates determinants of audit quality is very scarce, and none of them explores the determinants of audit opinions. Moreover, these studies ignore *individual* auditor characteristics as determinants of audit quality. The findings of this paper provide meaningful information for several actors in the NP field and for audit firms.

KEY WORDS: audit opinion, audit quality, auditor gender, auditor sector expertise, partner-level auditor characteristics, nonprofit organizations

RESEARCH PAPER

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INTRODUCTION

Non-profit organizations (NPOs) prepare financial statements (FS) to help stakeholders assess the organization's performance, efficiency, resources and obligations. Recent research reveals, however, that FS of NPOs are frequently subject to unintentional and intentional errors (e.g. Krishnan et al. 2006). FS quality is a challenge for many NPOs due to their weaker internal controls, reliance on volunteers, lack of financial expertise and atmosphere of trust (Greenlee et al., 2007). Moreover, the absence of residual claimants (shareholders) with a strong monitoring incentive hampers the oversight of management (Glaeser, 2003). In the US, NPOs are found to manage earnings in case of excessive or negative earnings or in case of higher leverage (Eldenburg et al., 2011; Leone and Van Horn, 2005). Further, US NPOs are revealed to over-allocate expenses to service programs and under-allocate expenses to fundraising, in order to signal program efficiency and remain attractive to donors (e.g. Jones and Roberts, 2006). In Belgium, NPOs do not have to report separate expenses for service programs, fundraising and administration, resulting in the absence of this type of expense misreporting, but still the scarce Belgian studies show that NPOs manage earnings towards zero (Jegers, 2013; Verbruggen and Christiaens, 2012) and (intentionally or unintentionally) violate GAAP (Verbruggen et al. 2011a, 2011b). Nonprofit managers misreport due to a lack of expertise (Burks, 2015), but also because it gives rise to economic benefits, including access to donations/grants, favorable credit terms, better managerial reputation, preservation of tax-exempt status and less pressure of third-party payers (Jegers, 2013; Vermeer et al., 2014). NPOs make deliberate accounting choices because FS information is used by stakeholders and influences these stakeholders' decisions (Trussel and Parsons, 2008). Burks

(2015) and Vermeer et al. (2014) reveal that accounting errors and aggressiveness are a bigger problem in NPOs than in for-profits. In the light of these observations, it is important to study the role of the external FS audit in the NP sector. The extant literature revealed that the use of an external auditor (Keating et al., 2008; Krishnan et al., 2006) and the auditor's higher quality (Big4) (Vermeer et al., 2014; Burks, 2015) reduces the probability that NPOs will misreport.

Not surprisingly, NPOs' stakeholders (resource providers) value the assurance role provided by an external FS audit. Thornton and Belski, 2010, Harris et al. (2015), Amin and Harris (2015) and Feng (2014) revealed that donors and governments consider the presence and the opinion of an external auditor before making contributions. Donors are also aware of quality differences between auditors, and consider the quality of the auditor (Big5) before making contributions (Kitching, 2009). A central goal of this article is to provide resource providers and other stakeholders of NPOs with additional knowledge to differentiate between auditors and the assurance level they provide. This ability is crucial to responding properly to the information contained in the FS and the audit reports, and to make the right (resource allocation) decisions. Our aim is to test hypothesized relationships between *individual* auditor characteristics (gender, experience and sector expertise) and audit opinions (unqualified vs. modified opinions) in order to identify individual auditor characteristics that imply more reliable assurance of FS quality.

Knowledgeable, objective auditors can reach different opinions in applying professional standards. Auditors that demonstrate a higher competence, a lower risk tolerance[1], a higher conservatism [2] or a higher independence [3] are more likely to issue modified audit opinions, and as such provide more assurance that FS are not misleading (Ruiz-Barbadillo et al., 2004; Krishnan and Krishnan, 1996). The present article attributes the latter features of auditor decision-making (competence, risk tolerance, conservatism and

independence) to *individual* auditor characteristics, such as gender, experience and sector expertise. Based on the prior literature we link the female gender to lower risk tolerance and higher conservatism and independence, we link years of generic auditing experience to higher competence and independence (though effort and commitment may decrease in later stages of an auditor's career), and we link auditor sector expertise to higher competence (including better risk assessment) and independence (see *infra*).

There are no prior nonprofit studies to our knowledge that focused on individual auditor characteristics to explain audit quality or assurance level. Prior nonprofit studies focused on 'macroscopic' variables, such as the characteristics of the audit firm (BigN membership or sector expertise of the audit firm) and the characteristics of the client organization (NPOs' resource dependence, being the extent to which NPOs depend on debt, donations and grants) (see Kitching (2009), Krishnan and Schauer (2000), Verbruggen et al. (2011a) and Vermeer et al. (2014)). Our first contribution is that we respond to the plea of DeFond and Zhang (2014) to push analysis of audit quality to the individual auditor level. Despite the fact that audit firms try to put in place quality controls and guidance (decision aids, reviews, etc.) to achieve a minimum firm-wide level of quality, audit quality is increasingly considered not to take place solely at the audit firm-level. Auditor expertise is claimed to be uniquely held by individual partners through their deep personal knowledge of individual clients in specific settings (Chin and Chi, 2009). Most of the knowledge is tacit knowledge (Bonner, 2000) and/or constitutes a source of power and job security, which prevents knowledge sharing to other partners within the firm (Vera-Munoz et al., 2006). As Belgian auditors are required to sign the audit report in their own name, the concern for reputational loss is also relevant at the individual auditor level (Chi and Chin, 2011). Finally, NPOs are typically audited by small audit firms (Tate, 2009; Verbruggen et al., 2011b), where

the individual auditor level is even more important due to less strong firm-level quality control and guidance.

As a second contribution, this study is the first non-profit study that uses audit opinions to operationalize the assurance level provided by the auditor. Prior nonprofit studies used the extent of GAAS reporting violations (O’Keefe et al., 1994), the number of accounting errors (Burks, 2015), the aggressiveness of accounting assumptions (Vermeer et al., 2014) and audit quality as perceived by the client (Lowensohn et al., 2007) to this end. In line with prior (for-profit) studies (e.g. Chen et al., 2010; Chi and Chin, 2011; Firth et al., 2012; Hope and Langli, 2010) we consider both distressed and non-distressed (non-profit) organizations and use an auditor’s propensity to issue all types of modified audit opinions as a proxy for auditor assurance level. The presumption underlying this line of inquiry is that modified audit opinions can be costly for NPOs, e.g. can negatively influence the resource provision by grantors, donors and creditors (Verbruggen et al., 2011b; Petrovits et al., 2011; Feng, 2014; Amin and Harris, 2015) [4], and that auditors may compromise by issuing a clean opinion. Auditors that are less risk tolerant and exhibit higher independence, conservatism and competence are more likely to modify the audit report.

It is worth mentioning that Hardies et al. (2016) related individual auditor characteristics to going concern opinions (GCOs) among distressed for-profits in a Belgian setting. In fact, the empirical research domain is dominated by going-concern (GC) reporting decisions as a proxy for auditor assurance level. These decisions are of great importance because (for-profit) organizations are found to be more likely to fail after receiving a GCO, in line with a self-fulfilling prophecy effect (Vanstraelen, 2003) and because audit failures are better observable for GC reporting decisions. Consequently, the auditor attributes under study might play a greater role in the issuance of GCOs compared to the other types of modified opinions (e.g. Habib, 2013) [5]. Our choice to study all types of modifications is motivated

by our research setting. That is, Belgian NPOs constituted a new audit market in 2006 and consequently NPOs' stakeholders were potentially interested in all types of financial reporting weaknesses and uncertainties, not only GCOs.

It is revealed in our sample of 468 Belgian NPOs that sector-expert auditors are more likely to report errors and uncertainties in their audit report than non-sector-expert auditors, and consequently provide a higher level of assurance. These findings hold after control for potential self-selection bias and the findings also largely hold in an extended data set of 755 NPOs.

With regard to the Belgian setting it is noted that NPOs play a significant role in the Belgian economy. They deliver about 5.5% of gross domestic product and employ 11.9% of the total salaried workforce (Koning Boudewijn Stichting, 2013). In Belgium, the main legal incorporation of NPOs is the 'vereniging zonder winstoogmerk (vzw)' (in Dutch), literally meaning 'an association for which profit is not a purpose'. Since fiscal year 2006, very large [6] Belgian NPOs are legally required to have their FSs monitored by an external auditor who is registered with the Belgian Institute of External Auditors (IBR) (Law of May 2, 2002, Belgisch Staatsblad, 2002). Auditors are appointed for periods of three years, which can subsequently be renewed without limitation for further three-yearly periods. FSs and audit reports, disclosing the name of the audit partner, get published on the website of the Belgian National Bank to inform the general public. The Belgian audit market is characterized by a low risk of litigation. This type of setting implies lower incentives for auditor conservatism, higher auditor discretion and higher likelihood that personal auditor traits play a role in audit reporting.

In the following sections, arguments for our hypotheses are presented, the research method is described and the conclusions from our regression analyses are presented.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Experimental research in the domain of cognitive psychology observed that an individual's gender and experience (generic or domain/sector-specific) affect knowledge content and structure, as well as information selection and processing. We reviewed this experimental literature (with a focus on the auditing domain), together with the archival auditing literature, to relate an auditor's gender, number of years of experience (as a signing auditor) and level of sector expertise to important features of auditor decision-making, such as competence, risk tolerance/assessment, conservatism and/or independence, which, in turn, are associated with the audit opinion.

Gender

According to cognitive psychologists men and women process information differently. Meyers-Levy's (1989) selectivity hypothesis posits that men are selective processors who do not generally engage in extensive information processing, but focus on the most salient and highly available cue(s). Women are comprehensive processors who tend to analyze all available information, incorporating risk, ethical considerations and other secondary information in their decision-making.

The selectivity hypothesis is able to explain why females are commonly observed to exhibit higher risk aversion, lower confidence (Croson & Gneezy, 2009) and higher moral sensitivity than men (You, Maeda, & Bebeau, 2011). Nevertheless, a good deal of research reveals a more complex picture and shows that male and female behavior is sensitive to the particulars of the situation (Meyers-Levy and Loken, 2015). Further, gender differences at the level of the general population can be eliminated within a professional subpopulation, such as auditors, because of self-selection and/or socialization (Hardies et al., 2011). Hardies et al. (2011), for instance, provided no evidence for a gender difference in overconfidence in an

experiment with auditors. However, the majority of auditing research is in line with the selectivity hypothesis. Experiments demonstrated that compared to male auditors, female auditors are more accurate and effective information processors in complex audit tasks (Chung and Monroe, 2001), exhibit greater efficiency in audit judgments (O'Donnell and Johnson, 2001) and discover more potential misstatements (Breesch and Branson, 2009). Further, female auditors tend to engage less in certain audit quality reduction behaviours that could lead to reduced auditor independence (Sweeney et al., 2010). Additionally, the survey results of Jonnergård et al. (2010) suggest that women are more concerned with conforming to ethical norms and standards than men. Archival research (in the for-profit sector) finds that female auditors are associated with better earnings quality (Chin and Chi, 2008; Niskanen et al., 2011; Ittonen et al., 2013) and a higher likelihood to issue GCOs (Hardies et al., 2016). Female auditors also exhibit higher perceived audit quality (and/or higher effort) as evidenced by higher audit fees (Ittonen and Peni, 2012; Hardies et al., 2013, 2015). These findings may be attributed to females' higher moral sensitivity and lower risk tolerance giving rise to higher conservatism and independence, and/or to females' lower confidence and higher level of effort (e.g. regarding the extent of information processing). Based on the prior literature, the expectation is that female auditors are more likely to detect and report material errors/uncertainties, thus:

H1: Female audit partners are more likely to issue a modified audit opinion than their male counterparts.

Generic experience

As knowledge transfer between individual auditors is difficult (cf. supra) gaining knowledge and increasing judgment performance takes time and requires a number of years of on-the-job experience. During the 1970s to the 1990s, a large body of experimental research revealed, in

line with cognitive psychology, that years of generic auditing experience increases judgment performance through superior knowledge content and structure and a better ability to specify the necessary information (Simnett, 1996). Experience adds new FS errors to the auditor's knowledge base (Bédard and Chi, 1993). Auditors with more years of experience are able to generate a larger number of more probable errors from their memory to explain audit findings (Ashton, 1991). Further, experienced auditors organize their knowledge of FS errors by a well-defined transaction cycle dimension and by audit objective (Frederick et al., 1994), whereas inexperienced auditors are more likely to sort errors into non-meaningful categories. As the causal explanation of errors becomes more salient with experience, experience leads to more efficient hypothesis generation and evaluation (Bédard and Chi, 1993). In sum, years of generic auditing experience increases the technical competence of auditors. Further, the experiments of Bhattacharjee and Moreno (2002) and Kaplan et al. (2008) reveal that experienced auditors rely less on (irrelevant) affective information or information that is congruent with management's self-interest. Their higher selective attention to relevant information improves experienced auditors' independence regarding the client. Archival research (in the for-profit sector) reveals a different picture and finds that auditors with more years of experience and older auditors are less likely to issue modified opinions (Hardies et al., 2016; Karjalainen et al., 2013; Sundgren and Svanström, 2014) and receive lower audit fees (Hardies et al., 2015), suggesting lower audit quality. It is possible that commitment and interest to apply effort diminish in later stages of a career (Holmström, 1999) and that auditors with more years of generic auditing experience are less likely to put effort into properly understanding the new nonprofit audit setting and the sector-specific regulations and are less likely to correctly apply the latter. Older or more experienced auditors may also exhibit a lower conservatism (Sundgren and Svanström, 2014). Based on the prior research evidence

we expect a curvilinear effect between audit partner experience and the likelihood to issue a modified opinion:

H2: Higher levels of audit partner experience initially increase the likelihood of modified opinions, but after a certain level of experience is achieved additional experience decreases the likelihood of modified opinions.

Sector expertise

Rather than focusing on generic experience, researchers more recently claimed that it is rather experience in a particular task domain or sector that enhances relevant knowledge and performance within that domain or sector (Moroney and Carey, 2011).

Experimental research found that sector-matched auditors, i.e. auditors that perform an audit in their sector of expertise, demonstrate higher performance on a hypothesis-generation task (Bédard and Biggs, 1991), more effective detection of errors when reviewing working papers (Owhoso et al., 2002), a greater ability to interpret and complete partial cue patterns through the development of meaningful problem representations (Hammersley, 2006), and a better solution to specific audit cases (Moroney and Carey, 2011). Due to an in-depth knowledge of the relevant sector-specific accounting, auditing and financial reporting issues, laws and regulations and business environment characteristics, and due to a superior ability to benchmark information against sector norms, sector experts are more effective across a variety of tasks, including going-concern judgment tasks (Biggs et al., 1993). With regard to risk profile, sector specialists are found to be more cognizant of sector-specific risks than non-specialists, and better at discerning differential audit risk levels (Low, 2004).

Archival research confirms the benefits of auditor sector expertise. In nonprofit and public-sector studies, sector-matched audit firms/offices are associated with less GAAS reporting violations (O’Keefe et al., 1994), less audit quality deficiencies noted in quality

control reviews (Deis and Giroux, 1992) and higher audit quality as perceived by the client (Lowensohn et al., 2007). In for-profit studies, sector-matched audit partners are found to demonstrate a higher likelihood to issue modified audit opinions (Chi and Chin, 2011; Hardies et al., 2016), higher earnings quality (Chi and Chin, 2011) and a lower likelihood of accounting restatements (Chin and Chi, 2009). Not only sector specialists' higher competence, but also their higher concern for litigation and reputational loss, giving rise to higher conservatism and independence could play a role here (Chin and Chi, 2009). Besides actual audit quality, sector-matched audit partners are also associated with higher perceived audit quality (and/or a higher effort) as evidenced by specialist fee premiums (Goodwin and Wu, 2014; Zerni, 2012; Hardies et al., 2015). The differences in audit quality due to sector expertise are found to be primarily attributable to the signing partner level rather than to the audit firm level (Chin and Chi, 2009; Goodwin and Wu, 2014; Zerni, 2012) or to be attributable to both levels in combination (Chi and Chin, 2011; Hardies et al., 2013). Taking these prior research findings into account, together with the fact that Belgian NPOs face complex sector-specific regulations (Verbruggen et al., 2011b), our hypothesis for NPOs is that:

H3: Audit partners with a higher level of sector expertise are more likely to issue a modified audit opinion than partners with less sector expertise

METHOD

Research Population and Data Collection

The research population consists of Belgian NPOs with audited FSs in fiscal year 2006, the first year of mandatory auditor appointments among very large NPOs in Belgium [7].

Investigating fiscal year 2006 implies a larger proportion of first-time auditor appointments in a new (nonprofit) setting, characterized by other users of FSs, other risks, other financial

concerns, etc. This setting increases auditors' tendency to think actively about their audit plans and to put a 'personal stamp' on their opinion, instead of following a standard audit program. At the same time, this new setting puts auditors' behavior in the spotlight as resource providers and regulators are eager to consult the first-time audit outcomes. Fiscal year 2006 is an interesting setting to conduct this study as it leaves room for the auditors' personal inclinations and at the same time exerts pressures on them to uphold professional standards (reputation risk).

This study makes use of the NPOs' published FSs and audit reports (to identify the auditor and his/her opinion and to measure the control variables), of archival data collected at the IBR (to measure auditor sector expertise), and of the IBR's public register (to identify auditor generic experience and gender).

The archival research at the IBR revealed that 2,353 NPOs had their FSs audited in fiscal year 2006. The data set was reduced due to 1,240 non-published audit reports (despite the legal obligation), due to missing financial and/or sectoral data for an additional 358 NPOs, and due to the restricted availability of hand-collected data to measure GAAP compliance (unavailable for another 287 NPOs due to late filing of their FSs; i.e. filing after the manual data collection period). Consequently, 468 NPOs are included in the final data set. Chi-square and t-tests revealed that these 468 remaining NPOs are representative of the 1,113 NPOs with published audit reports regarding all dependent and independent variables, except for sector 4 (social services) being overrepresented ($\chi^2=30.75$, $p=0.00$) in our data set, sector 5 (advocacy) being underrepresented ($\chi^2=29.25$, $p=0.00$) and the larger ($t=-9.75$, $p=0.00$) NPOs that rely more on debt ($t=-6.99$, $p=0.00$) and grants ($t=-15.15$, $p=0.00$) being overrepresented as well. To mitigate this bias, this article also presents analyses on the full data set of usable observations, not being restricted by the hand-collected compliance data (755 NPOs).

Dependent Variable

The dependent variable is the type of audit opinion. The Belgian Company Law specifies four types of opinions: unqualified, qualified, disclaimer, and adverse. An explanatory paragraph is added to an unqualified or a qualified opinion in case of a going concern related uncertainty or in case of other meaningful uncertainties (e.g., regarding asset realization or litigation losses). Most prior studies (in a for-profit context) measured the audit opinion as a dichotomous variable and used binary logit or probit models to explain it (Ruiz-Barbadillo et al., 2006; Hardies et al., 2016). These studies focused exclusively on going-concern related modifications (1/0), or pooled all modifications together and compared clean versus non-clean opinions (1/0). Other studies used ordered probit models and measured the different types of opinions according to their level of severity (e.g. Chen et al., 2010). This study follows Ireland (2003) and measures audit opinion as a nominal variable (*OPINION*) distinguishing between four (non-ranked nominal) outcomes: (1) an unqualified opinion, (2) a modified opinion due to uncertainties (i.e. unqualified opinion with explanatory paragraph) (3) a modified opinion due to errors (i.e. qualified, disclaimer and adverse opinion), and (4) a modified opinion due to both errors and uncertainties (i.e. a qualified opinion with explanatory paragraph). This classification in terms of errors and uncertainties is derived from the specific content of Belgian audit reports, highlighting an opinion (relating to errors [8]) immediately followed by an explanatory paragraph (in case of uncertainties), which complements the opinion in a very visible way (Caluwaerts et al., 2013) Unlike ISA 706, the Belgian company law does not refer to emphasis of matter paragraphs and other matters paragraphs (that go further than merely pointing at uncertainties) and does not require their inclusion in the audit report (De Blauwe, 2015). Of course it is possible for the Belgian auditor to mention additional explanations (e.g., about (non-) compliance with the statutes and company law, about profit appropriation, conflicts of interest, etc.) in the second (less visible)

part of the Belgian audit report (Caluwaerts et al., 2013). Moreover, the classification in terms of errors and uncertainties is advisable from a statistical point of view. Errors on the one hand and uncertainties on the other hand are disclosed in the audit report for very different reasons. Audit modifications due to errors arise where evidence is unavailable or where auditors and management disagree. Audit modifications due to uncertainties on the other hand arise if the auditor judges that attention should be drawn to a material uncertainty of which the outcome is outside the entity's control. Consequently, the different types of audit modifications under study are independent (non-ranked) decisions that can have different explanatory factors, justifying the choice for a multinomial regression and a nominal dependent variable. Regarding the *OPINION* categories, category (2) consists of explanatory paragraphs related to going concern and explanatory paragraphs related to other uncertainties. Category (3) is found in a large majority of qualified opinions. Disclaimer and adverse opinions are virtually absent in our data set. Category (4) is absent in our data set.

Independent variables

The dependent variable *OPINION* is explained on the basis of three individual auditor characteristics, controlling for a number of other auditor and NPO characteristics. The first auditor characteristic is *GENDER*, measured as a dummy variable with a value of 1 if the auditor is female, and 0 otherwise. The second auditor characteristic, the years of experience as a signing auditor, is accounted for by including *EXPERIENCE* (the mean centered number of years of experience with the mean equal to 18 years of experience) and *EXPERIENCE_2* (*EXPERIENCE*'s quadratic term) in the regression model. The sensitivity analyses show alternative measurements for sector expertise and experience as well. The third auditor characteristic is *SECTOR_EXPERT_PARTNER*, captured by means of a variable with a value of 1 if the individual auditor is the auditor with the highest number of NPO clients in the

specific NPO sector, and 0 otherwise. The auditor's sector expertise is captured at the level of seven nonprofit sectors defined by the Belgian umbrella organizations: (1) culture, sports and recreation; (2) education and research; (3) healthcare; (4) social service; (5) advocacy; (6) other; and (7) pension and health insurance funds. By way of illustration, the top auditor in sector (1), a very small NP audit market in Belgium, serves 7 NPOs within the sector. The top auditor in sector (2), one of the largest NP audit market in Belgium, serves 30 NPOs within the sector. The measure for sector expertise is stringent (restricted to the sector's top auditor) to make sure that auditors have gained sufficient sector expertise in the young nonprofit audit market. Auditor expertise in 'similar' for-profit sectors is not taken into account as the divergence between non-profits and for-profits (concerning financing structures, governance structures and regulations) is large in Belgium.

<Table 1>

The variables that are traditionally related to audit quality are controlled for [9], including variables tailored to the NPO setting (cf. resource dependence). The control variables include *BIG4* as a measure of audit firm size, *REV_SIZE* as a measure of NPO size, and *DUMCURRENT*, *FIN_LEV* and *LOSS* as measures of, respectively, NPO liquidity, solvency and profitability. As NPOs do not have a profit motive, the magnitude of the loss or profit matters less and a dummy variable is preferred. Next, NPOs' reliance on donations (*DON*>20%) and grants (*GRANTS*>20%) are included as control variables. A threshold of 20% (in relation to total incoming revenue) is applied to capture 'heavy' reliance on these types of resources. Other thresholds are used as well in the sensitivity analyses. Another control variable is an index capturing the GAAP compliance of NPOs' FSs relating to accrual basis, matching, going-concern, consistency, materiality, faithful representation, basis of valuation, entity and no offsetting (*COMPLIANCE_IND*), which was adapted from Verbruggen et al. (2011a) (see Appendix). Further, as sector expertise can differ between as

well as within audit firms (Chi and Chin, 2011), we aim to better capture the impact of *SECTOR_EXPERT_PARTNER* by controlling for sector expertise at the audit firm level (*SECTOR_EXPERT_FIRM*). Finally, sector indicator variables ($SECT_k$) are included as controls as well. All research variables relate to fiscal year 2006. Their description and operationalization are presented in Table 1.

Statistical Model

In a multinomial logit model the independent variables (auditor and NPO characteristics) can influence the different types of audit opinions in different ways. This is not expected in advance for the individual auditor characteristics gender, experience and sector expertise (cf. hypothesis development) but, based on findings in the for-profit literature, it is expected for a number of control variables. Audit modifications due to uncertainties (including GCO) are more likely when (i) NPOs demonstrate a bad financial health, implying worse solvency, liquidity and profitability (Lennox, 1999), (ii) NPOs are smaller (Gaeremynck and Willekens, 2003) and (iii) NPOs rely more on grants and donations and consequently less on self-generated revenues, creating more uncertainty about future funding and going-concern (Gronjberg, 1991). The relationship between audit modifications due to uncertainties and having a Big4 auditor is unclear (Gaeremynck and Willekens, 2003; Knechel and Vanstraelen, 2007). Audit modifications due to errors are expected to be more likely when (i) NPOs are smaller and have less developed internal control systems, (ii) NPOs have Big4 auditors who are assumed to be more competent and independent, (iii) NPOs demonstrate a low GAAP compliance, and (iii) NPOs are more resource dependent. A higher resource dependence implies more monitoring by resource providers (Verbruggen et al., 2011a). Consequently, reputation concerns may motivate auditors to raise the assurance level.

The multinomial logit model consists of two equations. The first equation represents the model explaining audit modifications due to uncertainties (category (2) of *OPINION*). The second equation represents the model explaining audit modifications due to errors (category (3) of *OPINION*). The relating regression results are found in the second and third column of Table 5, respectively. The ‘unqualified’ category of *OPINION* (category (1)) is the reference category.

$$\ln(P(OPINION=modified\ due\ to\ uncertainties)/P(OPINION = unqualified)) = b_1 + b_{10} GENDER + b_{11} EXPERIENCE + b_{12} EXPERIENCE_2 + b_{13} SECTOR_EXPERT_PARTNER + b_{14} BIG4 + b_{15} SECTOR_EXPERT_FIRM + b_{16} REV_SIZE + b_{17} FIN_LEV + b_{18} DUMCURRENT + b_{19} LOSS + b_{1\ 10} DON>20\% + b_{1\ 11} GRANTS>20\% + b_{1\ 12} COMPLIANCE_INDEX + b_{1\ 13k} SECT_{1\ to\ k}.$$

$$\ln(P(OPINION= modified\ due\ to\ errors)/P(OPINION= unqualified))= b_2 + b_{20} GENDER + b_{21} EXPERIENCE + b_{22} EXPERIENCE_2 + b_{23} SECTOR_EXPERT_PARTNER + b_{24} BIG4 + b_{25} SECTOR_EXPERT_FIRM + b_{26} REV_SIZE + b_{27} FIN_LEV + b_{28} DUMCURRENT + b_{29} LOSS + b_{2\ 10} DON>20\% + b_{2\ 11} GRANTS>20\% + b_{2\ 12} COMPLIANCE_INDEX + b_{2\ 13k} SECT_{1\ to\ k}.$$

where b_{ij} 's are the regression coefficients for audit outcome i and for independent variable j , and k represents the number of sector dummies, which amounts to six in this study.

EMPIRICAL RESULTS

This section consists of descriptive statistics, the regression analysis and sensitivity analyses.

Descriptive statistics

Table 2 provides descriptive statistics showing for each type of audit opinion how many NPOs received it (in the whole sample and according to the chosen auditor's gender,

experience and sector expertise). The data set is composed of 468 NPOs that are audited by 186 audit partners. Of these 186 partners, 22 (or 11.8%) are female, 106 (or 57%) have more than 18 years of experience as a signing auditor, and 5 (or 2.7%) are sector experts [10]. As can be inferred from Table 2, the female auditors perform audits in 55 (or 12%) of the 468 NPOs, the auditors with more than 18 years of experience in 251 (or 54%) of the 468 NPOs and the sector expert partners in 32 (or 7%) of the 468 NPOs. Table 2 also indicates that 82.3% of the NPOs received an unqualified opinion, 7.9% received a modified opinion due to uncertainties, and 9.8% received a modified opinion due to errors. Table 2 shows that NPOs with a sector expert partner are more likely to get a modified opinion and less likely to get an unqualified opinion than NPOs without a sector expert.

<Table 2>

The same finding is revealed in the correlation matrix (Table 3). Further, Table 3 demonstrates a positive correlation between *GENDER* and *BIG4*. This refers to the observation that 20 out of 55 female-audited NPOs have a (female) Big 4 auditor, whereas only 100 out of 413 male-audited NPOs have a (male) Big 4 auditor. At individual auditor level however, around 15% of the male as well as the female auditors work for Big4 audit firms. Next, Table 3 shows that the correlation between *GENDER* and *SECTOR_EXPERT_PARTNER* is negative. In our data set none of the female auditors are classified as sector experts. Finally, Table 3 reveals that (audits by) sector expert partners are less likely to be (audits by) Big4 auditors. This is in line with Crawford et al. (2009) who find that Big4 audit firms are not really interested in NPOs for economic reasons (restricted funding, time consuming audits). The appointment of sector expert partners is highest in sector 2 (research and education), and lowest in sector 1 (culture, sports and recreation), followed by sector 4 (social services). Female auditors are primarily active in sector 2, and least in sector 3 (healthcare) (not tabulated). Finally, as all correlations are below $|0.6|$ there is no

multicollinearity problem (Hair et al., 2006). Nevertheless, we also considered variance inflation factors (VIFs) to assess potential multicollinearity problems. With an exception for two industry dummy variables (which are quite logically strongly correlated (VIFs around 10)), the largest VIF falls below 4. Typically, VIFs below 5 are considered to be acceptable and we therefore conclude that our results are not affected by multicollinearity problems.

<Table 3>

Table 4 shows that 11.8% of the NPOs in our data set appoint a female auditor and 7% appoint the top auditor within the given NPO sector. The observed range of years of experience as a registered auditor goes from less than one year to 37 years, with a mean (median) of 18 years (20 years). Concerning the control variables, only 15% of the NPOs in our data set appoint a Big4 auditor. The financial ratios are rather favorable on average, but 18% of the NPOs reported a loss. The NPOs depend to a large extent on governmental grants, and hardly on donations. For 52,6% (7%) of the NPOs in our data set grants (donations) stand for more than 20% of total revenues. The compliance index, with a theoretical maximum of 17, ranges from 7 to 16 with a mean of 13.93.

<Table 4>

Multinomial Regression Analysis

The regression results are presented in Panel A of Table 5. Panel A reveals that personal auditor characteristics are significant in explaining audit opinion, whereas the classical explanatory variables are much less. First, panel A reveals that female auditors are (marginally) more likely than male auditors to modify the opinion due to errors in the FS. This supports hypothesis 1. Second, the years of experience as signing audit partner demonstrate no significant results, which does not support hypothesis 2. Third, panel A

reveals that sector experts are more likely than non-sector-experts to modify the opinion due to errors and uncertainties (particularly uncertainties other than going concern (not shown)). This finding supports hypothesis 3.

<Table 5>

Panel B of Table 5 presents the analysis for the full number of NPOs with an audit report for fiscal year 2006 (N=755 NPOs), but omits the *COMPLIANCE_INDEX* (which is hand-collected for only 468 NPOs) as an explanatory variable. In Panel B the higher tendency of sector experts to report errors in their audit report is no longer significant ($p = .13$) and only their higher tendency to report uncertainties remains statistically significant. The quadratic term of the mean centered years of experience (*EXPERIENCE_2*) is found to have a negative and marginally significant relationship with reported uncertainties. This implies that experience increases the tendency to report uncertainties until a certain point ($= -b11 / (2 * b12)$, representing 18.63 years of experience) after which this tendency decreases again.

Regarding the control variables, both Panel A and B reveal that NPOs audited by Big4 auditors are less likely to receive an audit modification, but the sensitivity analyses reveal that these findings are due to self-selection (see *infra*). Of the variables capturing resource dependence (*FIN_LEV*, *DON*>20%, *GRANTS*>20%) only *DON*>20% is related to more audit modifications (in Panel A). Further, the extent of audit modifications seems to vary between sectors and is highest in the healthcare sector, probably due to complex regulations resulting in (unintentional) noncompliance. As a validation of our findings, the analyses reveal that audit modifications due to uncertainties are more likely in case of a *LOSS* and audit modifications due to errors in case of a lower *COMPLIANCE_INDEX*.

Sensitivity analyses

Several sensitivity tests were performed. First, self-selection bias has been controlled for, both in the restricted data set (Panel A) and the full data set (Panel B). Auditors are not randomly chosen. If NPOs self-select into a group (e.g. the group audited by sector experts) on the basis of a number of determinants (e.g. NPO size, reliance on grants and donations, debt ratio), then the difference in audit opinion between different groups (those NPOs audited by sector experts versus those that are not) cannot (solely) be attributed to auditor sector expertise. Propensity score matching (PSM) (Tucker, 2010) was applied, using matching criteria *REVSIZE*, *FIN_LEV*, *GRANTS*>20%, *DON*>20%, *LOSS*, *DUMCURRENT* and *SECTOR_{1 to k}*, to check whether self-selection issues bias the coefficients of the auditor variables in Table 5. Three matchings, each using the matching criteria above, were performed: (i) NPOs audited by females are matched with NPOs audited by males, (ii) NPOs audited by inexperienced auditors (≤ 18 years of experience) are matched with NPOs audited by experienced auditors (> 18 years of experience), (iii) NPOs audited by sector specialists are matched with NPOs audited by non-sector specialists. Table 6 presents information and descriptive statistics on the three matchings and reveals that the matchings were successful (the detected imbalance between the matched subsamples is very low).

<Table 6>

Next, the multinomial regression (cf. *Statistical Model*) is performed on the (i) *GENDER*-matched samples to check whether the *GENDER* coefficient in Table 5 is biased due to self-selection, (ii) *EXPERIENCE*-matched samples to check whether the *EXPERIENCE* coefficients in Table 5 are biased due to self-selection, and (iii) *SECTOR_EXPERT_PARTNER*-matched samples to check whether the *SECTOR_EXPERT_PARTNER* coefficient in Table 5 is biased due to self-selection. The regression results for the *GENDER*-matched samples and for the *EXPERIENCE*-matched samples (not shown) reveal that *GENDER*,

EXPERIENCE and *EXPERIENCE_2* are not significantly related to audit modifications, and consequently that the coefficients for *GENDER*, *EXPERIENCE* and *EXPERIENCE_2* in Table 5 are biased due to self-selection. On the other hand, the regression results for the *SECTOR_EXPERT_PARTNER*-matched samples (Table 7) confirm that sector experts' higher propensity to disclose uncertainties in the audit report is related to sector expertise and not due to self-selection. Sector experts' higher propensity to disclose errors was only partly confirmed in the matched samples.

<Table 7>

Sector experts appear to be selected primarily by NPOs with a high current ratio (thus high current assets) that strongly depend on donations (not shown). These conditions increase the risk of errors (Beattie et al., 2001) and may thus drive the higher likelihood of audit modifications, instead of auditor sector expertise itself. In summary, after using PSM we conclude that sector experts are more likely to report errors and mainly uncertainties in their audit reports, which partly supports Hypothesis 3. There is no support for the hypotheses 1 and 2.

It is interesting to note that PSM (not shown) attributes the significant result for BIG4 in Table 5 to self-selection. Big 4 auditors probably self-select the economically interesting NPOs (Crawford et al., 2009) that are able to generate resources by themselves (cf. low reliance on grants and creditors in Table 3) and are less likely to receive modified opinions from their Big4 auditor.

Second, additional control variables were considered, namely the audit fee (a proxy for audit effort and risk), the ratio of receivables and inventories to total assets (a proxy for audit complexity and effort), and the use of non-audit services (a proxy for lower auditor independence). The former two variables were not significant. The latter variable is negatively related to audit modifications due to uncertainties, which could point at lower

auditor independence, clients' better financial health or proper consultancy reducing risks.

Including these additional variables did not change the other findings.

Third, besides measuring *SECTOR_EXPERT_PARTNER* as the auditor with the highest number of clients in a specific sector (which is a very stringent (dummy) variable), we also applied other measurements. The first alternative is a less stringent dummy variable that considers sector-expert partners as auditors with the highest and second highest number of clients in a specific sector (cf. Zerni, 2012). This alternative measurement (identifying 12 sector expert partners instead of five) goes together with a higher disclosure of FS uncertainties, which is in line with the main analysis, but not with a higher disclosure of FS errors, which is probably due to the lower stringency of the sector expertise measure. The other alternative measurement concerns partner sector expertise as interval variable, i.e. as the ln of the number of clients audited by (and the total audit fees generated by) an individual auditor within a given nonprofit sector. Only the fee-based measurement generated significant findings and these were largely similar to the main analysis.

Fourth, we also captured years of auditing experience by means of dummy variables with various cut-offs (five, 10 and 18 years). These dummy variables were never significant.

Fifth, various thresholds (10%, 15% or 25%) to operationalize important reliance on donations and grants were used, which did not change our findings.

Finally, the data of fiscal year 2006 was supplemented with data for fiscal years 2007 and 2008. The model without the *COMPLIANCE_INDEX* (Panel B of Table 5) supplemented with year dummies was rerun. In line with the main analysis, this extended analysis (based on 2,436 observations and yielding a pseudo R^2 of 10.31%) revealed that top auditors in a specific sector (both those ranked as top one and top two) are more likely to modify the audit opinion due to uncertainties ($p=0.002$) and that female auditors are more likely to modify the audit opinion due to errors ($p=0.045$). PSM confirmed the driving force of sector expertise,

but not the driving force of gender. In the extended data set covering the period 2006-2008 there is no association between partner sector expertise and the disclosure of FS errors. An explanation for this result is that starting from fiscal year 2007, FS quality generally improved as a consequence of the mandatory auditor appointments, which is demonstrated by an overall reduction in audit modifications due to errors in fiscal years later than 2006. Finally, concerning audit modifications due to errors, the analysis for the period 2006-2008 revealed a positive relationship with reliance on donations ($DON > 20\%$). If FS errors persist, it appears to be due to insufficiently developed internal control systems that are unable to ensure the correct recording of donations, which often consist of a large number of small cash receipts (Beattie et al., 2001).

CONCLUSION

The sector expertise of audit partners is found to be significant in explaining audit opinions among Belgian NPOs. This finding holds after controlling for commonly used explanatory variables (including sector expertise at audit firm level) and after controlling for potential self-selection bias (Propensity Score Matching (PSM)). A partner with expertise in a given nonprofit sector is more likely than a non-sector expert to report errors and uncertainties in the audit report (primarily uncertainties other than going concern). This finding suggests that sector-matched auditors provide a higher level of assurance.

Further, our results reveal that the explanatory power of auditor gender and years of experience disappears if self-selection bias is controlled for (PSM). Whereas several auditing studies found gender differences, this study shows that stereotypical beliefs about men and women cannot be extended to the auditor population, probably due to socialization and self-selection into the audit profession (Hardies et al., 2011). Regarding the years of auditing experience, it is possible that the interplay between a superior knowledge base (Bédard and

Chi, 1993) and a lower level of commitment or effort (Holmström, 1999) is too dynamic and complex to be captured with a curvilinear relationship.

The results of this study are useful for various actors in the nonprofit field and for audit firms. For NPOs (and subsidizing or supervisory governments) that attach great importance to financial accountability, we recommend to consider an auditor's sector expertise when making (and guiding) auditor choice decisions. Auditor sector expertise may be more favorable from a price/quality perspective than Big 4 affiliation. In addition, donors must be aware that sector experts represent a higher assurance level of FS. This information can assist potential donors in properly assessing the information contained in NPOs' FS and audit reports before making contributions. Finally, audit firms can use our findings to (re)allocate audit assignments among audit partners in a more optimal manner. In sum, our findings can contribute to the credence of NPO financial reporting.

A first limitation of this study is that audit team dynamics are not considered. The personal traits of the signing partner cannot fully explain the audit opinion as the audit process is often conducted by a team of auditors. Second, our Belgian research setting is characterized by a low risk of litigation and consequently higher auditor discretion. The impact of individual auditor characteristics on the audit outcome might be lower in Anglo-Saxon settings with higher litigation risk. However, fiscal year 2006 represents a period of increased scrutiny and reputation risk (cf. *Research Population and Data Collection*) which is similar to a stronger inspection regime. Third, this study focused on the propensity to issue all types of modified opinions. Unlike GC reporting decisions, the current approach is not able to assess the accuracy of the reported opinion. On the other hand, by studying all types of modified opinions and not the more salient GCO, the generalizability of our findings might be biased in a more conservative manner (cf. [5]).

ENDNOTES

[1] A lower risk tolerance implies that an auditor will set a higher target assurance level, given the client's risk and the needs of a reasonable FS user. This implies higher required auditor effort (e.g. extent of evidence-gathering, severity of materiality judgments) and a higher likelihood that an error will be detected.

[2] A higher conservatism implies that auditors have lower thresholds to issue a modified opinion.

[3] An independent auditor is more concerned with the risk of litigation or reputational loss than with the risk of losing the client (Krishnan and Krishnan 1996) and consequently is more likely to report errors/uncertainties.

[4] Recent evidence suggests that NPOs' stakeholders may react in a less straightforward way to audit opinions than for-profits' stakeholders due to the tension between their philanthropic goals and their assessment of the financial creditworthiness of the NPO (Amin and Harris, 2015). For instance, Feng (2014) and Amin and Harris (2015) found that GCO opinions decrease the contributions of sophisticated fund providers like grantors, creditors and large donors as they focus on financial creditworthiness, but do not discourage (and even increase) the contributions of unsophisticated small donors, possibly in an attempt to rescue the NPO or because they cannot correctly assess the audit opinion. However, not all evidence points in this direction. Petrovits et al. (2011) revealed negative reactions of both sophisticated and unsophisticated fund providers after the disclosure of internal control weaknesses by the auditor. Finally, it is useful to note that NPO financing in Belgium is dominated by sophisticated fund providers (Verbruggen et al., 2011b).

[5] In a meta-analysis, Habib (2013) examined differences in the explanatory variables for GCOs versus other types of modified audit opinions. He revealed that certain auditor related variables (audit firm size, provision of NAS) are significant in explaining GCOs, but not in explaining other types of modified opinions. Individual (for-profit) studies that complemented the explanatory analysis of modified opinions (in both distressed and non-distressed firms) with an explanatory analysis of GCOs (in distressed firms only) revealed slightly stronger effects of auditor related variables for the analysis of GCOs (Firth et al., 2012) or qualitatively unchanged results (e.g. Hope and Langli, 2010; Chi and Chin 2011).

[6] Very large NPOs employ more than 100 full-time equivalent employees; or exceed at least two of the following criteria: 50 full-time equivalent employees, total revenue of 6,250,000 EUR, and balance sheet total of 3,125,000 EUR.

[7] Certain NPOs appointed an auditor before 2006 due to sector-specific regulations or on a voluntary basis. It is not feasible, however, to detect these NPOs (in order to perform separate analyses, for instance). Due to the large disparity, it is nearly impossible to detect which organizations are subject to which sector-specific regulation. Moreover, the financial statements and audit reports of NPOs prior to fiscal year 2006 are not publicly disclosed.

[8] In the rare case of multiple or extreme uncertainties a disclaimer instead of an explanatory paragraph can be warranted (articles 144, 4° and 148, 3° of the Belgian company law).

[9] The lagged audit opinion is not included as a control variable as fiscal year 2006 is studied, the year in which the new legal obligation to appoint an auditor took a start. Lagged audit opinions (of year 2005) are not available.

[10] Due to the data reduction process described in the Research Population and Data Collection section, the sector experts of the sectors 1 and 7 are not present in the data set. These are very small sectors, hardly accounting for 5% of the NPOs in the data set.

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Table 1: Definition of research variables

<i>OPINION</i>	Categorical variable, distinguishing between (1) Unqualified opinion. This is the reference category in the regressions. (2) Modified opinion due to uncertainties (i.e. unqualified opinion with explanatory paragraph) (3) Modified opinion due to errors (i.e. qualified/disclaimer (/adverse opinion))
<i>GENDER</i>	1 if the individual auditor is female, 0 otherwise
<i>EXPERIENCE</i>	The centered number of years of experience as a signing auditor. Centering was performed around a mean of 18 years of experience
<i>EXPERIENCE_2</i>	The squared term of <i>EXPERIENCE</i>
<i>SECTOR_EXPERT _PARTNER</i>	1 if the individual auditor is the top auditor (i.e. the auditor with the highest number of clients) in the specific NPO sector, 0 otherwise
<i>BIG4</i>	1 if the auditor works for a Big4 audit firm, 0 otherwise
<i>SECTOR_EXPERT _FIRM</i>	1 if the audit firm is the firm with the highest number of clients in the specific NPO sector, 0 otherwise
<i>REV_SIZE</i>	natural logarithm of the NPO's revenues in fiscal year 2006
<i>FIN_LEV</i>	financial liabilities divided by total assets in fiscal year 2006
<i>DUMCURRENT</i>	1 if the current ratio is higher than 1 in fiscal year 2006, 0 otherwise
<i>LOSS</i>	1 if the NPO reports a loss in 2006, 0 otherwise
<i>DON>20%</i>	1 if donations comprise more than 20% of the NPO's total incoming revenues in fiscal year 2006, 0 otherwise
<i>GRANTS>20%</i>	1 if grants comprise more than 20% of the NPO's total incoming revenues in fiscal year 2006, 0 otherwise
<i>COMPLIANCE_INDEX</i>	captures the GAAP compliance of NPOs' FSs, considering 17 compliance aspects relating to accrual basis, matching, going-concern, consistency, materiality, faithful representation, basis of valuation, entity and no offsetting. To calculate the overall compliance score, items included in the compliance index are translated into binary scores (except for 1 item 'number of pages', which can take the values 0, 0.25, 0.5, 0.75, or 1). Adding these scores results in the overall compliance score, ranging from 0 to 17. A higher score indicates a higher degree of compliance (for a more elaborate description see Appendix and Verbruggen et al., 2011a).
<i>SECT_k</i>	Dummies for (1) culture, sports and recreation (2) education and research (3) healthcare (4) social service (5) advocacy, and (6) other. Sector (7) pensions and health insurance funds is the reference category.

Table 2: Descriptive statistics

		Whole	GENDER		EXPERIENCE		SECT_EXPERT _PARTNER	
		Sample	F	M	≤18 years	>18 years	Top auditor	Not top auditor
Unqualified		385 (82.3%)	44 (80.0%)	341 (82.6%)	180 (82.9%)	205 (81.7%)	17 (53.1%)	368 (84.4%)
Modified (uncertain- ties)	GCO ^a	13 (2.8%)	1 (1.8%)	12 (2.9%)	7 (3.2%)	6 (2.4%)	2 (6.3%)	11 (2.5%)
	Other ^b	24 (5.1%)	2 (3.6%)	22 (5.3%)	6 (2.8%)	18 (7.1%)	9 (28.1%)	15 (3.5%)
	Sub-	37	3	34	13	24	11	26
	Total	(7.9%)	(5.4%)	(8.2%)	(6%)	(9.5%)	(34.4%)	(6.0%)
Modified (errors)	Quali- fied	43 (9.1%)	8 (14.5%)	35 (8.5%)	23 (10.6%)	20 (7.9%)	3 (9.4%)	40 (9.2%)
	Dis- claimer	3 (0.6%)	0 (0.0%)	3 (0.7%)	1 (0.5%)	2 (0.8%)	1 (3.1%)	2 (0.5%)
	Sub- Total	46 (9.7%)	8 (14.5%)	38 (9.2%)	24 (11.1%)	22 (8.7%)	4 (12.5%)	42 (9.7%)
Total		468 (100%)	55 (100%)	413 (100%)	217 (100%)	251 (100%)	32 (100%)	436 (100%)

^a GCO = going-concern opinion (modified opinion due to uncertainties regarding going concern)

^b other= modified opinion due to other uncertainties, e.g. regarding asset valuation and litigation losses

Table 3: Correlation matrix

	1.	2.	3.	4.	5.	6.	7.	8.
<i>1. Unqualified</i>	1							
<i>2. Modified (uncertainties)</i>	-.62*	1						
<i>3. Modified (errors)</i>	-.72*	-.10*	1					
<i>4. GENDER</i>	-.03	-.03	.06	1				
<i>5. EXPERIENCE</i>	-.04	.07	-.02	-.04	1			
<i>6. EXPERIENCE_2</i>	.00	-.01	.01	-.02	-.08	1		
<i>7. SECTOR_EXP_PARTN</i>	-.21*	.26*	.03	-.09*	.30*	.13*	1	
<i>8. BIG4</i>	.07	-.07	-.03	.13*	.00	-0.14*	-.11*	1
<i>9. SECTOR_EXP_FIRM</i>	.01	-.03	.01	.24*	.11	-.08	-.06	.54*
<i>10. REV_SIZE</i>	.06	-.02	-.06	-.07	.03	.01	.01	.12*
<i>11. FIN_LEV</i>	-.05	.02	.06	-.11*	-.11*	.02	.05	-.21*
<i>12. DUMCURRENT</i>	.13*	-.09	-.08	-.06	.05	.05	.05	-.10*
<i>13. LOSS</i>	-.10*	.12*	.03	-.01	-.02	.02	.01	-.03
<i>14. DON>20%</i>	-.05	-0.00	.07	.06	.11*	.08	-.03	.00
<i>15. GRANTS>20%</i>	.09*	-.10*	-.03	.13*	-.01	.10	.06	-.13*
<i>16.COMPLIANCE_INDEX</i>	.14*	.02	-.19*	.03	-.04	.03	.11*	.08
	9.	10.	11.	12.	13.	14.	15.	16.
<i>9. SECTOR_EXP_FIRM</i>	1							
<i>10. REV_SIZE</i>	-.00	1						
<i>11. FIN_LEV</i>	-.17*	-.14*	1					
<i>12. DUMCURRENT</i>	-.09*	.06	-.11*	1				
<i>13. LOSS</i>	-.02	-.03	.08	-.12*	1			
<i>14. DON>20%</i>	.06	-.02	-.10	.01	-.02	1		
<i>15. GRANTS>20%</i>	-.00	-.11*	.18*	.10*	-.00	-.07	1	
<i>16. COMPLIANCE_INDEX</i>	.06	-.05	.16*	.05	-.07	.03	.23*	1

The table presents Spearman correlations. Phi, Point-biserial and Pearson correlation coefficients and chi-square tests are examined as well in order to better account for the various measurement scales of the research variables. The tabulated significance levels are in line with these additional analyses.

*Denotes significant at 5% level.

Table 4: Descriptive statistics for independent variables

	N	mean	Min.	median	Max.	Std.
GENDER (0/1)	468	0.12	0	0	1	
EXPERIENCE (centered around the mean of 18 years of experience)	468	-0.16	-18	2	19	7.52
SECTOR_EXPERT_PARTNER (0/1)	468	0.07	0	0	1	
BIG4 (0/1)	468	0.15	0	0	1	
SECTOR_EXPERT_FIRM (0/1)	468	0.07	0	0	1	
REV_SIZE	468	15.8	11.3	15.7	19.3	1.02
FIN_LEV	468	0.15	0	0.03	0.8	0.22
DUMCURRENT (0/1)	468	0.92	0	1	1	
LOSS (0/1)	468	0.18	0	0	1	
DON>20% (0/1)	468	0.07	0	0	1	
GRANTS>20% (0/1)	468	0.53	0	1	1	
COMPLIANCE_INDEX	468	13.93	7	14	16	1.4

Table 5: Multinomial regression analysis explaining the type of audit opinion

	PANEL A (N = 468 NPOs)		PANEL B (N=755 NPOs)	
<i>Determinants:</i>	Modified opinion (uncertainties)	Modified opinion (errors)	Modified opinion (uncertainties)	Modified opinion (errors)
GENDER	0.31 (0.70)	0.83* (0.50)	-0.19 (0.57)	0.71* (0.39)
EXPERIENCE	0.01 (0.03)	-0.01 (0.02)	0.01 (0.02)	0.00 (0.02)
EXPERIENCE_2	-0.00 (0.00)	0.00 (0.00)	-0.00* (.00)	0.00 (0.00)
SECTOR_EXPERT_PARTNER	2.07*** (0.65)	1.52** (0.75)	1.59** (0.50)	0.73 (0.48)
BIG4	-1.60* (0.88)	-1.01 (0.85)	-0.74 (0.48)	-0.92* (0.53)
SECTOR_EXPERT_FIRM	0.31 (1.26)	1.04 (1.05)	-.58 (.84)	0.30 (0.64)
REV_SIZE	-0.26 (0.23)	-0.21 (0.21)	-0.05 (0.11)	0.06 (0.12)
FIN_LEV	0.46 (1.05)	1.34 (0.93)	-0.39 (0.88)	0.96 (0.64)
DUMCURRENT	-0.83 (0.62)	-0.79 (0.53)	-0.77* (0.43)	-0.74** (0.38)
LOSS	0.99** (0.45)	-0.02 (0.43)	0.69** (0.34)	0.41 (0.30)
DON>20%	0.63 (0.90)	1.30** (0.67)	-0.46 (0.53)	0.29 (0.38)
GRANTS>20%	-0.92 (0.57)	-0.09 (0.42)	0.09 (0.41)	-0.33 (0.33)
COMPLIANCE_INDEX	0.01 (0.15)	-0.45*** (0.12)		
SECT1	3.90* (2.33)	4.56** (2.17)	1.80 (1.60)	1.97 (1.81)
SECT2	1.96 (2.21)	3.24* (1.80)	0.73 (1.53)	2.70* (1.51)
SECT3	3.20 (2.16)	3.86** (1.65)	3.22** (1.48)	3.62** (1.46)
SECT4	1.44 (2.12)	3.45** (1.72)	0.76 (1.50)	2.80* (1.47)
SECT5	1.15 (2.43)	-11.75 (912.6)	1.20 (1.60)	1.80 (1.65)
SECT6	2.95 (2.20)	3.83** (1.88)	1.83 (1.53)	2.81* (1.55)
CONSTANT	0.23 (4.71)	4.58 (4.14)	-2.09 (2.36)	-5.32** (2.40)
Pseudo R ²	0.17		0.12	
Log likelihood	-222.52		-427.93	

All coefficients are relative to the *reference of an unqualified opinion*, i.e. clean opinion.

Panel A concerns the data set of NPOs that filed the audit report of 2006 with the NBB and for which the hand collected *COMPLIANCE_INDEX* is available. Panel B concerns the full data set of NPOs that filed the audit report of 2006 with the NBB. Standard errors are reported in parentheses. * / ** / *** denotes statistical significance at the 10% / 5% / 1% level. The measurement of the explanatory variables is summarized in Table 1.

Table 6: Descriptive statistics of the PSM samples

	<i>GENDER</i> matched sample		<i>EXPERIENCE</i> matched sample		<i>SECTOR_EXPERT_</i> <i>PARTNER</i> matched sample	
N° of matches	(closest) 3 matches per NPO with female auditor		(closest) match per NPO with inexperienced (≤ 18 years of experience) auditor		(closest) 3 matches per NPO with sector specialist auditor	
Replacement?	With replacement		With replacement		With replacement	
	Sub- sample: female auditor	Sub- sample: male auditor	Subsample: auditor with ≤ 18 years of experience	Subsample: auditor with > 18 years of experience	Subsample: sector specialist auditor	Subsample: no sector specialist auditor
<u>PANEL A analysis</u>						
N° of NPOs in the subsamples	55	105	217	103	32	70
Subsamples' std. difference in the mean of:						
REVSIZ	-0.168		0.018		0.116	
DON>20%	0.105		-0.081		-0.034	
GRANTS>20%	0.195		0.037		-0.063	
FINLEV	0.053		0.180		-0.224	
LOSS	-0.008		0.051		0.145	
DUMCURRENT	-0.014		0.021		0.034	
SECT1	0.005		-0.127		-0.338	
SECT2	0.165		0.262*		-0.034	
SECT3	-0.225		-0.031		0.123	
SECT4	-0.059		-0.128		-0.166	
SECT5	0.009		-0.057		-0.034	
SECT6	0.073		-0.088		-0.184	
<u>PANEL B analysis</u>						
N° of NPOs in the subsamples	70	187	324	178	66	140
Subsamples' std. difference in the mean of:						
REVSIZ	-0.062		-0.102		-0.159	
DON>20%	0.040		0.127		0.226	
GRANTS>20%	0.118		0.020		-0.059	
FINLEV	0.039		0.127		-0.078	
LOSS	-0.024		0.165		-0.088	
DUMCURRENT	-0.047		0.058		0.093	
SECT1	-0.034		0.009		-0.190	
SECT2	0.094		0.200*		0.062	
SECT3	-0.024		-0.123		-0.123	
SECT4	-0.063		-0.075		0.254*	
SECT5	0.001		-0.033		-0.143	
SECT6	0.048		-0.110		-0.031	

* denotes significant imbalance between matched subsamples. The (original) meaning of panel A & B is described in the notes of Table 5.

Table 7: Multinomial regression analysis on the SECTOR_EXPERT_PARTNER-matched samples

	PANEL A (N = 102 NPOs)		PANEL B (N=206 NPOs)	
<i>Determinants:</i>	Modified opinion (uncertainties)	Modified opinion (errors)	Modified opinion (uncertainties)	Modified opinion (errors)
GENDER	-0.19 (1.25)	1.73 (1.64)	-0.22 (1.31)	-0.01 (1.20)
EXPERIENCE	0.03 (0.06)	0.56 (0.41)	0.02 (0.00)	0.02 (0.04)
EXPERIENCE_2	-0.00 (0.01)	-0.06* (0.04)	-0.00 (.01)	-0.00 (0.00)
SECTOR_EXPERT_PARTNER	2.08** (0.88)	2.86* (1.57)	1.63** (0.68)	0.49 (0.67)
BIG4	-14.54 (1617.1)	-13.36 (1944.9)	-16.7 (2898.7)	-34.30 (4646.5)
SECTOR_EXPERT_FIRM	0.60 (2759.8)	-1.79 (3452.3)	1.27 (3861)	18.39 (3927.78)
REV_SIZE	0.04 (0.47)	0.64 (0.59)	0.28 (0.37)	0.60 (0.38)
FIN_LEV	-5.08** (2.50)	-1.15 (2.55)	-1.88 (1.78)	0.52 (1.26)
DUMCURRENT	-2.59 (2.21)	-4.24 (2.65)	-0.66 (1.43)	-2.72** (1.32)
LOSS	0.34 (0.90)	0.64 (1.36)	0.44** (0.81)	-0.30 (0.89)
DON>20%	4.83** (2.43)	6.44** (3.15)	-0.93 (1.31)	2.05 (1.50)
GRANTS>20%	0.02 (1.12)	2.39 (1.94)	0.94 (1.11)	1.13 (1.38)
COMPLIANCE_INDEX	-0.39 (0.31)	-0.37 (0.44)		
CONSTANT	6.45 (8.37)	-4.95 (11.27)	-22.11 (2.36)	-25.08 (6428.996)
Pseudo R ²	0.33		0.23	
Log likelihood	-49.76		-113.49	

All coefficients are relative to the *reference of an unqualified opinion*, i.e. clean opinion.

The (original) meaning of panel A & B is described in the notes of Table 5. The measurement of the explanatory variables is summarized in Table 1. The coefficients of the sector dummies are not tabulated for the purpose of brevity.

Standard errors are reported in parentheses. * / ** / *** denotes statistical significance at the 10% / 5% / 1% level.

Appendix: Compliance Index (adapted from Verbruggen et al. (2011a))

<i>Principle</i>	<i>Measure</i>		
Timeliness (periodicity)	Timely approval by the board	According to Belgian law, financial statements need to be approved within 6 months after the end of the accounting period. Both dates are available in the financial statements. <i>Within 6 months = 1, Later = 0</i>	Christiaens (1999); Owusu-Ansah & Leventis (2006); Dixon et al. (1991)
	Timely handover at the National Bank of Belgium	According to Belgian law, financial statements need to be made public (= handed over to the National Bank) within 30 days after the approval by the board. Both dates are available in the financial statements. <i>Within 30 days = 1, Later = 0</i>	
	Made public within 7 months after end of accounting year	If previous measures are interpreted less strictly, the financial statements need to be made public within 7 months after the end of the accounting period. (E.g. 4 months for approval by the board + 2 months for publication → score 1 on first measure, 0 on second measure and 1 on this measure.) <i>Within 7 months = 1, Later = 0</i>	
Reliability (quality of information)	Use of an external accountant	Since nonprofit organizations have never before been obliged to use accrual accounting techniques and may not have skilled staff, the use of an accountant is an attempt to increase reliability of financial statements. <i>Yes = 1, No = 0</i>	Giroux and McLelland (2003) assess certificate of achievement
Comparability (consistency)	Balance sheet previous year reported	Legislative requirement <i>Yes = 1, No = 0</i>	Krishnan & Schauer (2000); Ingram & Copeland (1981); Christiaens (1999), Pina and Torres (2003)
	Disclosure of accounting policies	Legislative requirement <i>Yes = 1, No = 0</i>	
Relevance (materiality)	Complete scheme used necessarily or voluntarily according to legal criteria	Legal criteria (total assets, total revenues and number of personnel) were used to assess whether the nonprofit organization uses the complete scheme of financial statements <i>voluntarily (1)</i> or is <i>obliged to (0)</i> . If the scheme is used voluntarily, the organization is willing to provide far more detailed financial statements than required by law.	Krishnan & Schauer (2000)
	Number of pages	Is an indicator of the quantity of the information provided by the nonprofit organization. The percentiles of the number of pages are used to award a score of 0 (organizations ranked in the lowest 20%), 0.25, 0.5, 0.75 or 1 (highest 20%)	Dixon et al. (1991)
	Euro or thousands of euro: mentioned correctly on first page?	Financial statements are either in euro or in thousands of euro and this is mentioned on the first page. This has been checked using the statements of the next year as well as the auditors' report. <i>Correct = 1, Incorrect = 0</i>	

Completeness (accrual basis and quality of information)	'Typical' in accrual accounting is the presence of debtors and creditors	If all debtors and creditors are zero, then this item is scored 0. If at least one debtor or creditor is different from zero, this item is scored 1. Yes = 1, No = 0	Ingram (1984); Da Costa Carvalho et al. (2007), Pina & Torres (2003)
	Disclosure of social report	Legal requirement if the number of staff exceeds 20. Required and disclosed = 1 Required and not disclosed = 0 Not required and not disclosed = 1	
	Is there qualitative information about provisions in the notes	Whether or not this information is provided is at the discretion of the organization. Yes = 1 No = 0 No but no provisions in balance sheet = 1	Christiaens (1999), Da Costa Carvalho et al. (2007)
Matching (matching)	Presence of accrued/deferred charges/income in balance sheet	These accounts are considered to be a typical characteristic of accrual accounting. Yes = 1 No = 0	Christiaens (1999), Da Costa Carvalho et al. (2007)
Entity (entity)	Presence of 'Funds of the organization' in the balance sheet (comparable to 'capital')	Switching from cash accounting to double entry accounting requires valuation of the assets, liabilities and as a result also the 'funds of the organization'. Yes = 1 No = 0	
Classification (accrual accounting, no offsetting)	Sign of debtors, creditors, cash and cash equivalent has to be positive.	Correctness of accounting data in the balance sheet according to Belgian GAAP. Yes = correct = 1 No = incorrect = 0	Christiaens (1999), Ingram & Copeland (1981)
	Presence of retained profit OR retained loss (not both)	Correctness of accounting data in the balance sheet according to Belgian GAAP Yes = correct = 1 No = incorrect = 0	
Mechanical accuracy (quality of information)	Twenty tests on logical and arithmetical errors are conducted	Testing of totals and subtotals in balance sheet and income statement; match between information in the notes, the balance sheet and the income statement. No errors = 1 At least one error = 0	Christiaens (1999), Jegers & Houtman (1993); Weets & Jegers (2000)