An empirical analysis of factors related to auditor switching after corporate takeovers

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HUB RESEARCH PAPERS 2012/03
ECONOMICS & MANAGEMENT
JANUARI 2012

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SUMMARY

In case of a takeover, the acquiring firm has to choose whether to retain the acquired firm's incumbent auditor or to switch to its own auditor. In the current paper, we explore the drivers of auditor switching by the acquired firm after a takeover among a sample of Belgian takeovers. Employing binary probit regression analysis, we relate different types of variables borrowed from the auditing literature (e.g., similarity of activities between the acquired and the acquiring firm, auditor size, type of audit opinion, agency variables) to the auditor change decision. Our results confirm prior evidence indicating that the majority of acquired firms switch to the auditor of the acquiring firm after the takeover. Whereas prior results are inconclusive, our results suggest that similarity of activities between the acquired and the acquiring firm does not affect the decision to replace the acquired firm's auditor. However, our results indicate that the likelihood of an auditor switch is significantly higher when the acquiring firm is listed. Agency variables (at both the acquired and the acquiring firm level) are also found to affect the auditor change decision.

KEYWORDS: takeover, auditor switch, auditor choice, agency costs

INTRODUCTION

Inspired by a desire to increase our understanding of auditor switches, several studies have relied on surveys (see e.g., Burton and Roberts 1967; Branson and Breesch 2004), a scrutiny of disclosed reasons for changing auditors (see e.g., Bedingfield and Loeb 1974; Turner et al. 2005; Grothe and Weirich 2007) and/or empirical research (see e.g., Francis and Wilson 1988; Williams 1988; Haskins and Williams 1990; Woo and Koh 2001) in an attempt to bare the underlying reasons for auditor changes. As argued by Woo and Koh (2001), a greater understanding of the major determinants of auditor changes can enhance the credibility of the audit function (i.e., auditor changes are often associated with a poor financial condition, cf. infra). In this respect, we note that auditor switching is an important issue. For example, based on U.S. data, Grothe and Weirich (2007, 16) report that 1,394 (7,629) auditor changes took place in 2006 (the period 2002-2006) and they therefore conclude that *"[g]iven the thousands of companies of all sizes, in all industries, that have changed auditors in the past five years, it has become apparent that the stigma previously attached to auditor changes has subsided, if not disappeared"* (Grothe and Weirich 2007, 16). In addition, they note that in the majority of the cases (i.e., about 65 percent of the cases), the client initiated the change.

Importantly, auditor changes give rise to substantial costs for both the auditor and the client (Dhaliwal et al. 1993). The terminated auditor loses the future value of any quasi-rents (i.e., they have acquired specialised knowledge in respect of their clients), while the new auditor incurs start-up costs (which may be passed on the client through higher

engagement fees[1]) (DeAngelo 1981a; Magee and Tseng 1990). The client, on the other hand, faces the cost of finding a new auditor, as well as the costs of familiarizing the new auditor with its operations, industry and environment (Berlin and Walsh 1972; Craswell 1988). In addition, the client may experience a negative stock price reaction if the market views the termination as a signal of poor economic prospects (Dhaliwal et al. 1993). Given these costs, an auditor change is only expected to take place when the benefits to be gained (or the costs to be avoided) are greater than the aforementioned costs for at least one of the parties (Dhaliwal et al. 1993). As argued by Calderon and Ofobike (2008), auditor switches will usually not happen without a cause, but occur if the goals of one of the parties in the auditor-client relationship are no longer being efficiently satisfied[2].

Analyses of disclosures related to auditor switches (see e.g., Bedingfield and Loeb 1974; Turner et al. 2005; Grothe and Weirich 2007) indicate that mergers and acquisitions are a frequently cited reason. In a similar vein, Anderson et al. (1993) and Firth (1999) empirically show that in more than 70 percent of the takeovers studied (i.e., 73 percent and 81 percent, respectively), the acquired firm switched to the acquiring firm's auditor. In case of a takeover, the acquiring firm has to choose whether to retain the acquired firm's auditor or to switch to its own auditor. The latter decision involves a trade-off between (i) economies of scale that would accrue if the acquiring firm's auditor performs the audit of the entire group[3]; and (ii) the value of the specialised client knowledge possessed by the acquired firm's auditor (Anderson et al. 1993). The observation that most acquired firms switch to the acquiring firm's auditor therefore suggests that using a

single audit firm is (perceived to be) associated with cost savings and/or efficiency benefits (Anderson et al. 1993). In a related vein, Branson and Breesch (2004) demonstrate that referral[4] is a very important determinant for auditor choice in Belgium. For example, they observe that eight of ten Belgian firms that switch auditors do not initiate this change, but rather follow a switch at the parent level. According to Branson and Breesch (2004), this finding is attributable to the fact that the firm strives for control unity inspired by economies of scale and efficiency.

Both Anderson et al. (1993) and Firth (1999) test the impact of differences in activities between the acquiring and the acquired firm on the auditor switch decision, with the underlying assumption that an auditor switch is less likely (i.e., the acquired firm's auditor is more likely to be retained) if the business activities of both firms are different. Interestingly, both studies yield opposite results. While findings of Firth (1999) are in line with the aforementioned assumption, Anderson et al. (1993) obtain results that are contrary to expectations. Because prior findings are ambiguous, the purpose of this paper is to further explore the issue based on a sample of Belgian takeovers over the period 2005-2007.

The main contributions of this paper can be summarized as follows. First, we add to the very scarce and contradictory empirical evidence on the drivers of auditor switching by the acquired firm after a takeover. Second, by focusing on a sample of Belgian firms we explore the issue under study in a typical European setting, while prior studies have focused on listed firms in Anglo-Saxon countries. The Belgian setting is appealing

because an external financial statement audit is mandatory for large firms irrespective of whether they are listed. Furthermore, auditor names and accounting data are publicly available as all Belgian firms (both listed and unlisted) are required to file their financial statements with the National Bank of Belgium (henceforth NBB), and these are subsequently made public. As a result, we consider a sample that mainly consists of non-listed firms. As argued by Firth (1999), prior findings need not be generalizable to non-listed firms. In this respect, it is important to note that our results indicate that an auditor switch is significantly more likely when the acquiring firm is listed. Third, while prior research on this subject has only considered characteristics of the acquired firm, we also consider characteristics of the acquiring firm in an attempt to explain auditor switching. Our findings clearly confirm the importance of controlling for the latter characteristics.

The remainder of the paper is organized as follows. In Section 2, we discuss previous literature and formulate our hypotheses, while the sample is introduced in Section 3. Our results are presented in Section 4. Finally, we summarize our main conclusions in Section 5.

LITERATURE AND HYPOTHESES

Similarity of Activities

Analogous to Anderson et al. (1993) and Firth (1999), we assume that similarity of activities between the acquired and the acquiring firm may affect the decision to retain or switch the incumbent auditor of the acquired firm. As discussed in the introduction, the

incumbent auditor of the acquired firm has gained specialist knowledge of that client and the decision to retain or switch the auditor will therefore be influenced by the expected costs of losing these specialized skills (Anderson et al. 1993). If the activities of the acquired and the acquiring firm are very similar, then the auditor of the acquiring firm should be able to perform the audit of the acquired firm quite efficiently, thereby mitigating the costs of switching (Firth 1999). If the activities of both firms are dissimilar, the costs of auditor switching are likely to be higher. As a result (and analogous to Anderson et al. (1993) and Firth (1999)), we hypothesize that retention of the acquired firm's auditor is more likely when the acquired and the acquiring firm are in a different industry.

In order to measure the degree of similarity in activities between the acquired and the acquiring firm, we determine whether both firms have the same industry classification (based on primary two-digit SIC codes). Both Anderson et al. (1993) and Firth (1999) employ two alternative measures of similarity in activities. Anderson et al. (1993) rely on investment analysts' judgment about the type of takeover (horizontal, vertical or conglomerate) and similarity of the secured debt-to-assets ratio between both firms. As argued by Firth (1999), the latter proxy is an unusual proxy and Firth therefore considers the former proxy and industry classifications to proxy for similarity in activities. Because our sample mainly consists of non-listed firms, we are not able to rely on investment analysts' judgment. We are therefore restricted to industry classifications, which, as argued by Firth (1999), can be considered less subjective than investment analysts' judgment.

Auditor

Many studies have demonstrated *quality* (and *pricing*) differences among auditors. In the literature, it is argued that audit quality is conditional upon both the auditor's competence (i.e., the probability that an auditor discovers a given breach) and the auditor's independence (i.e., the probability that an auditor reports a discovered breach) (see e.g., Watts and Zimmerman 1986). Based on these considerations, large audit firms are assumed to provide audits of a higher quality than small audit firms (see e.g., DeAngelo 1981b; Watts and Zimmerman 1986) because, in view of their larger customer base, they are believed to be less dependent upon their clients and there may be more at stake for them (i.e., termination of other clients, reduced fees for remaining clients, loss of reputation, etc.) when they give in to clients' pressures to not report a discovered breach. Typically, empirical studies rely on a dichotomous variable (i.e., Big N vs. non-Big N audit firms) to proxy for differences in audit quality between large and small audit firms. Using different methodologies, various studies (see e.g., Nichols and Smith 1983; Francis and Wilson 1988; Palmrose 1988; DeFond and Jiambalvo 1991; DeFond 1992; Teoh and Wong 1993; Craswell et al. 1995; Francis et al. 1999; Piot 2001 Blokdijk et al. 2003) assess the accuracy of this so-called 'brand name' proxy. Overall, results presented in these studies suggest that the brand name proxy adequately captures differences in audit quality. For example, accounting errors are less likely to be observed in the financial statements of Big N clients (see DeFond and Jiambalvo 1991), Big N audit firms are confronted with lower litigation rates (see Palmrose 1988), earnings response coefficients are significantly higher for Big N clients (see Teoh and Wong 1993), and Big N audit

firms use lower quantitative materiality levels (see Blokdijk et al. 2003). In a similar vein, several prior studies (see e.g., Francis 1984; Firth 1985; Chan et al. 1993; Pong and Whittington 1994) demonstrate the existence of a Big N fee premium[5]. Based on these considerations, we expect that (i) an auditor switch is more likely if the acquiring firm hires a high-quality (i.e., Big 4) auditor and the acquired firm does not; and (ii) an auditor switch is less likely if the acquired firm hires a high-quality (i.e., Big 4) auditor. We therefore include a dummy variable (to be denoted by *DIFAUD*) that is coded one if the acquiring firm hires a Big 4 auditor and the acquired firm does not; and zero otherwise. We expect a positive relationship between *DIFAUD* and an auditor switch. In addition, we include a dummy variable (to be denoted by *TAR_BIG4*) that is coded one if the acquired firm hires a Big 4 auditor; and zero otherwise. We predict a negative relationship between *TAR_BIG4* and an auditor switch.

Non-Clean Audit Opinion

Results obtained in prior studies demonstrate that auditor changes are often inspired by dissatisfaction with the former auditor (see e.g., Branson and Breesch (2004) for a brief review). Because a 'non-clean' audit opinion gives rise to certain costs (e.g., a negative effect on the stock price and/or the ability to borrow funds), it is likely to cause dissatisfaction (i.e., managers want to avoid the aforementioned costs), which might induce an auditor change. Whereas Schwartz and Menon (1985) and Haskins and Williams (1990) do not observe a significant relationship between auditor change and the type of audit opinion, results presented by Johnson and Lys (1990) and Krishnan et al. (1996) are consistent with firms changing auditors after having received a qualified

opinion. We therefore include a dummy variable (to be denoted by *TAR_OPIN*) that is coded one if the acquired firm did *not* receive an *unqualified* opinion in the year preceding the takeover; and zero otherwise. We expect a positive relationship between *TAR_OPIN* and an auditor switch.

Listing Status

Whereas prior studies on the subject under study have focused on samples of listed firms, we rely on a sample of takeovers that mainly includes non-listed firms. Prior studies indicate that auditor choice is more important for listed firms for two reasons. Firstly, the ownership of listed firms is more dispersed, giving rise to larger agency costs. Secondly, auditor choice has been found to affect stock prices (see e.g., Teoh and Wong 1993). As such, the pressure to have only one auditor for the entire group is likely to be higher when the acquiring firm is listed. Moreover, group financial statements of listed Belgian firms are required to be prepared under IFRS (i.e., International Financial Reporting Standards), whereas group financial statements of non-listed Belgian firms and individual (i.e., statutory) financial statements of all Belgian firms have to prepared according to Belgian GAAP. Because group and individual financial statements for listed firms are prepared according to different accounting standards, the efficiency and economies of scale of having only one auditor for the entire group are clearly larger when the acquiring firm is listed. We therefore include a dummy variable (to be denoted by *ACQ_LIST*) that is coded one if the acquiring firm is listed; and zero otherwise. We expect a positive relationship between *ACQ_LIST* and an auditor switch.

We control for the listing status of the acquired firm. Specifically, we include a dummy variable (to be denoted by *TAR_LIST*) that is coded one if the acquired firm is listed; and zero otherwise.

Control Variables

We control for several variables that have been found to be related to auditor switching in prior research. Due to the fact that prior studies have typically focused on auditor switching inspired by audit quality differences (cf. supra), the previously observed relationships need not be generalizable to the current study. That is, we explore whether the acquired firm switches to the acquiring firm's auditor, which does not necessarily give rise to higher (or lower) audit quality. In sum, given the different research setting, we control for these variables, but we make no predictions regarding their effect. Due to the fact that both the acquired and the acquiring firm's characteristics could give rise to an auditor switch, we control for these variables at both the acquired and the acquiring firm level.

Prior research has shown that the economic condition of a firm is related to auditor changes. Schwartz and Menon (1985), for example, show that financial distress is a significant auditor change factor. This observation is explained based on the idea of 'information suppression' (Kluger and Shields 1987). Managers of financially distressed firms might attempt to suppress (or delay) the dissemination of negative information and/or apply accounting methods that (temporarily) mask the firm's financial condition. If the incumbent auditor is not willing to accept such practices, management might decide

to hire another auditor (who is then willing to do so). Dhaliwal et al. (1993) demonstrate that poor or deteriorating financial condition is related to disagreements with the auditor (and as mentioned earlier, dissatisfaction with the auditor is an important cause for an auditor change). We therefore control for variables related to financial distress. We include the current ratio (to be denoted by *CURRENT*) for the year preceding the takeover as a liquidity proxy and a dummy variable that captures the presence of (sequential) losses (to be denoted by *LOSS*). More specifically, we include a dummy variable that takes the value of one if the firm has a loss for the year preceding the takeover *and* retained losses on its balance sheet, and zero otherwise.

Auditing is widely viewed as a means of reducing agency costs (see e.g., Jensen and Meckling 1976; Simunic and Stein 1987; Francis and Wilson 1988). It follows that when agency costs are larger, there will be increased demand for a higher level of audit quality (Francis and Wilson 1988). Jensen and Meckling (1976) identify two types of agency conflicts: (i) between the owner and the manager; and (ii) between the owner and the debt-holder. In the academic literature, it is generally recognized that agency problems increase with firm size (e.g., managerial ownership typically decreases as firm size increases) and similar to prior auditing studies (see e.g., Chow 1982; Weets 1999; Niemi et al. 2009) we include firm size (to be denoted by *SIZE*) as a proxy for agency costs. In addition, based on the argument of Jensen (1986) (i) that managers may have incentives to expand their firm beyond its optimal size; and (ii) that especially managers in firms with large free cash flows initiate value-decreasing takeovers, we include the cash ratio (to be denoted by *CASH*) and the ratio of EBITDA to total assets (to be denoted by

EBITDA) to proxy for internal cash generation. In order to capture the second type of agency conflict, we include leverage (to be denoted by *LEV*) (see e.g., Firth 1999; Woo and Koh 2001; Tate 2007).

Table 1 presents a summary of both the dependent and independent variables (and our predictions).

[INSERT TABLE 1 ABOUT HERE]

SAMPLE

Data on takeovers are collected from Bureau van Dijk's Zephyr database (which contains information on mergers and acquisitions, initial public offerings, private equity and venture capital deals and rumors), whereas financial statement data are obtained from Bureau van Dijk's Belfirst database (which contains financial statement data for Belgian and Luxembourg firms). Zephyr does not impose a minimum deal value in order for a deal to be included in the database and covers mergers and acquisitions of public as well as private bidders. Compared to the SDC Platinum database of Thomson Financial and Mergerstat, the Zephyr database has a better coverage of smaller European transactions (see e.g., Huyghebaert and Luypaert 2010). Auditor names (and auditor opinions) are collected from the firms' actual financial statements (i.e., from the auditor's report) retrieved from the website of the NBB[6] As mentioned earlier, Belgian firms are required to file their financial statements with the NBB and these are then made public.

Nevertheless, financial statements are only available as from 2004 onwards through the website of the NBB. Because we need the name of the auditor of both firms for the year prior to the takeover, our sample period starts in 2005. Analogous to Anderson et al. (1993) and Firth (1999), we consider a two-year window following the takeover to determine whether an auditor change took place. Because the most recent financial statements available on the website of the NBB related to 2009 at the moment of our data collection, our sample period ends in 2007. In sum, our study covers the period 2005 up to 2007.

From Zephyr, we select all 'completed' acquisitions[7] for the period 2005 up to 2007 in which both the acquired and acquiring firm are Belgian (i.e., 404 transactions, cf. Table 2). We had to eliminate 106 transactions because the acquired firm's unique number was missing in the Zephyr database (cf. Table 2). These were eliminated because transactions for which the unique firm number is missing relate to only part of the firm (e.g., takeover of one specific segment). We lose a lot of transactions (i.e., 164) because many acquired firms did not have an auditor. That is, the requirement to have an external auditor is only imposed for so-called large firms[8]. The majority of the takeovers therefore relate to small firms that are not required to, and therefore typically do not, have an auditor. Next, we eliminated six transactions because both firms had the same auditor prior to the takeover. Finally, we lose two more transactions because of missing data required for the calculation of our independent variables. We therefore end up with a final sample of 126 transactions. Table 2 presents a summary of the sample selection process.

[INSERT TABLE 2 ABOUT HERE]

RESULTS

Descriptive Statistics

Table 3 presents descriptive statistics. Consistent with prior studies (see Anderson et al. 1993; Firth 1999), we note that for the majority of the takeovers in our sample (i.e., 65 percent) the acquired firm switched to the acquiring firm's auditor. However, it might be interesting to add that the aforementioned percentage is lower than the percentages reported in prior studies (i.e., Anderson et al. (1993): 73 percent; and Firth (1999): 81 percent). For the majority of the takeovers (i.e., 57 percent), both the acquiring and the acquired firm are in the same industry. While the large majority of the acquiring firms hire a Big 4 auditor (i.e., 67 percent), this is true for only 26 percent of the acquired firms. A small minority of the acquired firms (i.e., eight percent) received a 'non-clean' audit opinion in the year preceding the takeover. It might be interesting to add that, based on Belgian SMEs, Van Caneghem and Van Campenhout (2010) report that 94.47 percent of the firms in their sample received an unqualified audit opinion. The observed percentage is therefore slightly higher than what is common, which might be explained by the fact that takeover targets are often characterized by a poor financial condition (which may give rise to a going concern opinion). With 25 percent of the acquiring firms being listed, our sample is quite different from the samples employed in prior studies (that only considered listed firms). Also note that only a small minority (i.e., nine percent) of the acquired firms is listed. As can be seen from Table 3, neither the acquired

firms, nor the acquiring firms do, generally speaking, suffer from liquidity problems (i.e., both the mean and median current ratios are well above one). About one third (i.e., 33 percent) of the acquired firms encountered sequential losses (i.e., retained losses on the balance sheet *and* a loss in the year preceding the takeover), which is about twice as much as for the acquiring firms. Especially the acquired firms tend to have a rather high leverage ratio. Nevertheless, the observed percentages are not abnormal for Belgian firms[9]. The combined observation that acquired firms (i) typically have a substantially higher leverage ratio; and (ii) exhibit a substantially higher incidence of sequential losses provides support for our earlier argument that going concern problems might explain the relatively high percentage of 'non-clean' audit opinions for the acquired firms. As could be expected, the acquiring firms tend to be larger than the acquired firms. Based on both the cash ratio and the ratio of EBITDA over total assets, we conclude that the acquired firms tend to have a slightly better cash position than the acquiring firms.

[INSERT TABLE 3 ABOUT HERE]

Multivariate Results

Before we ran our multivariate models, we had a look at the correlation matrix (not reported, but available upon request) and variance inflation factors (i.e., VIFs) in order to assess the potential problem of multicollinearity. Given that all correlations among the independent variables and VIFs are modest (i.e., the largest correlation (VIF) is 0.50 (1.80)), we conclude that the data used in the current study are not affected by collinearity problems. Table 4 presents results for our multivariate model (i.e., based on a binary

probit regression). Model I includes variables that relate to both the acquired and the acquiring firm, while Model II (III) only considers variables that relate to the acquired (acquiring) firm.

[INSERT TABLE 4 ABOUT HERE]

Inconsistent with our predictions, results presented for Model I indicate that auditor switching is not significantly related to similarity of activities between the acquiring and the acquired firm. That is, the coefficient for *IND* does not differ significantly from zero. Our results are therefore consistent with those reported by Anderson et al. (1993) and do not support those reported by Firth (1999). Also inconsistent with expectations, an auditor switch is not found to be more likely when the acquiring firm hires a high-quality (i.e., Big 4) auditor and the acquired firm does not. That is, the coefficient for *DIFAUD* does not differ significantly from zero. Nevertheless, consistent with our predictions, we observe a significantly negative coefficient for *TAR_BIG4*. Worded differently, our results indicate that an auditor switch is significantly less likely when the acquired firm hires a high-quality (i.e., Big 4) auditor. In addition (and inconsistent with our expectations), we observe no statistically significant relationship between the type of audit opinion (i.e., *OPIN*) and the decision to replace the acquired firm's auditor. Whereas prior findings on the relationship between the type of audit opinion and auditor switching are inconclusive, our results suggest there is no relationship.

Consistent with expectations, we observe a significantly positive coefficient for *ACQ_LIST*. Results therefore indicate that the acquired firm is significantly more likely to replace its auditor when the acquiring firm is listed. This result provides support for the argument of Firth (1999) that prior findings (based on listed firms) on this issue need not be generalizable to non-listed firms and might explain the fact that we observe a smaller percentage of switchers compared to prior studies (cf. supra). As discussed earlier, the observed positive relationship can be explained by the fact that the pressure to have only one auditor for the entire group is larger when the acquiring firm is listed (because of higher agency costs and/or the fact that auditor choice affects stock prices). In addition, the efficiency and economies of scale of having only one auditor for the entire group are larger when the acquiring firm is listed (because of differences in accounting standards applicable to group and statutory financial statements). Nevertheless, as shown in Table 4, the listing status of the acquired firm is not found to affect the auditor switch decision.

As can be seen from Table 4, some of the control variables attain statistical significance. While the economic condition variables do not attain statistical significance, the opposite is true for (some of) the agency variables. Focusing on Model I, we note a significantly negative coefficient for the acquired firm's leverage (*TAR_LEV*). This finding therefore suggests that an auditor switch is less likely when agency costs (between the owner and the debt-holder) at the acquired firm are larger. This observation can be explained by the fact that the process that matches client-firms with their auditors is not a random one, but rather results from a careful selection in which both parties (client and auditor) seek to achieve their individual goals (Williams 1988). As discussed earlier, being a monitoring

device, auditing is viewed as a means of reducing agency costs. Given that the audit market is differentiated, a firm that is characterized by large agency costs is likely to select an auditor that is effectively able to reduce these agency costs. Because auditor switches are often considered a negative signal (e.g., an auditor switch might result from opportunistic behaviour and/or might be related to poor economic prospects), large agency costs may hold back the acquired firm from switching to the auditor of the acquiring firm because it could give rise to an increase in agency costs. An auditor change might, for example, be negatively received by the firm's creditors. This will be especially true if the acquiring firm's auditor is perceived as being of a 'lower quality'. Moreover, also consistent with the agency argument, we note a significantly positive coefficient for the acquiring firm's leverage (*ACQ_LEV*) and cash ratio (*ACQ_CASH*). In other words, results indicate that a switch to the acquiring firm's auditor is significantly more likely if the acquiring firm faces higher agency costs.

Sensitivity Analyses

In order to assess the robustness of our findings, we performed several sensitivity checks. While the original variable capturing similarity of activities was based on two-digit *primary* SIC codes, we also employed (i) a variable that considered *all* SIC codes of both firms (i.e., this variable is then coded one if both firms have the same two-digit SIC code (not restricted to the primary SIC codes); and zero otherwise); and (ii) a variable based on four-digit SIC codes. Analogous to Francis and Wilson (1988), we considered both changes (i.e., absolute values) and levels of the agency variables in our models. That is, a takeover often gives rise to a restructuring, which might affect agency costs (e.g., a

decrease of debt levels). The change variables are then based on a four-year period starting in the year preceding the takeover (i.e., we considered a two-year window following the takeover). We also considered the change in these variables instead of the *absolute value* (cf. supra) of those changes. Instead of *LOSS* (i.e., the dummy variable capturing sequential losses), we also relied on return on assets. We also used a dummy variable capturing liquidity problems (i.e., a variable coded one if the current ratio falls below the critical value of one; and zero otherwise) instead of the current ratio itself (i.e., *CURRENT*). Overall, these sensitivity checks do not affect our findings.

CONCLUSIONS

In the current paper, we explore the drivers of auditor switching by the acquired firm after a takeover. In case of a takeover, the acquiring firm has to choose whether to retain the acquired firm's incumbent auditor or to switch to its own auditor. The latter decision involves a trade-off between (i) economies of scale that would accrue if the acquiring firm's auditor performs the audit of the entire group; and (ii) the value of the specialised client knowledge possessed by the acquired firm's auditor (Anderson et al. 1993).

Our results confirm prior evidence (see Anderson et al. 1993; Firth 1999) indicating that the majority of acquired firms switch to the auditor of the acquiring firm after a takeover. This finding is also consistent with prior evidence indicating that referral is a very important determinant of auditor choice in Belgium (Branson and Breesch 2004). These observations support the idea that using a single audit firm is (perceived to be) associated

with cost savings and/or efficiency gains. Nevertheless, the observed percentage of acquired firms that switch to the acquiring firm's auditor is lower than the ones observed in prior studies, which can be explained by the fact that (unlike prior studies) we rely on a sample of takeovers that mainly includes non-listed firms. Consistent with our predictions, our results indicate that the acquired firm is significantly more likely to replace its own auditor by the acquiring firm's auditor when the latter is listed. Different explanations are offered for this observation. Firstly, the (external) pressure to have only one auditor for the entire group is likely to be higher when the acquiring firm is listed. This is due to the fact that listed firms face larger agency costs (i.e., because of more dispersed ownership) and because auditor choice has been found to affect stock prices. Secondly, because listed firms (unlike non-listed firms) face different accounting standards for the preparation of group and statutory financial statements, the economies of scale and efficiency of having only one auditor for the entire group are likely to be larger.

Because results obtained in prior studies are inconclusive (see Anderson et al. 1993; Firth 1999), one of the aims of the current study was to examine the impact of differences in activities between the acquiring and the acquired firm on the auditor switch decision. Inconsistent with the argument that the cost of switching will be lower when the activities of both firms are similar, auditor switching is not found to be significantly related to similarity of activities between the acquiring and the acquired firm. Our results are therefore consistent with those reported by Anderson et al. (1993) and do not support those reported by Firth (1999).

Our results also indicate that agency costs affect the auditor switch decision. More specifically, we find that an auditor switch is significantly less (more) likely when the acquired (acquiring) firm faces larger agency costs. This observation can be explained by the fact that auditing is a monitoring device aimed at reducing agency costs. Given that the audit market is differentiated, a firm that is characterized by large agency costs is likely to select an auditor that is effectively able to reduce these costs. As a consequence, large agency costs at the acquired firm level may hold back the acquired firm from an auditor switch. That is, auditor switches are often considered a negative signal and may therefore be negatively received by, for example, the firm's creditors (and thus increase agency costs).

The main contributions of the current study can be summarized as follows. Firstly, our study provides additional evidence on the drivers of auditor switching by the acquired firm after a takeover. While two prior studies have already explored this issue, results are inconclusive and additional research on this topic is therefore valuable. Secondly, our study is the first one on this issue that considers a sample of takeovers that (mainly) includes non-listed firms and our results clearly indicate that results based on samples of listed firms cannot be generalized to non-listed firms. Thirdly, unlike prior studies that only consider characteristics of the acquired firm, we also consider those of the acquiring firm and our results clearly indicate that these are helpful in explaining the auditor change decision. Our study also has limitations. Firstly, because of data restrictions, our analyses are based on a relatively small sample of 126 takeovers over the period 2005-2007.

Secondly, whereas we consider many variables borrowed from the auditing literature in our model, we were unable to control for some variables employed in prior research. For example, Belgian firms are only required to disclose audit fees as from 2007 onwards and we were therefore not able to control for the (relative) audit fee in our model. These shortfalls certainly provide interesting avenues for further research. In addition, future research might also consider more direct proxies for auditor industry expertise. Whereas we consider similarity of activities between the acquiring and the acquired firm as a proxy for expertise of the acquiring firm's auditor in the industry, several prior studies have used auditor market and/or portfolio shares to proxy for industry expertise (see e.g., Balsam et al. 2003; Krishnan 2003; Neal and Riley 2004). Because time-series data on auditor names are not available in the Belfirst database (i.e., the database employed in the current study), we had to manually collect auditor names and were therefore not able to employ such industry expertise proxies. Nevertheless, using such proxies would imply a meaningful contribution to this line of research.

ENDNOTES

[1] As argued by DeAngelo (1981a), such costs may be minimized initially to the client due to auditor low-balling, but may eventually be incurred through higher fees in subsequent periods.

[2] To the client, the dominant goal is to use the service of the auditor to achieve operational, regulatory, and/or other objectives. To the auditor, the goal is to earn professional revenues within acceptable bounds of risk. (Wallace 2005; Calderon and Ofobike 2008)

[3] These economies of scale relate to the fact that (i) it is less costly for management to negotiate with one auditor (rather than several auditors); (ii) it is less costly to use one auditor rather than a number of auditors who need to negotiate and communicate with each other; and (iii) the fixed costs of an audit (such as the time taken to understand the nature of the client's assets) are spread more widely. In addition, there are fixed costs associated with audits that would have to be duplicated if two audit firms were used. (Anderson et al. 1993; Firth 1999)

[4] Referral is the situation where *"the subsidiary, encouraged by the parent company, appoints the same auditor as the parent company"*. (Branson and Breesch 2004: 308)

[5] Besides quality differences, other explanations have been provided in the literature for the observed Big N fee premium. As argued by Al-Harshani (2008) the non-competitive pricing hypothesis suggests that Big N audit firms face less competition than non-BigN firms and are therefore able to charge higher audit fees. Moreover, based on the "deep pocket" hypothesis (i.e., Big N audit firms are wealthier than non-Big N audit firms) Big N audit firms bear a higher risk of litigation in case of client failure. As argued by Dye (1993), audit fees may reflect the option value that shareholders place on a claim against an auditor's wealth in the event of audit failure. From the client firm's (auditor's) perspective, a Big N fee premium may then be considered as the value of increased insurance coverage (the expected cost of higher potential litigation losses).

[6] That is, while Belfirst includes financial statement data over a 10-year period, the auditor name is only available for the most recent set of financial statements. Moreover, besides the auditor name, Belfirst does not contain any information with respect to the auditor's report (e.g., the auditor's opinion).

[7] Besides 'completed', other types of deal status in Zephyr are: (i) announced; (ii) rumour; (iii) pending; and (iv) withdrawn.

[8] Large firms are those that have more than 100 employees (average for the year), or those that exceed more than one of the following criteria: (i) 50 employees (average for the year); (ii) total assets of 3,650,000 EUR; and (iii) turnover of 7,300,000 EUR.

[9] Van Caneghem and Van Campenhout (2010), for example, report an average leverage ratio of 71.4 percent for Belgian SMEs. Based on a more restricted sample, Heyman et al. (2008) report a comparable figure of 68.7 percent.

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TABLE 1: Description of the variables

Variable	Description	Predicted sign
SWITCH	A dummy variable that is coded one if the acquired firm switched to the acquiring firm's auditor (within a two-year window following the takeover, cf. infra); and zero otherwise.	Dependent
IND	A dummy variable that indicates whether the acquiring and the acquired firm are in the same industry (i.e., coded one if they have the same primary two-digit SIC code; and zero otherwise).	+
DIFAUD	A dummy variable that is coded one if the acquiring firm hires a Big 4 auditor and the acquired firm does not; and zero otherwise.	+
TAR_BIG4	A dummy variable that is coded one if the acquired firm engages a Big 4 auditor in the year preceding the takeover; and zero otherwise.	-
TAR_OPIN	A dummy variable that denotes whether the acquired firm received an 'unclean' audit opinion (i.e., coded one if the acquired firm did *not* receive an *unqualified* opinion in the year preceding the takeover; and zero otherwise).	+
ACQ_LIST	A dummy variable that is coded one if the acquiring firm is listed; and zero otherwise.	+
TAR_LIST	A dummy variable that is coded on if the acquired firm is listed; and zero otherwise.	Control
CURRENT	Current ratio (i.e., current assets divided by current liabilities) for the year preceding the takeover.	Control
LOSS	A dummy variable that captures sequential losses (i.e., coded one if the firm has a loss in its income statement *and* retained losses on its balance sheet for the year preceding the takeover; and zero otherwise).	Control
SIZE	Firm size (i.e., natural logarithm of total assets) for the year preceding the takeover.	Control
LEV	Leverage (i.e., total debt divided by total assets) for the year preceding the takeover.	Control
CASH	Cash ratio (i.e., cash divided by total assets) for the year preceding the takeover.	Control
EBITDA	Ratio of EBITDA (earnings before interests, taxes, depreciation and amortization) over total assets for the year preceding the takeover.	Control

TABLE 2: Sample selection summary

	#Obs.
Completed deals in Zephyr with a Belgian target (2005 up to 2007)	728
Belgian acquiring firm	404
Target firm number available	298
Final sample (i.e., all other data requirements are met)	**126**

TABLE 3: Descriptive Statistics

	Acquired firms			Acquiring firms		
	Mean	**Median**	**St.Dev.**	**Mean**	**Median**	**St.Dev.**
SWITCH	.650					
IND	.573					
BIG4	.255			.673		
OPIN	.083					
LIST	.092			.252		
CURRENT	2.756	1.227	7.755	3.636	1.158	9.587
LOSS	.331			.143		
SIZE	8.980	8.691	2.081	10.866	10.528	1.986
LEV	.677	.664	.381	.521	.509	.269
CASH	.105	.066	.120	.100	.044	.144
EBITDA	.088	.082	.211	.070	.039	.132

Variable definitions are provided in Table 1. St. Dev. = standard deviation.

TABLE 4: Regression Results

Variable	Predicted sign	Model I		Model II		Model III	
Constant		.790		2.710	**	.032	
IND	+	.167					
TAR_BIG4	-	-.955	*	-.341			
ACQ_BIG4						.297	
DIFAUD	+	-.108					
TAR_OPIN	+	.483		.227			
TAR_LIST		.073		.130			
ACQ_LIST	+	.771	*			.554	*
TAR_CURRENT		-.070		-.238			
ACQ_CURRENT		-.026				-.015	
TAR_LOSS		.360		-.077			
ACQ_LOSS		-.338				-.279	
TAR_SIZE				-.159			
ACQ_SIZE						-.041	
RELSIZE		-.557					
TAR_LEV		-1.148	*	-.969	*		
ACQ_LEV		1.281	*			.919	*
TAR_CASH		2.630		2.633	*		
ACQ_CASH		2.340	*			1.882	*
TAR_EBITDA		.125		-.322			
ACQ_EBITDA		-1.135				-1.143	
Scaled R^2		.279		.177		.086	

Variable definitions are provided in Table 2, with an exception for RELSIZE, which is the ratio of the size of the acquired firm over the size of the acquiring firm. *TAR_* = variable for the acquired firm; *ACQ_* = variable for the acquiring firm. ** denotes statistical significance at the 1 percent level; * denotes statistical significance at the 5 percent level.