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WORKING PAPER

Audit pricing in a reformed nonprofit market [*]

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AUDIT PRICING IN A REFORMED NONPROFIT MARKET

ABSTRACT

In contrast to the extant research on audit fees of for-profit companies, literature on nonprofit audit fees is scant. In this paper, audit fee determinants of previous research are tested in a nonprofit market that is characterized by a relatively low dominance of BIG4 auditors, low litigation risk, small nonprofit entities, high levels of subsidization and recent legislative reforms. Using OLS on a sample of nonprofit entities, we find that some known determinants such as auditor size and client complexity hold their ground. However, our findings on client profitability and auditor industry specialization show that refinements of audit fee models need to incorporate audit market characteristics, agency problems and signaling.

KEYWORDS

Audit

Financial audit

Nonprofit organizations

Audit fee

Auditor specialization

Resource dependence

INTRODUCTION

Nonprofit organizations worldwide are confronted with increased demand for accountability. External financial auditing by an independent expert is essential in safeguarding the quality and usefulness of financial reports. Given the expected relationship between audit quality and audit pricing, a vast amount of research explored the determinants of the fees paid to the audit firm since the influential work by Simunic (1980).Whereas most of the studies focused on the private sector and particularly on listed companies, the growing demand for accountability in the public and nonprofit sector set a new stream of research in motion. Auditing in the public sector has been on the research agenda since the 1980's (Baber, Brooks & Ricks, 1987; Basioudis & Ellwood, 2005; Clatworthy, Mellett & Peel, 2002; Ward, Elder & Kattelus, 1994). Nonprofit organizations seem to be the next in line to be confronted with stringent financial reporting regulation and the obligation of external auditing of these reports. Studies on audit fees in universities (Mellett, Peel & Karbhari, 2007) and charities (Beattie, Goodacre, Pratt & Stevenson, 2001) in the UK, identified determinants of audit fees in these specific submarkets. A recent study of 125 very large nonprofit organizations in the US expands these results by investigating the effect of resource dependence, internal control and governance mechanisms, as well as by leaving the boundaries of a specific subsector (Vermeer, Raghunandan & Forgione, 2009).

In this paper, we investigate audit fees of nonprofit organizations in a specific market setting where (i) external financial reporting and external auditing have only recently been made mandatory, (ii) the auditor market is not characterized by a BIG4 dominance and (iii) the nonprofit organizations are relatively small (compared to previous research) and characterized

by high levels of subsidization. We draw on Belgian data to address two research questions. First, we want to develop a model for nonprofit audit fees in order to determine whether known determinants of audit fees in the for-profit sector are also reflected in nonprofit audit fees. As Tate (2007) points out, even in a well-established, mature audit market, there are significant differences between external auditing in a nonprofit and a for-profit setting. Dissimilarities in organizational structure, culture, goals, financial concerns, stakeholders and risk imply diversity in the way audit clients and auditors experience the audit process. Second, we want to investigate whether dependence on government subsidies is related to audit fees. Does subsidization increase audit complexity and demand for audit quality which are both reflected in the audit fee?

This paper differs from previous research in three ways. First, the characteristics of the audit market are significantly different from those in earlier nonprofit research (low dominance of BIG4 auditors, low litigation risk, small client size and low commercial risk). Second, since recent legislative changes and existing differences between for-profit and nonprofit clients necessitate extra effort for the auditor, the research setting allows us to test for auditor specialization effects on audit fees. Third, in contrast to Vermeer et al. (2009), we are able to test for dependence on public donations as well as governmental funding in a resource dependence view on audit. In contrast to Beattie et al. (2001) we draw on a large number of nonprofit subsectors in this matter.

The paper proceeds as follows. The next section contains an overview of the literature on audit fee determinants, followed by hypotheses. The data collection and methodology are explained in the following section. Next, the results of the OLS regression are discussed and the paper ends with a conclusion and issues for further research.

There is a large body of literature on audit fee determinants. In general, three main groups of determinants can be identified: audit client, auditor and audit engagement characteristics. In this brief literature review, we rely heavily on the meta-analysis by Hay et al. (2006), adding research results of the period following their analysis and focusing on nonprofit findings.

AUDIT CLIENT CHARACTERISTICS

The *size* of the client influences the effort required by the auditor and thus the audit fee. Almost all previous studies find a positive relation between client size (measured as the natural logarithm of total assets, total sales or total staff) and the audit fee (generally transformed to its natural logarithm). Overall, size of the client is the most important explanatory factor in previous research (Hay et al., 2006, p.164). In the nonprofit sector studies, Mellett et al. (2007) and Beattie et al. (2001) found a positive association between total revenue of the organization and the level of the audit fee, whereas Vermeer et al. (2009) found the same result for total assets as a measure of client size. The *complexity* of the engagement is a second determinant of audit fees. Inventories and debtors have been used as a proxy for the extra audit effort required for particular assets. Mellett et al. (2007) and Beattie et al. (2001) identified a positive relationship between the importance of inventories (Vermeer (2009) used accounts receivables and inventories) in total assets and nonprofit audit fees. Some characteristics of the audit client influence the level of the *inherent audit risk* and therefore the effort and price associated with the financial audit. Measures of profitability (either a dummy variable for the existence of a loss or the continuous measure of net income divided by total assets), leverage (debts divided by total assets) and liquidity (current ratio or similar) are applied as measures of audit risk. Overall results on profitability are mixed, which according to Hay et al. (2006, p.170) may be due to a nonlinear relationship between loss and

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risk. In the nonprofit sector, profitability is not significantly linked with audit fees (Mellett et al., 2007), whereas leverage is not significantly (Mellett et al., 2007) or positively (Basioudis et al., 2005; Vermeer et al., 2009) associated with audit fees. Higher liquidity ratios coincide with lower audit fees (Vermeer et al., 2009) as can be expected due to lower risk.

AUDITOR CHARACTERISTICS

Typically, two aspects related to the auditor are incorporated in audit fee studies: auditor tenure and audit quality (with auditor size and specialization as proxies).

The BIGN (4,5,6 or 8 depending on the timing of the study) versus Non-BIGN dichotomy yields convincing results in favor of a brand name premium (Hay et al., 2006, p.176). In the nonprofit studies, Vermeer et al. (2009) also find a positive relationship between BIG4 firms and audit fees. Similarly, the UK-studies of Mellett et al. (2007) and Basioudis et al. (2005) show that BIGN auditors charge higher fees than second-tier or mid-tier auditors. Beattie et al. (2001) do not find a significant difference between BIG6 and Non-BIG6 auditors for grantmaking charities, whereas there is a brand name premium for fundraising charities. These authors rely on a resource dependence argument: fundraisers need to convince the public of their trustworthiness, which may be signalled by the use of a BIG6 auditor. This enables BIG6 auditors to make use of a better bargaining position and to charge higher fees. The evidence for the effect of auditor specialization on audit fees ismixed. In a market share view, a specialist is the audit firm that is the market leader in a sector, or the holder of a large market share (above a certain cut-off point relative to market concentration or a continuous measure). Whereas Beattie et al. (2001) find some evidence for a Non-BIG6 specialist premium, Basioudis et al. (2005) do not find a statistically significant relationship between auditor specialization and nonprofit audit fees. An often cited reason to change auditor is to

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obtain a lower audit fee (see Tate, 2007, for evidence based on nonprofits). Basioudis et al. (2005) are the only authors using a tenure variable in the nonprofit studies. They find no statistically significant relationship between an auditor switch within the last three years and the audit fee.

AUDIT ENGAGEMENT CHARACTERISTICS

Some characteristics of the audit engagement can be helpful in explaining audit fee levels. Audit firms are confronted with seasonal effects in the demand for their services. The '*busy season*' in audit engagements is related to the fact that for the majority of audit clients, the end of the accounting period coincides with the end of the calendar year. Hay et al. (2006) find mixed evidence on the effect of a busy season audit. In the nonprofit study by Beattie et al. (2001), no statistically significant relationship was found. To measure the level of *difficulty* of an audit, two proxies are often used: the existence of an important time lag between the end of the accounting period and the date of the audit report (positive relationship with audit fees is reported in the meta-analysis by Hay et al. (2006)) and the issuance of an audit opinion that is different from unqualified. In previous nonprofit studies (Beattie et al., 2001), the report lag was not found to have a statistically significant correlation with audit fees. The type of the audit opinion has, to our knowledge, not yet been studied for nonprofit entities. Finally, the relationship between the fees for nonaudit services and audit services has received a great deal of attention. According to Hay et al. (2006), the overall relatiosnhip is strongly positive and significant. In the nonprofit studies, Beattie et al. (2001) also find a strong positive relationship. Basioudis et al. (2005), however, report a (marginally) significant negative relationship.

The results of previous research are summarized in Table 1. The determinants of audit fees are listed in the first column, followed by their expected relationship with audit fees. The results of the meta-analysis by Hay et al (2006) are then followed by the results of the nonprofit audit fee studies.

<<< table 1 >>>

RESEARCH QUESTIONS AND HYPOTHESES

RESEARCH QUESTIONS

Given the results and focus of earlier research, we want to address two research questions. First, we want to determine whether known determinants of audit fees in the for-profit sector are also reflected in nonprofit audit fees. This analysis complements earlier research due to (i) the difference between a for-profit and a nonprofit audit (Tate et al., 2007) and (ii) the differences in audit market characteristics such as Big4 dominance, litigation risk, client size and commercial risk between earlier nonprofit research (in the UK and the US; Beattie et al., 2001, Mellett et al., 2007 and Vermeer et al., 2009) and the current paper (Belgium). Second, we want to investigate whether dependence on government fees is related to audit fees. Since Belgian nonprofit organizations are heavily subsidized and the government has made financial reporting and financial auditing mandatory, the question arises whether subsidization increases audit complexity and demand for audit quality which can both be reflected in the audit fee.

HYPOTHESES

As in most other studies, we test the effect of the size (brand name) of the auditor on the audit fee level. The Belgian audit market is characterized by a moderate market share of the BIG4 auditors (Van Caneghem, 2010; Weets & Jegers, 1997; Willekens & Achmadi, 2003). Furthermore, the traditional view (DeAngelo, 1981) that the difference between BIG4 and Non-BIG4 firms captures differences in audit quality , does not seem to hold in Belgium (Sercu, Vander Bauwhede, & Willekens, 2002; Vander Bauwhede & Willekens, 2004). Therefore, we test the effect of auditor brand name on audit fees using the traditional BIG4 – Non-BIG4 dichotomy as well as a distinction between large and small auditors based on their number of audit staff (auditor size). We state that:

H1. Large audit firms receive audit fee premiums

The Belgian nonprofit sector has recently undergone legislatory changes that affect accounting and reporting practices. Although there is a law that has made accrual accounting and external auditing mandatory for all large Belgian nonprofit organizations from 2006 onwards, heterogeneity still exists due to different sector regulations (Christiaens, Vanhee, Verbruggen, & Milis, 2008). This heterogeneity results in ambiguity on the role of the external auditor (Verbruggen, Reheul, Van Caneghem, Dierick, Vanhee & Christiaens, 2011b). Combined with the organizational differences (such as the existence of important grants and donations, the absence of shareholders, the presence of volunteers) and the impact of these differences on the audit process, the audit of a nonprofit organization may necessitate other kinds of competences and experiences with respect to a for-profit organization's audit. Therefore, specialization may be an important factor in the audit fee determination process. Research on the link between specialization and audit fee levels has resulted in mixed evidence. In former empirical research, the price effect of specialization has shown to be negative as well as positive. Experience effects give rise to a decrease in the expense per

client and therefore in the audit fee of the client (Cullinan, 1998; Low, 2004). As Cairney and Young (2006, p. 50) stipulate: '*auditor specialization provides a cost-based competitive advantage because the cost of developing expertise is spread over more clients*'. Furthermore, since they are dealing with a new market, auditors may try to gain sufficient market share by asking lower audit fees which will enable them to reach experience effects in the future. Wang, Sewon and Iqbal (2009) conclude that in the Chinese emerging markets, second tier firms developed industry expertise in order to gain economies of scale and reduce service fees as a strategy to win future clients looking for low-priced audits. Similarly, we would expect to see a negative relationship between specialization and audit fees.

However, empirical research has also shown (Craswell, Francis & Taylor, 1995; Cullinan, 1998; Mayhew & Wilkins, 2003; Ward et al.,1994) that a market specialist is rewarded by a fee premium. Clients may be willing to pay more for a specialist that delivers higher audit quality (Balsam, Krishnan & Yang, 2003; Krishnan, 2003; Maletta & Cartwright, 1996). This may be an important signal to shareholders or, more generally, stakeholders. For example, Knechel, Naiker and Pacheco (2007) show that firms switching to a specialist auditor experience significant positive abnormal returns. For nonprofits -given the absence of shareholders- banks, governments and donors are addressed as sources of revenue and funding. The question arises whether nonprofit entities would be interested in paying higher fees for a specialist auditor in order to signal quality to these stakeholders. Furthermore, Craswell et al. (1995), Casterella, Frances, Lewis and Walker (2004) as well as Carson and Fargher (2007) report that the occurrence of fee premiums depends on client size. Since the nonprofit sector is often characterized by relatively small organizations when compared to for-profit sectors, the likelihood of specialization fee premiums is lower. In conclusion, it seems less likely that the degree of willingness of nonprofit organizations to pay a market

share specialist premium is as high as that of the listed companies to which most of the former research relates.

Overall, the arguments for specialist price discounts seem stronger than the reasons to pay a specialist price premium. We hypothesize that the correlation between specialization and audit fees in this new nonprofit market is negative. Therefore, we state that

   H2. The degree of nonprofit sector specialization is negatively related to audit fees.

Hypothesis 3 deals with resource dependence. Former research on this topic has resulted in mixed evidence. Vermeer et al. (2009) find no statistically significant relationship between donation income (as a percentage of total income) and audit fees, whereas Beattie et al. (2001) show that fundraising nonprofits pay higher audit fees than their grantmaking counterparts. Belgian nonprofit organizations are characterized by an important dependence on governmental grants and are much less depending on donations. Former research (Verbruggen et al., 2011a) has shown that dependence on grants increases compliance with accounting and reporting standards. Also, survey data on Belgian nonprofits (Verbruggen et al., 2011b) show that 55 percent of the respondents indicate that external auditing of the financial statements is useful to justify governmental grants. These respondents also indicate that the financial audit performed by an external auditor is different from and complementary to an audit by subsidizing governments. Furthermore, from a supply-side view, auditing grants may require additional audit effort. Therefore, we hypothesize that:

   H3. Dependence on governmental subsidies is positively related to audit fees.

Our approach to analyzing audit fees is based on OLS regressions, consistent with previous research. In all regressions presented in this paper, the dependent variable is the natural log of audit fees. The independent variables are described in Table 2 and briefly explained below. As in the literature review, we situate the variables in three categories: audit client, audit firm and audit engagement characteristics. Characteristics that measure the complexity and risk attributed to the client are defined similarly to previous research: total assets (in the natural log form, LNTA) and the percentage of inventory and accounts receivable in total assets (ARINV) measure the complexity of the client and are expected to be positively related to audit fees. Profitability (PROFITAB), leverage (LEVERAGE) and the natural log of the current ratio (LNCURRENT) measure the risk associated with the financial situation of the audit client. Dependence on subsidies (PERCSUBS) is expected to be positively related to audit fees, as explained in hypothesis 3. Donations (DONAT) are added to the model as a control variable (Beattie et al.,2001; Vermeer et al., 2009). Due to the extreme skewness of this variable (80 percent of organizations do not receive donations), this variable is transformed into a dummy variable (one when donations are received, zero otherwise). Other dummy variables are added to the model to control for sector-specific characteristics. Six subsectors are identified: Culture, sports and recreation (1), education and research (2), health care (3), social services (4), advocacy (5) and other (6).

<<< table 2 >>>

The characteristics of the auditor are also summarized in Table 2: the influence of brand name and auditor size is measured by the BIG4-dummy variable (BIG4) as well as by a continuous measure of auditor size (LNSTAFF). The variable LNSTAFF is also expressed as a dummy

variable LARGE in which audit firms with LNSTAFF larger than the median value are assigned the value one. As such, the variable LARGE captures all BIG4 firms as well as the large(st) Non-BIG4 auditors.

Auditor specialization is measured as the natural log of the number of engagements (LN_ENGAG) of the audit firm in the nonprofit sector. This variable captures a market share approach to specialization. Since Belgian nonprofit organizations represent a relatively small audit market (in 2007, 1748 audits were performed) and the Belgian audit market in general is not characterized by a dominance of BIG4 auditors (Willekens & Achmadi, 2003), portfolio shares as well as market shares will be relatively low. Therefore, using cut-off values to determine which auditor is (and is not) a nonprofit sector specialist can lead to under- or over-estimation of the degree of specialization. Thus, similar to Beattie et al. (2001) we use a continuous instead of a dichotomous variable to measure sector specialization.

The learning curve is typically expressed as : $A_n = aN^b$, with $A_n =$ the effort required to produce the last nth unit, a= the effort needed for the production of the first unit, N= the cumulative number of units produced and b= the learning exponent. This relationship can also be expressed as $LN(A_n) = LN(a) + bLN(N)$. Therefore, the number of engagements is transformed into its natural log. Usually, the slope of the learning curve (b) is interpreted as the constant percentage decrease in effort every time output is doubled.

Audit complexity has been measured in previous research by the time gap between the end of the accounting year and the date of the audit report (DELAY) and the type of auditors' report. A late auditors' report or a report that is anything other than unqualified, is a proxy for a difficult audit process. In this paper, the dummy variable UNQUALIFIED takes the value one when the report is unqualified. Therefore, we expect a negative relationship with the audit fee.

All Belgian audit firms need to report audit fees, number of staff and number of billed hours to the Institute of Auditors (IBR, Instituut van de Bedrijfsrevisoren). At the time of the data collection, data for 2006 and 2007 were available, as well as the majority of data for 2008. In these data, nonprofit clients were identified. In the three-year period for which data are available, the number of missing data was at a minimum in 2007. Therefore, data for that year are used in the analysis. When data for 2007 were missing in the auditors' report to the Institute, the most recent available data (2008 or 2006) were used.

In 2007, the auditors reported 1,748 nonprofit audit engagements. The financial and sector data for the audited organizations were retrieved from the BELFIRST database and provided by the National Bank of Belgium. For 382 organizations, the audit fee was not reported and for 11 organizations the sector could not be determined. In 462 cases, the financial statements did not allow to calculate dependence on subsidies or donations, reducing the number of usable cases to 893. Thereof, 151 (16.9 percent) were audited by a BIG4 auditor, 742 (83.1 percent) by a non-BIG4 auditor. In 146 cases, the auditor's report was not made public and in 7 cases we did not have sufficient data to determine the auditor characteristics. This reduced the number of usable cases to 740. An overview of the number of cases is presented in Table 3.

<<< table 3 >>>

DESCRIPTIVE STATISTICS

Descriptive statistics for the continuous variables used in the audit fee models are reported in Table 4. Profitability, leverage and delay were winsorized to mitigate the disturbing effects of outliers in the regression analysis. The current ratio was transformed to its natural log to deal with a high level of skewness. The average audit fee is 5 257.74 euro. The average total assets of the audit clients is 17.8 million euro, but the distribution is heavily skewed as evidenced by the value of percentile 75. The average audit client has a leverage of 49 percent and profit is three percent of total assets. Dependence on subsidies ranges from zero to 100 percent, with an average of 33 percent. Dependence on donations (not tabulated) is only 1% on average and 80 percent of organizations do not receive donations. The auditor characteristics in Table 4 are based on the number of audit engagements. Therefore, an audit firm performing 20 audits in the sample of 740 organizations will be taken into consideration as many times in this table.

<<< table 4 >>>

The descriptives per audit firm are presented in Table 5. The data are shown for all audit firms as well as for BIG4 and Non-BIG4 firms separately. The number of audit engagements (not tabulated) in the sample varies from one to 61 in Non-BIG4 audit firms and from 11 to 129 for the BIG4 audit firms. The mean percentage of nonprofit audit fees in total audit fees (not tabulated) is 8.87 percent and 0.12 percent for Non-BIG4 and BIG4 respectively. Overall, the data suggest large differences between BIG4 and Non-BIG4 firms.

<<< table 5 >>>

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Spearman correlation coefficients are shown in Table 6. When analyzing the bivariate correlation between the audit fee (natural log) and the characteristics of the audit client and the audit engagement, we notice that the correlation with total assets (natural log), the size of the auditor (dichotomous as well as continuous) and the health care sector (sector 3) as well as the sector 6 (which is the most business-like nonprofit subsector) are high and positive. On the other hand, the subsector of education and research (sector 2) seems to pay lower audit fees. In line with our expectations, the correlation between an unqualified report and the audit fee is negative. Contrary to our expectations, the correlation between dependence on subsidies and the audit fee is negative when we do not control for other factors (most importantly the sector). LN_ENGAG also shows a different correlation than expected which may be explained by auditor size.When analyzing the characteristics of the auditor, it becomes obvious that there are very high correlations between the size (BIG4/LNSTAFF/LARGE) and specialization (LN_ENGAG) of the auditor. Therefore, separate regressions for different size proxies of auditors may be necessary to fully understand auditor size and specialization effects.

<<< table 6 >>>

MULTIVARIATE ANALYSES

The following OLS model is tested in different subsamples (with SIZE defined as BIG4, LARGE or LNSTAFF):

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$$LNAUDFEE = b_0 + b_1 LNTA + b_2 ARINV + b_3 LEVERAGE + b_4 PROFITAB$$
$$+ b_5 LNCURRENT + b_6 PERCSUBS + b_7 DONAT + b_8 SECTOR$$
$$+ b_9 DELAY + b_{10} UNQUALIFIED + b_{11} SIZE + b_{12} LN\_ENGAG + \varepsilon$$

In model 1a, 1b and 1c, the sample consists of all auditors and different measures of size are tested to determine whether size or brand name of the auditor affect audit fees. In models 2a, 2b and 2c, different subsamples of 2 categories of auditors are used (BIG4 and Large Non-BIG4, Large Non-BIG4 and small Non-BIG4, BIG4 and small Non-BIG4) which allows us to compare auditors two by two. In the last two models, only non-BIG4 auditors are used.

The results of the OLS regressions are presented in Table 7. The adjusted R^2 of the different models ranges from .327 to .461, which is satisfactory but lower than in similar for-profit firms research. The results show strong support for hypothesis 1. BIG4 auditors charge higher fees than Non-BIG4 auditors (model 1a), large Non-BIG4 auditors (model 2a) and small Non-BIG4 auditors (model 2c). However, this is not merely a brand name effect. The actual size of the auditor results in higher fees as is made clear by the significantly positive coefficients for the variable LARGE (capturing BIG4 as well as Non-BIG4 auditors) in models 1b and 2b as well as for the continuous variable LNSTAFF in model 1c and 3b. Only in the subsample of large Non-BIG4 auditors, size is not significantly correlated with audit fees.

Overall, the results strongly support the second hypothesis that nonprofit sector specialization is negatively related to audit fees. In all models, the coefficient of the variable LN_ENGAG is negative and significant. Whether this is the result of lowballing or experience effects cannot be determined in the current research setting. If the coefficient of LN_ENGAG is capturing a learning or experience effect, the learning curve involved ranges from 85 to 97 percent

(depending on the type of auditor). The coefficient 'b$_{12}$' is the result of log r/log 2, with r= the learning rate. In this case, log 0,85/log 2 is approximately -0.23, the coefficient of LN_ENGAG in model 2a. A learning rate of 85 percent indicates that the price of the last unit is 85 percent of the price of the first unit every time production is doubled. However, some caution is needed when interpreting these results. First, the experience curve is usually expressed in terms of the cost of production. Since audit price does not fully reflect audit cost, the former may be a crude proxy of the cost depending on how strongly cost reductions are reflected in price reductions. Second, as explained before, we cannot determine whether the negative coefficient of LN_ENGAG is the consequence of lowballing or experience.

Client characteristics were tested in all models. Complexity of the client is positively associated with the level of the audit fee: total assets (natural log) as well as the percentage of accounts receivable and inventory in total assets have consistent and highly significant coefficients in all models. When assessing audit risk, we conclude that leverage nor liquidity help to explain audit fee levels. Contrary to theoretical expectations and previous nonprofit research results, profitability is (marginally) significantly and positively associated with the audit fee. This effect seems to be driven by the smaller auditors (profitability is not significant when the sample only consists of larger auditors). Whereas Hay et al. (2006) suggest that mixed results may be due to a non-linear relationship, our results suggest that market characteristics may (also) drive the relationship. A nonprofit organization is allowed to report a profit, but is not expected to. Therefore, the existence of profit may reflect an 'ability to pay' higher audit fees or a lower price elasticity in more profitable organizations. The difference between the results of the current study and previous research as well as the difference between larger and smaller auditors in the current study can help identify the

conditions under which the 'ability to pay' signal leads to increased audit fees. First, the audit risk environment (litigation and commercial risk) needs to be taken into consideration. When risk is low, profitability is less important in assessing audit risk and audit effort which gives room to ability to pay effects. Second, the market characteristics define the bargaining power of both parties. In a nonprofit market where audit is mandatory but the choice of the auditor is at the discretion of the client, pressure on prices will be high. Since we do not observe the positive relationship between profitability and audit fees for larger auditors, this may indicate that these auditors have sufficient bargaining power to be able to charge 'standard' fees which makes the ability to pay less important. In none of the models, dependence on subsidies (and donations) is significant in explaining audit fees. Therefore, the results do not support our third hypothesis. The delay of the audit report is not significant, whereas the type of audit report is highly significant in 6 of the 8 models, in the expected direction.

<<< table 7 >>>

In sum, the data on Belgian nonprofit organizations largely support a price premium for large auditors and a price reduction for nonprofit sector specialists. The audit fee does not seem to be driven by resource dependence.

In this paper we analyze nonprofit audit fees in a market where (i) the BIG4 auditors are not strongly dominant, (ii) clients as well as auditors are relatively inexperienced with the audit process in a nonprofit setting, (iii) the market is recently reformed, small and developing. Since there is only a limited number of studies on audit fees in the nonprofit sector, the current paper extends previous research on two important dimensions.

First, we tested whether or not known determinants of audit fees identified in previous (mostly for-profit sector) research are also reflected in nonprofit organisations' audit fees. Measures of client complexity are highly important in explaining audit fees and comparable to for-profit studies, suggesting that auditors duplicate knowledge on for-profit audit complexity in nonprofit audit fees. Measures of audit risk, however, are not used in the same manner. Liquidity and leverage are insignificant in explaining audit fees. We need to take into consideration that (i) the litigation risk and commercial risk is quite low when auditing a (small) nonprofit organization, (ii) this is even more so the case in Belgium, where litigation risk is traditionally lower than in e.g. the US or the UK.

The relationship between audit fee and profitability is positive for smaller auditors. This result, which prima facie is unexpected and opposite to theoretical expectations, can help to shed light on previously mixed results reported by Hay et al. (2006) and is consistent with an 'ability to pay effect' and differences in auditors' bargaining power. In contrast to earlier studies but in line with theoretical expectations, an unqualified audit report is negatively related to audit fees. Follow-up research can look into this effect by analyzing whether or not this variable remains significant when the audit market becomes more mature and clients as well as auditors get more experienced.

The test of auditor characteristics shows that, similar to previous research, larger auditors charge higher fees. The size of the auditor does not necessarily need to be reduced to a dichotomous Big4 versus Non-Big4 variable.

Auditor specialization is negatively associated with lower audit fees. The signaling effect of hiring a specialist auditor may be smaller for nonprofit organizations due to the absence of stockholders. Therefore, the willingness to pay higher fees for a specialist will also be lower. From a supply-side view, since this is a newly established market, learning effects may play an important role and drive fees downwards. On the other hand, the negative relationship between the number of audits and the fees may also be caused by lowballing in a price-conscious market.

Second, the effect of resource dependence (tested previously by Beattie et al. (2001) and Vermeer et al. (2009)) is tested in an environment where governmental grants are an important source of revenue. Contrary to our expectations, the percentage of subsidies is not significantly correlated with audit fees. Several explanations are possible: (i) the government does not pay attention to financial audit information in the procurement process of subsidies, (ii) subsidies do not increase the audit effort, (iii) subsidies are audited by governmental auditors, not by financial auditors, (iv) audit clients are not convinced that higher quality audits are important in receiving/justifying subsidies.

The current paper extends knowledge on nonprofit audit fees and is important to practice as well. Overall, the results show that the audit fee model of a nonprofit organization differs from a for-profit client due to the characteristics of the client and the audit market. Lower litigation and/or commercial risk, the absence of shareholders which induces lower agency problems and signaling effects are possible explanations for differences in the audit fee

determinants. Dependence on governmental subsidies, a key difference in the financing of for-profits and nonprofits is not significant in explaining audit fee levels.

The relatively low explanatory power of the audit fee models indicates that further research is needed to better explain nonprofit audit fees. A comparison with for-profit audit fees in a similar market may further help to clarify differences. Furthermore, future analysis of audit fees may help to distinguish lowballing from experience curve effects.

The results of the current study are important to audit clients as well as auditors. They need to be aware of the difference in pricing between smaller and larger auditors, between specialists and non-specialists and the effect of profitability on the fee level. Given the fact that previous Belgian research (Vander Bauwhede and Willekens, 2004) did not identify differences in quality between large and smaller audit firms, this information is relevant in their pricing and auditor choice decision.

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TABLE 1. BRIEF OVERVIEW OF FORMER RESEARCH ON THE DETERMINANTS OF AUDIT FEES.

Determinant	*Expect.*	*Meta-analysis* by Hay et al. (2006)	*Nonprofit studies* Basioudis et al. (2005) Beattie et al. (2001) Mellett et al. (2007) Vermeer et al. (2009)
Audit client			
Size	+	+	+
Complexity: Inventories/debtors	+	+	+
Audit risk:			
Profitability	-	Mixed	NS
Leverage	+	+	+ and NS
Liquidity	-	-	-
Internal control	-	Mixed	+
Governance	?	Mixed	+
*Resource dependence***:**			
fundraising (1) versus grantmaking (0)			+
donation income			NS
trading income			+ and NS
Auditor			
Audit quality:			
Big'N' auditor	+	+	Evidence in support of a Big'N' premium Weak support for NonBig 'N' specialist premium or non-significant results
Specialization	?	mixed	
Auditor tenure	+	+	NS
Expensive (metropolitan) location	+	+	+
Audit engagement			
Busy season	+	mixed	NS
Report lag	+	+	NS
Opinion (other than qualified)	+	'less important'	NS
Non-audit services	?	+	mixed

Positive (negative) relationships are marked with '+' ('-'), whereas statistically insignificant relationships are marked 'NS'

TABLE 2. DEFINITION OF VARIABLES

Determinant	*Hypoth. /Control*	Definition	*Expectation*
Audit client			
LNTA	C	Natural log of total assets	+
ARINV	C	(Accounts receivable+ inventory)/Total assets	+
PROFITAB	C	Net profit of the period/Total assets	-
LEVERAGE	C	Total debt/Total assets	+
LNCURRENT	C	Current assets/Current liabilities (nat.log)	-
PERCSUBS	H3	Grants/total operating revenue	+
DONAT	C	Dummy variable to indicate the presence of donations	?
SECTOR	C	Dummy variables to indicate the subsector to which the nonprofit organization belongs	?
Auditor			
BIG4	H1	Dummy variable: 1 when the auditor is a Big 4 firm, 0 otherwise	+
LNSTAFF	H1	Natural log of the number of audit staff (expressed in full time equivalents) of the audit firm	+
LARGE	H1	Dummy variable: 1 when LNSTAFF of the auditor is larger than the median value, zero otherwise	+
LN_ENGAG	H2	Natural log of the number of audit engagements in the nonprofit sector	-
Audit engagement			
DELAY	C	Number of days between end of the accounting period and date of the audit report	+
UNQUALIFIED	C	Dummy variable: 1 when unqualified auditors' report, 0 otherwise	-

TABLE 3. NUMBER OF OBSERVATIONS

	Total	BIG4	Non-BIG4
Total number of audits	**1748**	**284 (16.2%)**	**1464 (83.8%)**
-Fee unknown	-382	- 38	- 344
- Sector unknown	-11	- 1	- 10
-missing data financial statements	-462	- 94	- 368
Number (client characteristics)	**893**	**151**	**742**
-missing data on audit engagement (unqualified/delay)	-146	-40	-106
-missing data on auditor characteristics	-7	-0	-7
Number (client/auditor/engagement)	**740**	**111 (15.0%)**	**629 (85.0%)**

TABLE 4. DESCRIPTIVE STATISTICS ON CONTINUOUS VARIABLES

	Min.	Max.	Perc25	Perc75	Mean	Std.dev.	Skewness	Kurtosis
FEE	471.00	100150.00	2150.00	5671.75	5257.74	3302.50	6.21	65.37
LNFEE	6.15	11.51	7.67	8.64	8.21	.77	.64	.82
TA (000)	8.4	1235708	2208.04	11774.21	17790.75	6059.92	13.14	234.29
LNTA	9.03	20.93	14.61	16.28	15.48	1.47	.046	.97
ARINV	.00	.99	.068	.29	.21	.20	1.58	2.24
LEVERAGE wins.1%	.03	1.24	.27	.67	.49	.27	.484	-.371
PROFITAB. Wins.5%	-.06	.15	.0052	.061	.0356	.05	.48	.204
LNCURRENT	-1.71	6.72	.309	1.29	.91	.93	1.50	5.48
PERCSUBS	.00	1.00	.006	.83	.46	.37	-.019	-1.56
DELAY Wins.1%	57	261	113	157	135.53	34.96	.13	1.20
LNSTAFF	.00	6.17	1.04	3.32	2.51	1.83	.71	-.51
LN_ENGAG	.00	4.86	2.08	3.99	2.98	1.19	-.43	-.48

TA is total assets, expressed in thousands of euros. LNTA is the natural logarithm of TA. ARINV is the sum of accounts receivable and inventories divided by total assets. LEVERAGE is total debts divided by total assets. PROFITAB is net profit divided by total assets. LNCURRENT is the natural logarithm of current assets divided by current liabilities. PERCSUBS is grants divided by operating revenue. DELAY is the number of days between the end of the accounting period and the date of the audit report. LNSTAFF is the natural log of the number of audit staff (expressed as full time equivalents) of the audit firm. LN_ENGAG is the natural log of the number of audit engagements of the audit firm in the nonprofit sector.

TABLE 5 CHARACTERISTICS OF AUDIT FIRMS

	Min.	Max.	Mean	Std.dev.	Skewness	Kurtosis
LNSTAFF						
BIG4 (n=4)	5.69	6.17	5.97	.22	-.61	-2.41
Non-BIG4 (n=130)	.00	4.55	1.24	1.01	.84	.26
LN_ENGAG						
BIG4	2.40	4.86	3.95	1.08	-1.54	2.72
Non-BIG4	.00	4.11	1.61	1.61	.24	-.53

LNSTAFF is the natural log of the number of audit staff (expressed as full time equivalents) of the audit firm.
LN_ENGAG is the natural log of the number of audit engagements of the audit firm in the nonprofit sector.

TABLE 6. SPEARMAN CORRELATION COEFFICIENTS (definition of variables in table 2)

	LNFEE	LNTA	ARINV	PRIOFITAB	LEVERAGE	LNCURRENT	PERCSUBS	DONAT	SECT1	SECT2	SECT3	SECT4	SECT5	SECT6	BIG4	LNSTAFF	LARGE	LNENGAG	DELAY
LNTA	**.537**	1																	
ARINV	.041	**-.221**	1																
PROFITAB	-.040	**-.131**	.049	1															
LEVERAGE	.001	**-.132**	**.306**	-.188	1														
LNCURR	-.010	.060	**-.314**	.265	**-.646**	1													
PERCSUBS	**-.197**	**-.184**	**-.095**	.049	-.014	**.124**	1												
DONAT	.024	.026	**-.124**	**-.079**	-.055	.058	**.213**	1											
SECT1	-.016	-.091	.041	**-.074**	.021	-.030	-.070	-.048	1										
SECT2	**-.214**	-.071	**-.182**	**.112**	-.006	**.198**	**.494**	-.001	**-.125**	1									
SECT3	**.273**	**.292**	**.209**	-.019	.056	-.032	**-.081**	**-.106**	-.054	**-.220**	1								
SECT4	-.041	**-.105**	.032	**-.081**	**-.118**	**-.151**	**-.178**	**.221**	**-.132**	**-.540**	**-.232**	1							
SECT5	-.037	-.050	-.018	.046	-.063	.070	-.064	-.068	-.051	**-.207**	**-.089**	**-.218**	1						
SECT6	**.158**	.049	.041	-.003	**.167**	-.066	**-.294**	-.146	-.055	**-.226**	**-.097**	**-.238**	**-.091**	1					
BIG4	**.194**	**.184**	.042	-.041	.072	**-.087**	**-.102**	-.059	-.029	**-.085**	.059	**-.104**	.049	**.171**	1				
LNSTAFF	**.285**	**.230**	**.092**	-.029	.029	**-.083**	**-.160**	-.053	-.065	**-.091**	.059	**-.089**	.061	**.173**	**.620**	1			
LARGE	**.262**	**.180**	**.091**	-.021	.058	-.068	-.115	-.020	**-.076**	-0.63	**.076**	**-.085**	.036	**.144**	**.393**	**.866**	1		
LN_ENGAG	.060	**.089**	**.086**	-.012	.093	-.053	.005	-.043	**-.098**	.017	.017	**-.138**	.046	**.096**	**.592**	**.729**	**.694**	1	
DELAY	.052	.050	.068	**-.084**	.096	**-.083**	-.040	-.029	**-.117**	.087	.087	-.018	-.148	**.079**	**.106**	**.146**	**.148**	**.156**	1
UNQUAL	**-.146**	**-.082**	-.069	.059	**-.158**	**.131**	.035	.005	.057	**-.211**	-.211	.065	.020	-.062	.045	-.029	-.032	.039	**-.135**

(two-sided, significant correlations at 5% level are bolded)

TABLE 7. OLS REGRESSION RESULTS

SAMPLE		ALL auditors		ALL auditors		ALL auditors		LARGE auditors		NONB4 auditors		B4 and small auditors		LARGE NONB4 auditors		SMALL auditors	
Variables	Expect.	Model 1a		Model 1b		Model 1c		Model 2a		Model 2b		Model 2c		Model 3a		Model 3b	
CONSTANT		3.443	***	3.444	***	3.602	***	3.886	***	4.034	***	3.674	***	4.257	***	4.218	***
LNTA	+	.304	***	.302	***	.289	***	.324	***	.272	***	.289	***	.292	***	.248	***
ARINV	+	.479	***	.457	***	.436	***	.417	**	.483	***	.448	**	.454	**	.447	**
LEVERAGE	+	.025		.055		.077		.090		.010		.068		.078		-.023	
PROFITAB.	-	.841	*	.799	*	.839	*	.128		.821	*	1.335	**	.006		1.576	**
LNCURRENT	-	.010		.010		.017		.017		.001		.035		-.006		-.004	
PERCSUBS	+	-.012		.011		.027		-.040		.038		.017		.034		.080	
DONAT		.070		.053		.069		.414	*	.041		.026		.115		-.010	
SECTOR1		.344	**	.360	**	.322	**	.262		.247	*	.449	**	.007		.346	**
SECTOR3		.282	**	.271	**	.284	**	.276	**	.211	**	.307	**	.190		.271	*
SECTOR4		.098		.092		.079		.115		.058		.121		.056		.094	
SECTOR5		.155	*	.159	*	.133		.092		.150		.161		.128		.198	
SECTOR6		.314	**	.311	**	.272	**	.350	**	.199	*	.227	*	.329	**	-.008	
DELAY	-	.000		.000		.000		-.001		.000		.000		-.001		.001	
UNQUALIFIED	-	-.143	**	-.110	*	-.120	**	-.052		-.130	**	-.189	**	-.045		-.180	**
BIG4	+	.311	***					.374	***			.649	***				
LARGE	+			.362	***					.360	***						
LNSTAFF	+					.122	***							.046		.097	*
LN_ENGAG		-.040	*	-.093	***	-.126	***	-.229	***	-.132	***	-.125	***	-.224	***	-.127	***
R²Adj.		.413		.427		.434		.461		.390		.449		.400		.327	
F		33.43	***	35.49	***	36.47	***	22.04	***	26.05	***	24.17	***	12.78	***	11.45	***
Max VIF		1.944		1.947		2.393		1.903		1.942		2.685		1.997		2.101	
N		740		740		740		395		629		456		284		345	

Definition of variables in Table 2. Significance at 0.1 (*), 0.05 (**) and 0.001 (***) levels