The Relationship between Auditor Tenure and Audit Quality Implied by Going Concern Opinions

W. Robert Knechel and Ann Vanstraelen

SUMMARY: The debate continues about the relationship between auditor tenure and audit quality in spite of extensive empirical evidence examining audit failures, earnings management, and the issuance of auditor's opinions. Most recent evidence suggests that long auditor tenure does not have a negative impact on audit quality. However, most of the available evidence has been accumulated based on publicly listed companies in the U.S. We examine the effect of auditor tenure on audit quality for private companies in Belgium, an environment where we believe auditor tenure is more likely to have a negative effect on audit quality. We use the likelihood of an auditor issuing a going concern opinion as an indicator of audit quality. Using a sample of stressed bankrupt companies, and stressed nonbankrupt companies, the results indicate that auditors do not become less independent over time nor do they become better at predicting bankruptcy. In balance, the evidence for tenure either increasing or decreasing quality is weak.

Keywords: auditor tenure; audit quality; going concern reporting.

INTRODUCTION

The question of whether audit quality is affected by the length of time that an auditor serves a client has received extensive attention from researchers. However, ongoing interest in the issue suggests that this question has not been completely answered by extant research. In this paper, we provide additional insight into the debate by examining the impact of auditor tenure on the likelihood an auditor issues a going concern opinion. Prior research on the relationship between auditor tenure and audit quality has mainly focused on public firms in the U.S. While these studies have had mixed results, the majority of recent studies seem to refute the assertion that a long auditor-client relationship negatively affects audit quality (e.g., Ghosh and Moon 2005; Myers et al. 2003; Geiger and Raghunandan 2002). We add to this literature by examining the issue in an environment where extended auditor tenure is more likely to lead to a potential loss of audit quality.

To this end, we focus on private firms in Belgium. This environment is of interest because private firms constitute the majority of the European Union economy and the Fourth EU Directive requires that private firms meeting certain size criteria must have a statutory

---

W. Robert Knechel is a Professor at the University of Florida and Ann Vanstraelen is an Assistant Professor at the University of Antwerp and an Associate Professor at Maastricht University.

audit. Thus, extensive data on private firms is available to study the issue at hand. Furthermore, because auditing standards on the issue of going concern reporting were less well developed at the time than in the U.S., auditors had greater flexibility in deciding which company warranted a going concern opinion. Finally, the economic exposure is lower for an auditor who fails to issue a going concern opinion when a client goes bankrupt, so the auditor trade-off between risk of loss of reputation due to an incorrect reporting choice and risk of client loss is likely to be different than in other audit markets (e.g., Krishnan and Krishnan 1996). Consequently, auditors of private companies may be more susceptible to a loss of independence as a result of extended tenure.

We measure audit quality by examining the likelihood of an auditor issuing a going concern report. We use a sample of 618 audit reports from Belgian companies, divided evenly between stressed companies that went bankrupt and stressed companies that survived. We presume that a decrease in audit quality is indicated by an increase in the likelihood that an auditor does not issue a going concern opinion when a company subsequently goes bankrupt, or an increase in the likelihood that an auditor issues a going concern opinion to a company that survives. The results of our study show that the decision of the auditor to issue a going concern opinion is not affected by tenure in the bankrupt sample. In the nonbankrupt sample, we find some evidence of a negative association between auditor tenure and the issuance of a going concern opinion. Hence, Type I error rates (i.e., issuing a going concern opinion to a company that does not file bankruptcy in the following year) appear to be lower when auditor tenure is longer.

These results contribute to the literature in three ways. First, we find no evidence that auditor tenure is negatively associated with audit quality, even though the setting may be conducive to a loss of auditor independence. Second, we find that long tenure reduces the likelihood that the auditor issues a false going concern signal. Third, our results contribute to the limited but growing literature on financial reporting quality and auditing in private firms (e.g., Ball and Shivakumar 2005; Chaney et al. 2004). The remainder of this paper is organized as follows: In the next section, we provide an overview of the existing literature on auditor tenure and pose our specific research questions. In the third section, we describe the main characteristics of the Belgian audit market and regulation on going concern reporting. In the fourth section, we describe our research method and data collection. The fifth section reports our overall results, followed with extensive supplementary and sensitivity analysis in the sixth section. Finally, we conclude with a general discussion of our results.

PRIOR RESEARCH AND RESEARCH QUESTIONS

DeAngelo (1981) notes that audit quality consists of two components: auditor competence and auditor independence. Auditor tenure can have a negative impact on either. Long auditor tenure may increase auditor competence as the auditor can base audit decisions on extensive client knowledge that has developed over time, *or* it may undermine auditor independence as lengthy tenure fosters closeness between management and the auditor. Short auditor tenure may undermine auditor competence since the auditor knows less about a company in the early years of an audit, but it may also undermine auditor independence since auditors will wish to retain a new client long enough to recoup the costs of the initial audit setup or a lowball fee (Dye 1991). That is, deterioration in audit quality in a short

tenure audit may be due to either lack of competence or loss of independence, while a loss in quality in a long tenure audit is most likely due to a loss of independence.[1]

In this paper, we conjecture that if auditor tenure negatively affects audit quality, it will be most observable in an environment where auditor incentives favor avoiding client disputes so as to avoid the loss of the client. We feel Belgium provides an appropriate environment for our tests because most companies are privately owned and do not have a broad shareholder base to which they are accountable. Also, auditing standards in Belgium at the time of the study were somewhat ambiguous about the auditor's obligation to issue a going concern report. Finally, Belgium has a low rate of litigation against auditors. Indeed, Belgium is quite unlike the U.S. where auditors face a risk of costly litigation if they fail to issue a going concern opinion to a firm that files bankruptcy in the following year. Several studies in the U.S. provide empirical support for this; for example, Palmrose (1987) and St. Pierre and Anderson (1984) find that half of all litigation against auditors is associated with client bankruptcy and/or severe financial stress.[2]

Researchers have used various measures of audit quality to examine its relationship with auditor tenure, including the incidence of audit failures, the likelihood of issuing modified or qualified opinions, and the extent of earnings management as measured by accruals. The extent of earnings management is generally lower when auditor tenure is longer (Ghosh and Moon 2005; Myers et al. 2003; Johnson et al. 2002). Also, there is mixed evidence on the incidence of outright audit failures as a function of auditor tenure (Myers et al. 2005; Carcello and Nagy 2004; Casterella et al. 2004; Walker et al. 2001; and Raghunathan et al. 1994). Finally, the evidence concerning the relationship between modified auditor reports and auditor tenure is mixed. Geiger and Raghunandan (2002) examine going concern opinions for bankrupt firms in the U.S. They find that auditors are less likely to issue a going concern opinion during the initial years of engagement but not in later years, contrary to the expressed concern that a long auditor-client relationship negatively affects audit quality. Other research on the relationship between auditor tenure and audit opinions has yielded conflicting results (e.g., Vanstraelen 2000; Levinthal and Fichman 1988).

Given the public visibility of corporate bankruptcies and the general expectation by the public and regulators that auditors will serve as a warning system to investors, many construe the failure to issue a going concern opinion prior to bankruptcy as an audit failure. While the issuance of a going concern opinion is an imperfect predictor of subsequent bankruptcy, we presume that a *decrease* in the likelihood of issuing a going concern opinion when a firm subsequently goes bankrupt is an indication of reduced audit quality (Type II errors). Since the preponderance of prior research suggests that lengthy auditor tenure may not reduce audit quality, for stressed companies we expect that an auditor will not be less likely to issue a going concern opinion when tenure is longer. This leads to our first hypothesis:

---

[1] It is possible that long tenure may lead to a loss of auditor competence in some ways. For example, the auditor may use less experienced or less expert personnel on an engagement where risk is perceived to be low due to prior experience with the client. If audit quality suffers as a result, one can argue that this is due to a loss of competence, not a loss of independence. However, if the overall comfort level of the auditor is attributable to being ''close'' to the client, the underlying cause of any auditor error may actually be attributable to a loss of professional skepticism and due care, which suggests an implicit loss of independence.

[2] Carcello and Palmrose (1994) report that auditors are named as defendants 74 percent of the time when litigation followed client bankruptcy. The importance of litigation on auditor reporting behavior is also shown by Geiger and Raghunandan (2001) reporting a lower frequency of going concern opinions after passage of the Private Securities Litigation Reform Act of 1995, a law that generally lowers auditor litigation risk.

H1:   Increased auditor tenure does not reduce auditor quality as measured by the likelihood that an auditor fails to issue a going concern report for a company that subsequently goes bankrupt.

Conventional arguments about audit quality in short tenure engagements tend to focus on the competence issue while ignoring the potential loss of independence that is associated with lowballing and the desire to retain a client (Dye 1991; Summer 1998). However, an increase in the likelihood of an auditor issuing a going concern opinion to a company that subsequently does not file bankruptcy (i.e., Type I error) can be reflective of a decrease in auditor competence. While this issue is probably less important than the opposite problem (Type II error), a going concern opinion can affect market valuations, i.e., there are wealth distribution implications for giving a going concern opinion to a company that survives (Chen and Church 1996; Jones 1996). In their study, Geiger and Raghunandan (2002) only focus on bankrupt companies, so they were unable to infer the effect of auditor tenure on Type I errors. In an earlier study, Carcello and Neal (2000) considered the relationship between auditor tenure and audit reports for financially distressed companies but did not specifically address the issue of whether auditor tenure affected auditor Type I error rates. Therefore, we extend Geiger and Raghunandan (2002) and Carcello and Neal (2000) by examining the nature of auditor decision errors for a nonbankrupt sample. Extrapolating from the prior literature on auditor tenure, we expect that an extended auditor-client relationship will improve the ability of the auditor to discern when a company is truly at risk of entering bankruptcy. This leads to our second hypothesis:

H2:   Increased auditor tenure improves auditor quality as measured by the likelihood that an auditor does not issue a going concern report for a company that does not subsequently go bankrupt.

BELGIAN AUDIT MARKET AND REGULATION ON GOING CONCERN REPORTING

Belgium differs from Anglo-American countries in terms of accounting regulation, the audit market, corporate finance, and general legal environment. In contrast to the U.S. and the U.K., financial reporting in Belgium is strongly influenced by corporate law and taxation and is creditor-oriented (Jorissen and Van Oostveldt 2001). Furthermore, banks, other financial institutions, and the government play a key role in corporate finance in Belgium. Leuz et al. (2003) classify Belgium as an insider economy with a less-developed stock market, concentrated ownership, weak investor rights, and strong legal enforcement (see also La Porta et al. 1998, 1997). The Belgian audit market also differs from the U.S. and U.K. audit market as auditors are appointed for a term of three years, which can be renewed without limitation for additional three-year periods.

Legal action against an auditor in Belgium can be undertaken by the client company, its shareholders, or any interested third party up to five years after the issue of the auditor's report. Belgium has a proportional liability system, i.e., liability is placed upon the defendants according to their contribution to the damage. There is no possibility to reduce the auditor's liability either by a liability cap or by contract. However, compared with the U.S. and U.K., the Belgian audit market is characterized by a low risk of litigation (Gaeremynck and Willekens 2003). This suggests that incentives work against an auditor issuing a going

concern opinion in cases that are open to interpretation, suggesting that a tenure effect—if one exists—could be stronger in Belgium than in Anglo-Saxon countries.[3]

The objective of bankruptcy in Belgium is liquidation. Article 437 of the Belgian Code of Mercantile Law defines bankruptcy as: ''Any businessman who ceases to pay and whose credit is faltering is in a state of bankruptcy.'' The period between suspension of payment and declaration of bankruptcy is referred to as the suspect period and may not exceed six months. Bankruptcy is a means of collective confiscation for the benefit of creditors of the insolvent debtor, whereby, creditors are proportionally compensated with the assets held at the time of bankruptcy. Bankruptcy is declared by the Court of Commerce. Bankruptcy proceedings may be initiated by the insolvent debtor, the creditors, or the Court of Commerce if three conditions are met:

- The insolvent debtor is a merchant;
- The merchant has suspended payments (i.e., is unable to pay debts);
- The creditworthiness of the merchant is faltering (i.e., the debtor is unable to obtain new lines of credit and/or respite of payment has been refused).

This indicates that the legal discontinuity decision as laid down in bankruptcy law is essentially a question of liquidity, namely cession of payment, which usually goes hand in hand with insolvency.[4]

During the period of our sample (1992–1996), audit regulation related to going concern problems consisted of a short circular letter issued by the Institute of Auditors outlining the following recommended practice:

> If the auditor ascertains serious circumstances that may jeopardize the financial stability of the company, he should make sure that the Board of Directors of the company is aware of the gravity of the situation. If the report of the Board of Directors does not correctly inform about the financial position of the company and the auditor is not certain that the company will be able to continue its operations until the end of the following fiscal year, a qualified opinion may be called for. (Belgian Institute of Auditors, Circular letters, C.007/1982).

The flexibility of this nonbinding reporting requirement provides further motivation for addressing the relationship between auditor tenure and audit quality in this setting. The absence of a strict regulatory requirement to issue a going concern opinion increases the likelihood that auditors may be willing to compromise their independence. However, in spite of the limited requirements for Belgian auditors, the decision is not considered lightly by the profession as evidenced by a quote from a former chairman of the Belgian auditing profession: ''*GCO* is a very sensitive decision for auditors. Every warning could mean the end for the company'' (De Financieel Economische Tijd 1996). Vanstraelen (2003) studied auditor switching and client bankruptcy following a going concern opinion in Belgium. Her results support the hypothesis that going concern opinions significantly increase the probability of bankruptcy in Belgium. Furthermore, it appears that clients are four times more likely to switch auditors at the end of the mandate term if they receive a going concern opinion in the final year of the term, as compared to a going concern opinion received in the first two years of the mandate.

---

[3] The Disciplinary Board of the Belgian Institute of Auditors can also impose professional sanctions if an auditor is found to have performed a substandard audit or violated independence rules.
[4] If a company has ceased to pay, Belgian law offers an alternative to bankruptcy called a creditors' composition. This is an agreement between a bona fide yet unfortunate merchant and his creditors with the specific purpose of avoiding bankruptcy.

RESEARCH METHOD AND DATA

Data

We use a sample of 618 private Belgian companies for our empirical analysis, evenly divided between (1) companies that are financially stressed and went bankrupt and (2) companies that are financially stressed but did not go bankrupt. Prior research has demonstrated the importance of conditioning analysis of going concern reporting on the presence of financial distress (e.g., Mutchler et al. 1997; Hopwood et al. 1994; McKeown et al. 1991). We considered a company to be financially stressed if it exhibits one of the following criteria: (1) an operational loss, (2) a bottom line loss, (3) negative retained earnings in the current or previous two years, or (4) negative working capital in the previous two years (Hopwood et al. 1994; Mutchler et al. 1997).

Our sample was developed starting with the entire population of bankrupt Belgian companies from the period 1992–1996 deemed to be ''large'' under Belgian guidelines.[5] There were 720 bankrupt private companies in the period 1992–1996 for which a statutory audit was required. No listed Belgian company went bankrupt during that period. For companies belonging to the same affiliated group, only the parent company is included. We dropped 219 bankrupt companies for which the audit report was not available and 42 bankrupt companies belonging to the same group. We also dropped 150 bankrupt companies, which had no signs of financial distress, had missing financial data, for which an appropriate match could not be identified, or had zero sales. This process yielded a sample of 309 bankrupt private firms. We subsequently matched each financially stressed bankrupt company in our sample with a financially stressed nonbankrupt company (i.e., one that did not file for bankruptcy in the upcoming year) based on size (total assets), industry (4-digit NACE-code), and year (Schwartz and Menon 1985). This resulted in a total sample of 618 firms.[6] Data was collected for the sample companies with the cooperation of the Belgian National Bank, which maintains archives of financial reports.

Estimation Models

For the primary analysis presented in this paper, we define *GCO* as the dependent variable:

$$GCO = \text{dummy variable with a value of 1 if a going concern opinion is issued,}$$
$$0 \text{ otherwise.}$$

We use logistic regression to estimate the following model to predict the likelihood of an auditor issuing a going concern report:

$$GCO = \beta_0 + \beta_1 LNSALES + \beta_2 LAG + \beta_3 DSCORE + \beta_4 BIG6 + \beta_5 AGE$$
$$+ \beta_6 TENURE + \varepsilon$$

---

[5] During the period 1992–1996, a company was considered to be large if it either had more than 100 employees or if it exceeded more than one of the following criteria: (1) number of employees is 50; (2) annual turnover (excluding VAT) is BFr.145m; (3) balance sheet total is BFr.100m. In 1996, the applicable size criteria were: turnover—BFr.200m, and balance sheet total—BFr.100m. While large by Belgian standards, these companies would still be deemed to be small to moderate compared to publicly listed companies in the U.S.

[6] Five of the nonbankrupt firms subsequently went bankrupt more than a year after our test period. As a sensitivity test, our analysis was redone excluding these five observations. As described in Section 6, the results are the same as our primary results.

where we define the following control variables:

LNSALES = natural log of sales. Since larger companies are less likely to go bankrupt, we expect a negative coefficient for this variable. Furthermore, prior research has shown that the likelihood that an auditor issues a *GCO* is inversely related to client size (e.g., Mutchler et al. 1997; Louwers 1998);

LAG = dummy variable with a value of 1 if the number of months between the fiscal year end and the date of the general annual meeting of shareholders exceeds six months (the legal maximum), 0 otherwise. Belgian law requires that the shareholders' meeting be held within six months of the end of the fiscal year. Delaying the shareholders' meeting is typically an indication that a company has problems, so we expect a positive coefficient for *LAG*. Note, *GMDELAY* (used for descriptive purposes) is the actual time lapse, in months, between the end of the fiscal year and the general meeting of shareholders;

DSCORE = general discriminant score of a standardized bankruptcy prediction model developed for Belgian companies.[7] Lower values indicate a greater likelihood of bankruptcy, and we expect a negative coefficient for this variable. The D-score is calculated from a general multiple linear discriminant model specifically developed for Belgian companies and consists of the following ratios: accumulated profit (loss) and reserves/total liabilities, taxes and social security charges/short-term external liabilities, cash/restricted current assets, work in progress and finished goods/restricted current assets, short-term financial debts/short-term external liabilities;

BIG6 = dummy variable with a value of 1 if the audit firm is a member of the Big 6, 0 otherwise. Due to their reputation concerns (DeAngelo 1981), we expect that Big 6 firms are more likely to issue going concern opinions, thus, we expect a positive coefficient; and

AGE = age of the company measured in years. Older companies have indicated their general ability to survive so they are less likely to suffer financial distress or to receive going concern opinions from the auditor. We expect a negative coefficient for *AGE*.

We use two proxies for the length of the auditor-client relationship (*TENURE*) as our experimental variable of interest:

TENYRS = length of the auditor client relationship in years; and

TEN3 = dummy variable with a value of 1 if auditor tenure is more than three years, 0 otherwise.[8]

---

[7] The D-score of the general bankruptcy prediction model has a prediction accuracy of 82.8 percent for failing companies when using the optimal cut-off point of D-score = 0.1304 (Ooghe et al. 1995).

[8] We use a three-year cutoff because it is the most commonly used period in other research (e.g., Johnson et al. 2002). Additionally, due to the unique institutional aspects of the Belgian market for audit services, contracts between an auditor and a client are always for three years and are noncancellable. The three-year period is referred to as a "mandate" and can be renewed between the client and the auditor at the end of each three-year period. Consequently, we define short tenure as an engagement that is within the first mandate period (three years or less) because the client cannot terminate the auditor during that period.

We estimate the model for *GCO* using the sample of stressed bankrupt companies and the sample of stressed nonbankrupt companies separately. For the sample of bankrupt companies, based on H1, we expect that the coefficient for *TEN3* or *TENYRS* is not different from zero, which would indicate that increased auditor tenure does not reduce audit quality in the sense that long-tenured auditors are not less likely to issue a going concern opinion for soon-to-be bankrupt firms. If long-tenured auditors are more likely (positive coefficient for *TEN3* or *TENYRS*) to issue a going concern opinion for soon-to-be bankrupt firms, this would be evidence of long tenure resulting in a lower Type II error. For the sample of stressed nonbankrupt companies, based on H2 we expect a negative coefficient for *TEN3* or *TENYRS* which would indicate that long-tenured auditors are less likely to issue a going concern opinion for surviving firms, resulting in a lower Type I error rate.

PRIMARY RESULTS

Descriptive Statistics

Descriptive statistics for all variables used in this study are reported in Table 1. Results are presented for all bankrupt and nonbankrupt firms, and then further divided into four categories: (1) bankrupt, no going concern opinion, (2) bankrupt, going concern opinion, (3) nonbankrupt, no going concern opinion, and (4) nonbankrupt, going concern opinion. As would be expected, bankrupt companies were almost three times as likely to receive a going concern opinion (36 percent versus 13 percent). On average, the two groups of companies are very similar in size (based on sales). A nonbankrupt company is more likely to be audited by a Big 6 firm (29 percent versus 19 percent). As expected, bankrupt companies have a lower *DSCORE* (−1.13 versus −0.41, with a more negative score indicating greater financial weakness), longer delays in holding a shareholder meeting (*GMDELAY*; 5.72 versus 5.27 months), are more likely to miss the 6-month cutoff for shareholder meetings (15 percent versus 4 percent), and are younger (19.96 versus 23.59 years). Bankrupt and nonbankrupt firms are statistically different on all dimensions except size.

Looking at differences within bankrupt firms, we see that a firm that received a going concern report was generally smaller (319,692/447,124), financially weaker (−1.76/−0.78), more likely to be audited by a Big 6 firm (24.1 percent/16.4 percent), younger (18.7/20.7 years), had a slightly longer delay in the shareholder meeting (5.9/5.6 months), and was more likely to have a shareholder meeting later than required (21.4 percent/12.1 percent). This pattern of results is consistent with our expectations. Within the nonbankrupt sample, a firm that received a going concern report was generally smaller (232,593/438,372), financially weaker (−2.95/−0.04), more likely to be audited by a Big 6 firm (41 percent/28 percent), slightly younger (22.2/23.8 years), and had a longer delay in the shareholder meeting (5.7/5.2 months). Again, this pattern of results is consistent with our expectations. Table 2 further shows that in our sample the incidence of a Type I error in the nonbankrupt sample is 13.0 percent, while the incidence of a Type II error in the bankrupt sample is 64.0 percent (i.e., 1.00–0.36).

Regarding the tenure variables, bankrupt companies have shorter auditor tenure (3.28 versus 4.00 years). The transformation of tenure into a dummy variable reflects a similar relationship: bankrupt companies are less likely to have auditor tenure in excess of three years (43.6 percent versus 60.0 percent). Transforming our raw data into our test variable indicates that approximately 50 percent of the companies have auditor tenure of three years or less (i.e., they are in the first mandate period).[9] Within the bankrupt sample, auditor

---

[9]   The requirement that nonlisted companies be audited in Belgium was introduced in 1985. This puts an effective cap on the maximum auditor tenure for the firms in our sample.

TABLE 1
Descriptive Statistics

Variable	Total sample (n = 618)	Bankrupt—GCO (n = 112)	Bankrupt—No GCO (n = 197)	(1) Bankrupt sample (n = 309)	Nonbankrupt—GCO (n = 40)	Nonbankrupt—No GCO (n = 269)	(2) Nonbankrupt sample (n = 309)	T test (1) – (2)
GCO				Mean: 0.36			Mean: 0.13	6.97***
SALES	Mean: 406,334	Mean: 319,692	Mean: 447,124	Mean: 400,935	Mean: 232,593	Mean: 438,372	Mean: 411,734	−0.15
LNSALES	Mean: 12.11	Mean: 11.907	Mean: 12.238	Mean: 12.11	Mean: 11.80	Mean: 12.15	Mean: 12.11	0.07
DSCORE	Mean: −0.77	Mean: −1.76	Mean: −0.778	Mean: −1.13	Mean: −2.95	Mean: −0.042	Mean: −0.41	−3.98***
BIG 6	Mean: 0.245	Mean: 0.241	Mean: 0.164	Mean: 0.19	Mean: 0.41	Mean: 0.28	Mean: 0.29	−3.09***
AGE	Mean: 21.77	Mean: 18.70	Mean: 20.68	Mean: 19.96	Mean: 22.23	Mean: 23.79	Mean: 23.59	−2.82***
GMDELAY	Mean: 5.50	Mean: 5.94	Mean: 5.60	Mean: 5.72	Mean: 5.68	Mean: 5.21	Mean: 5.27	4.02***
LAG	Mean: 0.10	Mean: 0.214	Mean: 0.121	Mean: 0.15	Mean: 0.05	Mean: 0.044	Mean: 0.04	4.62***
TENYRS	Mean: 3.64	Mean: 3.30	Mean: 3.27	Mean: 3.28	Mean: 3.70	Mean: 4.04	Mean: 4.00	−5.11***
TEN3	Mean: 0.522	Mean: 0.446	Mean: 0.431	Mean: 0.436	Mean: 0.45	Mean: 0.632	Mean: 0.60	−4.32***

*, **, *** p < .10, .05, .01, respectively.
    GCO = dummy variable: GCO = 1, in case of a going concern opinion;
   SALES = total sales (in thousands Belgian Francs);
 LNSALES = natural logarithm of total sales;
  DSCORE = general discriminant score of a standard bankruptcy model developed for Belgian companies;
   BIG 6 = dummy variable: BIG 6 = 1, in case of a Big 6 auditor;
     AGE = age of the company measured in years;
GMDELAY = number of months between the closing of the fiscal year and the date of the annual general meeting of shareholders;
     LAG = dummy variable: LAG = 1, in case the number of months between the closing of the fiscal year and the date of the annual general meeting of
            shareholders exceeds the legal maximum of six months;
  TENYRS = length of the auditor-client relationship in years; and
    TEN3 = dummy variable: TEN3 = 1, in case length of auditor-client relationship is more than three years.

TABLE 2
Frequency of GC Qualifications Classified by Auditor Tenure and Bankruptcy

	Nonbankrupt (n = 309)	Bankrupt (n = 309)	F-test (2-sided)	Nonbankrupt		Bankrupt	
				Big 6 Auditor	Non-Big 6 Auditor	Big 6 Auditor	Non-Big 6 Auditor
Tenure ≤ 3 years	121	174					
Going concern report	22 (18.2%)	62 (35.6%)	0.001***	8 (19.5%)	14 (17.5%)	16 (41%)	46 (34.1%)
No going concern report	99 (81.8%)	112 (64.4%)		33 (80.5%)	66 (82.5%)	23 (59%)	89 (65.9%)
Tenure > 3 years	188	135					
Going concern report	18 (9.6%)	50 (37%)	0.000***	8 (15.7%)	10 (7.3%)	11 (55%)	39 (33.9%)
No going concern report	170 (90.4%)	85 (63%)		43 (84.3%)	127 (92.7%)	9 (45%)	76 (66.1%)
F-test (2-sided)	0.037**	0.812		0.783	0.041**	0.409	0.999

**, *** $p < .05, .01$, respectively (2-sided).

tenure for both the *GCO* and non-*GCO* firms is similar: 3.30 versus 3.27 years. However, within the nonbankrupt sample, the auditor tenure for firms not receiving a *GCO* report is longer than those receiving a *GCO* report: 4.04 versus 3.70 years. This result is magnified when auditor tenure is transformed into *TEN3*, with 63.2 percent of firms not receiving a *GCO* report having their auditor more than three years, compared to 45 percent for firms receiving a *GCO* report.

Table 2 provides additional information about the bankrupt and nonbankrupt samples classified by auditor tenure. Bankrupt companies are significantly more likely to receive a going concern opinion compared to nonbankrupt companies, both for the subsample of companies with auditor tenure less than three years (35.6 percent versus 18.2 percent, $p < .001$) and for the subsample of companies with auditor tenure of more than three years (37.0 percent versus 9.6 percent, $p < .000$). We see that the likelihood of a bankrupt company receiving a going concern opinion is not affected by auditor tenure (35.6 percent versus 37.0 percent). Also, the likelihood of a Big 6 firm issuing a going concern opinion is not significantly affected by tenure (41 percent versus 55 percent); nor does the likelihood for a non-Big 6 firm depend on tenure (34.1 percent versus 33.9 percent).

Nonbankrupt companies are twice as likely to have received a going concern opinion if tenure was less than three years (18.2 percent versus 9.6 percent, $p < .037$), hinting that a tenure effect may be present for nonbankrupt firms. We see that this difference is due to the non-Big 6 firms, which issue significantly more going concern opinions to nonbankrupt companies if auditor tenure is less than three years (17.5 percent versus 7.3 percent). However, the rate of going concern opinions for Big 6 firms is not significantly affected by tenure alone (19.5 percent versus 15.7 percent). Taken together, the descriptive results suggest (1) that a non-Big 6 firm is more likely to issue a going concern report to a nonbankrupt company when tenure is shorter and (2) there is no evidence of a relationship between tenure and going concern opinions in the bankrupt sample.

Logistic Regression Results

The Pearson Correlation Matrix for all variables is presented in Table 3. The highest pairwise correlations are less than .166 (excluding the obvious high correlation between *TENYRS* and *TEN3*) and the largest variance inflation factors are less than 1.06. As a result, we conclude that there are no problems of multicollinearity in the data. The results for the logistic regression model are reported in Table 4 for the bankrupt and nonbankrupt samples using the two proxies for auditor tenure (*TEN3*, *TENYRS*). We observe that there are qualitative differences between the bankrupt and nonbankrupt samples since different control variables are significant in the two samples.

For both models that use the bankrupt sample, issuance of a going concern opinion is less likely for larger companies (*LNSALES*) and for companies that are more financially healthy (*DSCORE*), while being more likely if the shareholder's meeting has been delayed (*LAG*). *AGE* and *BIG6* are not significant in the models for the bankrupt sample. Of most interest is the fact that neither *TEN3* nor *TENYRS* is significant in the bankrupt sample. This result suggests that auditor tenure does not affect the likelihood that an auditor issues a going concern opinion in the sample of bankrupt companies and is consistent with H1.

For the nonbankrupt models, the issuance of a going concern opinion is less likely for healthier companies (*DSCORE*). No other control variables are significant in the model for the nonbankrupt sample. The continuous form of our test variable, *TENYRS*, is not significant in the nonbankrupt sample. However, the dichotomous variable, *TEN3*, is significant and negative ($p < .05$). Since the companies in this sample did not go bankrupt, it is arguable that the negative relationship between *TEN3* and *GCO* means that auditors are

TABLE 3
Pearson Correlation Matrix

	LNSALES	*LAG*	*TENYRS*	*TEN3*	*DSCORE*	*BIG 6*	*AGE*	VIF
LNSALES	1							1.05
LAG	0.052	1						1.04
	(0.195)							
TENYRS	0.068	−0.123	1					1.06
	(0.087)	(0.001)						
TEN3	0.069	−0.166	0.826	1				1.05
	(0.086)	(0.000)	(0.000)					
DSCORE	0.125	0.050	0.043	0.050	1			1.03
	(0.002)	(0.212)	(0.279)	(0.212)				
BIG 6	−0.011	−0.063	−0.077	−0.063	−0.102	1		1.02
	(0.791)	(0.120)	(0.051)	(0.120)	(0.012)			
AGE	0.150	−0.051	0.199	0.160	0.052	−0.073	1	1.05
	(0.000)	(0.208)	(0.000)	(0.000)	(0.198)	(0.069)		

LNSALES = natural logarithm of total sales;
    LAG = dummy variable: *LAG* = 1, in case the number of months between the closing of the fiscal year and the date of the annual general meeting of shareholders exceeds the legal maximum of six months;
 TENYRS = length of the auditor-client relationship in years;
    TEN3 = dummy variable: *TEN3* = 1, in case length of auditor-client relationship is more than three years;
DSCORE = general discriminant score of a standard bankruptcy model developed for Belgian companies;
  BIG 6 = dummy variable: *BIG 6* = 1, in case of a Big 6 auditor; and
    AGE = age of the company measured in years.

more often making the correct decision not to issue a going concern report, consistent with H2.

Taken together, these results do not point to a decrease in audit quality as auditor tenure lengthens, since auditor tenure does not lead to fewer going concern opinions when the company goes bankrupt or more going concern opinions when the company survives. On the contrary, we observe no effect of auditor tenure on the bankrupt sample. Also, auditor tenure is negative and significant for the nonbankrupt sample. Consequently, these results indicate that an auditor's risk of committing a Type II error (failing to signal that a company will not continue when bankruptcy actually results) is *not higher* simply due to longer auditor tenure. Furthermore, there is some evidence that the auditor's risk of committing a Type I error (signaling that a company will go bankrupt when it actually continues) *decreases* with auditor tenure (at least as measured by a dummy variable for tenure). Overall, auditors do not become less independent over time nor is there strong evidence that they become better at predicting bankruptcy.

SUPPLEMENTARY ANALYSIS

To provide additional insight into the association between auditor tenure and audit quality, we performed a number of supplementary analyses.

Influence of Auditor Tenure on the Likelihood of an Audit Error

First, we pooled the bankrupt and nonbankrupt samples in order to directly test the *ex post* accuracy of auditor going concern reports. We defined *ERROR* as a categorical variable with a value of 0 if (1) an auditor issues a going concern report and the company fails or

TABLE 4
Logistic Regression Analysis for Bankrupt and Nonbankrupt Samples
(Dependent Variable = *GCO*)

	Bankrupt (n = 309) Coefficient (z-value)	Nonbankrupt (n = 309) Coefficient (z-value)	Bankrupt (n = 309) Coefficient (z-value)	Nonbankrupt (n = 309) Coefficient (z-value)
CONSTANT	0.676 (0.56)	−2.350 (−1.30)*	0.617 (0.51)	−2.012 (−1.12)
LNSALES	−0.141 (−1.44)*	0.029 (0.19)	−0.143 (−1.45)*	0.009 (0.06)
LAG	0.660 (1.93)**	−0.550 (−0.52)	0.641 (1.89)**	−0.545 (−0.51)
DSCORE	−0.322 (−3.99)***	−0.516 (−4.99)***	−0.319 (−3.97)***	−0.513 (−5.03)***
BIG 6	0.339 (1.07)	0.275 (0.68)	0.331 (1.05)	0.266 (0.66)
AGE	−0.008 (−1.01)	−0.004 (−0.31)	−0.008 (−1.01)	−0.004 (−0.35)
TEN3	0.234 (0.89)	−0.770 (−1.96)**		
TENYRS			0.058 (0.74)	−0.126 (−1.12)
Log likelihood	−185.332	−93.130	−185.454	−94.43
LR Chi squared (Significance)	32.21 (0.000)	47.50 (0.000)	31.96 (0.000)	44.88 (0.000)

*, **, *** $p < .10, .05, .01$, respectively (1-sided).
  GCO = dummy variable: *GCO* = 1, in case of a going concern opinion;
LNSALES = natural logarithm of total sales;
  LAG = dummy variable: *LAG* = 1, in case the number of months between the closing of the fiscal year and the date of the annual general meeting of shareholders exceeds the legal maximum of six months;
DSCORE = general discriminant score of a standard bankruptcy model developed for Belgian companies;
  BIG 6 = dummy variable: *BIG 6* = 1, in case of a Big 6 auditor;
  AGE = age of the company measured in years;
  TEN3 = dummy variable: *TEN3* = 1, in case length of auditor-client relationship is more than three years; and
 TENYRS = length of the auditor-client relationship in years.

(2) an auditor does not issue a going concern report and the company survives; or 1 if an auditor issues a going concern report and the company survives (Type I error); or 2 if an auditor does not issue a going concern report and the company fails (Type II error). We then estimate the following multinomial logistic regression model:

$$ERROR = \beta_0 + \beta_1 LENGTH + \beta_2 LNSALES + \beta_3 DSCORE + \beta_4 BIG6 + \beta_5 LAG + \beta_6 AGE + \varepsilon$$

where all other variables are as previously defined.

The results of this analysis are reported in Table 5 which shows that the likelihood of a Type II error is significantly lower when auditor tenure is longer, whether tenure is measured by *TENYRS* (−0.189, $p < .01$) or *TEN3* (−0.592, $p < .01$). Thus, the multinomial

TABLE 5
Multinomial Logistic Regression: Influence of Auditor Tenure on Audit Error
(Dependent Variable = *ERROR*)

	Bankrupt and Nonbankrupt Sample (n = 618)		Bankrupt and Nonbankrupt Sample (n = 618)	
	Type I error Coefficient (z-value)	Type II error Coefficient (z-value)	Type I error Coefficient (z-value)	Type II error Coefficient (z-value)
CONSTANT	−2.146 (−1.34)*	−1.448 (−1.66)**	−2.235 (−1.42)*	−1.721 (−1.98)**
LNSALES	−0.030 (−0.23)	0.134 (1.88)**	−0.020 (−0.15)	0.128 (1.79)**
DSCORE	−0.284 (−4.37)***	−0.036 (−0.71)	−0.291 (−4.51)***	−0.038 (−0.74)
BIG 6	0.396 (1.06)	−0.760 (−3.30)***	0.387 (1.04)	−0.744 (−3.24)***
LAG	−1.244 (−1.52)*	0.196 (0.67)	−1.320 (−1.62)*	0.170 (0.58)
AGE	0.001 (0.16)	−0.003 (−0.63)	0.003 (0.30)	−0.004 (−0.81)
TENYRS	−0.068 (−0.67)	−0.189 (−3.51)***		
TEN3			−0.644 (−1.77)**	−0.592 (−3.20)***
Log likelihood	−486.043		−486.441	
LR Chi squared	59.68		58.89	
(Significance)	(0.000)		(0.000)	

*, **, *** p < .10, .05, .01, respectively (1-sided).
  ERROR = categorical variable: *ERROR* = 0, in case of no error; *ERROR* = 1, in case of a Type I error; and
           ERROR = 2, in case of a Type II error;
LNSALES = natural logarithm of total sales;
DSCORE = general discriminant score of a standard bankruptcy model developed for Belgian companies;
  BIG 6 = dummy variable: *BIG 6* = 1, in case of a Big 6 auditor;
   LAG = dummy variable: *LAG* = 1, in case the number of months between the closing of the fiscal year
           and the date of the annual general meeting of shareholders exceeds the legal maximum of six
           months;
   AGE = age of the company measured in years;
TENYRS = length of the auditor-client relationship in years; and
  TEN3 = dummy variable: *TEN3* = 1, in case length of auditor-client relationship is more than three years.

logistic analysis indicates that not only is audit quality not undermined by auditor tenure, it may actually improve. Similar to the main results in Table 4, the likelihood of a Type I error is significantly lower when auditor tenure is longer as measured by *TEN3* (−0.644, p < .05). Additionally, the multinomial logistic results suggest that Big 6 audit firms are less likely to commit a Type II error (*TENYRS*, −0.760, p < .01; *TEN3*, −0.744, p < .01), there is a negative association between financial distress and a Type I error (−0.284, p < .01; −0.291, p < .01), and there is a positive relationship between company size and Type II error (0.134, p < .05; 0.128, p < .05). The latter result is consistent with prior literature reporting a negative association between a going concern opinion and auditor size (e.g., Louwers 1998; Krishnan and Krishnan 1996; Mutchler 1985). Taken together, these

results are a bit stronger than our main results and show some improvement in audit quality as a function of auditor tenure.

Informativeness of a Going Concern Opinion

Since a going concern opinion may be a leading indicator of insolvency, we examine whether the accuracy of auditors' reporting decisions vary with auditor tenure. For this analysis, we combine the bankrupt and nonbankrupt samples and then partition the total sample into three subsamples based on auditor tenure. In particular, we distinguish the following tenure groups: 1–2 years, 3–4 years, and 5 or more years (5+). We estimate the impact of a going concern opinion on the likelihood of bankruptcy for each of these subsamples using the same control variables as before and defining *BANKRUPT* as a dummy variable with a value of 1 if the company went bankrupt:

$$BANKRUPT = \beta_0 + \beta_1 LNSALES + \beta_2 DSCORE + \beta_3 BIG6 + \beta_4 LAG$$
$$+ \beta_5 AGE + \beta_{6n} GCO + \varepsilon$$

where the subscript for β_{6n} is defined as n = 1 for tenure of 1–2 years, n = 2 for tenure of 3–4 years, and n = 3 for tenure of 5+ years.

The results of this analysis are presented in Table 6. Across the three subsamples, the going concern opinion is positive and significant. A cross-model comparison of the marginal effects of the *GCO* coefficient does not indicate a monotonically increasing relationship.[10] In particular, the marginal effect of the *GCO* coefficient is 0.236 for the subsample of 1–2 years tenure, 0.167 for the subsample of 3–4 years tenure, and 0.425 for the subsample of 5 or more years tenure. The marginal effect of 0.425 for the subsample of 5 or more years tenure implies a 42.5 percent increase in the probability of bankruptcy if the company received a *GCO*. We further analyze the model for the middle period of 3–4 years and compute the marginal effect for 3 years separately from 4 years. The marginal effect of the *GCO* coefficient when tenure is 4 years is 0.377, which is consistent with the increasing pattern observed for the other two subsamples. However, the marginal effect of the *GCO* coefficient when tenure is 3 years actually drops to 0.017. This anomalous variation in the pattern coincides with the end of the three-year mandate period. Given that the decision to rehire the auditor is taken at the annual shareholder's meeting, the auditor is likely to know whether he has been renewed before issuing the report for the third year financial statements. Consequently, the auditor's report is unlikely to be affected by the fear of losing a client at this point in time.[11]

Additional Supplementary Analyses

A possible concern about the results reported above is that the nonbankrupt companies may not look like they are going bankrupt in spite of our sample selection process, making it less likely that an auditor would issue a going concern report. To test the sensitivity of our results, we eliminate all companies from the sample not considered to be failing using the *DSCORE* of the bankruptcy prediction model. The results (not reported) are essentially the same as those reported in Table 4.

---

[10] The partial derivative of the conditional probability of bankruptcy with respect to the vector of characteristics was computed using the mean values of the independent variable.

[11] The percentage of *GCO* for *ex-post* nonbankrupt companies if auditor tenure is two, three, or four years is 14.63 percent, 20.75 percent, and 7.35 percent, respectively. This confirms the higher likelihood of a *GCO* for an *ex-post* nonbankrupt firm in case the auditor is in the third year and thus last year of his three-year audit mandate.

TABLE 6
Logistic Regression Analysis: Accuracy of *GCO* to Predict Bankruptcy
(Dependent Variable = *BANKRUPT*)

	Tenure = 1 or 2 years (n = 187) Coefficient (z-value)	Tenure = 3 or 4 years (n = 239) Coefficient (z-value)	Tenure = 5 or More Years (n = 192) Coefficient (z-value)
CONSTANT	−1.482 (−1.01)	−0.998 (−0.78)	−2.321 (−1.26)
LNSALES	0.148 (1.21)	0.109 (1.03)	0.105 (0.71)
DSCORE	−0.161 (−1.49)*	−0.184 (−1.99)**	−0.120 (−1.31)*
BIG 6	−0.847 (−2.28)**	−1.025 (−3.00)***	−0.935 (−1.99)**
LAG	1.549 (2.58)***	1.280 (2.05)**	0.937 (1.44)*
AGE	−0.008 (−0.84)	−0.019 (−2.13)**	0.004 (0.43)
GCO	1.139 (2.82)***	0.816 (2.11)**	1.821 (4.14)***
Log likelihood	−109.023	−147.999	−107.62
LR Chi squared (Significance)	30.25 (0.000)	35.22 (0.000)	34.84 (0.000)

*, **, *** $p < .10, .05, .01$, respectively (1-sided).
BANKRUPT = dummy variable: BANKRUPT = 1, in case of a bankrupt company;
   LNSALES = natural logarithm of total sales;
    DSCORE = general discriminant score of a standard bankruptcy model developed for Belgian companies;
       BIG 6 = dummy variable: BIG 6 = 1, in case of a Big 6 auditor;
        LAG = dummy variable: LAG = 1, in case the number of months between the closing of the fiscal year
               and the date of the annual general meeting of shareholders exceeds the legal maximum of six
               months;
         AGE = age of the company measured in years; and
        GCO = dummy variable: GCO = 1, in case of a going concern opinion.

The professional obligation of auditors to consider whether a company will be a going concern is restricted to 12 months. Hence, our initial sample of nonbankrupt companies was based on a company surviving for at least a year. We reran our analysis of the non-bankrupt sample after dropping companies that went bankrupt within two years of the audit report and found no qualitative difference in the results when compared to Table 4 (results not reported).

Considering the possibility that very young companies may be more likely to receive a going concern report because they are less likely to survive, we removed all companies that were less than five years old. The results based on the reduced samples were not qualitatively different from those reported in Table 4 (results not reported).

Big 6 and non-Big 6 firms are often perceived to represent different levels of audit quality (Menon and Williams 1991). Consequently, a company that receives a going concern opinion may be more likely to go bankrupt if the auditor is a Big 6 firm. To remove the effect of this difference from the likelihood of bankruptcy, we reran our logistical model on four subsamples, separating the companies by firm and bankruptcy (results not reported).

These results essentially confirm our prior analysis that the effect of auditor tenure is primarily observed in the nonbankrupt group, both for Big 6 and non-Big 6 firms.

In Belgium, legal requirements dictate that an auditor be hired for three years, during which time the auditor cannot be fired from the engagement. The three-year period is referred to as a mandate, and the same auditor can be hired for sequential mandate periods. As a final supplemental test, we examine the effect of mandate period by rerunning the analysis without either *TEN3* or *TENYRS*. Instead, we used two dummy variables: one for an audit in the second mandate period and one for an audit in the third (or higher) mandate period. The results are consistent with the results we obtained for *TEN3* and *TENYRS*.

CONCLUSIONS, DISCUSSION, AND LIMITATIONS

In this paper, we examine the relationship between auditor tenure and audit quality in an environment where an auditor's incentives tend to favor avoiding disputes with a client so as to avoid loss of the client, i.e., private firms in Belgium. If there is a negative effect of long tenure on audit quality, this is an environment where such a phenomena is most likely to be observed. Using a sample of stressed bankrupt companies, our results reveal that there is no increase in Type II error rate (63.75 percent in our sample) arising from auditor tenure. That is, we observe no loss of auditor independence as a result of lengthy auditor tenure. Using a sample of stressed nonbankrupt companies, our results suggest that Type I error rates (12.94 percent in our sample) are lower when auditor tenure is longer. Furthermore, the multinomial logistic regression results reveal some improvement in audit effectiveness as a function of auditor tenure as measured by a reduced rate of Type II error (i.e., failing to issue an opinion to a company that subsequently goes bankrupt). However, on balance, the evidence for auditor tenure either increasing or decreasing audit quality is weak. The results of this paper should be interpreted with some possible limitations in mind, relating to the generalizability of the results. First, the data comes from a country that has different regulations and accounting rules than the U.S. or U.K. Second, the companies used in the sample are not publicly listed and generally smaller than used in most prior research. Nevertheless, given that this is an environment where audit tenure is most likely to undermine an auditor's judgment, the results refute the contention that long-term auditor-client relationships undermine audit quality.

REFERENCES

Ball, R., and L. Shivakumar. 2005. Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics* 39 (1): 83–128.

Carcello, J. V., and Z-V. Palmrose. 1994. Auditor litigation and modified reporting on bankrupt clients. *Journal of Accounting Research* 32 (Supplement): 1–30.

———, and T. Neal. 2000. Audit committee composition and auditor reporting. *The Accounting Review* 75 (4): 453–467.

———, and A. L. Nagy. 2004. Audit Firm Tenure and Fraudulent Financial Reporting. *Auditing: A Journal of Practice & Theory* 23 (2): 55–69.

Casterella, J., W. R. Knechel, and P. L. Walker. 2004. The Relationship of Audit Failures and Auditor Tenure. *Working Paper*, University of Florida.

Chaney, P., D. Jeter, and L. Shivakumar. 2004. Self-selection of auditors and audit pricing in private firms. *The Accounting Review* 79 (1): 51–72.

Chen, K. C. W., and B. K. Church. 1996. Going concern opinions and the market's reaction to bankruptcy filings. *The Accounting Review* 71 (January): 117–128.

DeAngelo, L. 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 11 (3): 183–199.

De Financieel Economische Tijd. 1996. Warning for going-concern problems is a delicate task for the auditor. (Title translated). August 23.

Dye, R. 1991. Informationally motivated auditor replacement. *Journal of Accounting and Economics* 14 (4): 347–374.

Gaeremynck, A., and M. Willekens. 2003. The endogenous relationship between audit-report type and business termination: Evidence on private firms in a non-litigious environment. *Accounting and Business Research* 33 (1): 65–79.

Geiger, M., and K. Raghunandan. 2001. Bankruptcies, audit reports, and the Reform Act. *Auditing: A Journal of Practice & Theory* 20: 187–195.

———— and ————. 2002. Auditor tenure and audit reporting failures. *Auditing: A Journal of Practice & Theory* 21 (1): 67–78.

Ghosh, A., and D. Moon. 2005. Does auditor tenure impair audit quality? *The Accounting Review* 80 (2): 585–612.

Hopwood, W., J. C. McKeown, and J. Mutchler. 1994. A reexamination of auditor versus model accuracy within the context of the going-concern opinion decision. *Contemporary Accounting Research* 10 (Spring): 409–431.

Johnson, V. E., I. K. Khurana, and J. K. Reynolds. 2002. Audit-Firm tenure and the quality of financial reports. *Contemporary Accounting Research* 19 (4): 637–660.

Jones, F. 1996. The information content of the auditor's going concern evaluation. *Journal of Accounting and Public Policy* 15 (Spring): 1–27.

Jorissen, A., and K. Van Oostveldt. 2001. Belgium: Individual accounts. *Transnational Accounting*, edited by D. Ordelheide, and KPMG. New York, NY: Macmillan.

Knechel, W. R. 1986. A simulation model of the relative effectiveness of alternative analytical review strategies. *Decision Sciences* (Summer): 376–394.

Krishnan, J., and J. Krishnan. 1996. The role of economic trade-offs in the audit opinion decision: An empirical analysis. *Journal of Accounting, Auditing and Finance* 11 (4): 565–586.

La Porta, R., F. Lopez-de-Silanes, A. Schleifer, and R. Vishny. 1997. Legal determinants of external finance. *Journal of Finance* LII (3): 1131–1150.

————, ————, ————, and ————. 1998. Law and finance. *Journal of Political Economy* 106 (6): 1113–1155.

Leuz, C., D. Nanda, and P. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69 (3): 505–527.

Levinthal, D., and M. Fichman. 1988. Dynamics of interorganizational attachments: Auditor-Client relationships. *Administrative Science Quarterly* 33 (3): 345–369.

Louwers, T. 1998. The relation between going concern opinions and the auditor's loss function, *Journal of Accounting Research* 36 (Spring): 143–156.

McKeown, J., J. Mutchler, and W. Hopwood. 1991. Towards an explanation of auditor failure to modify the audit opinions of bankrupt companies. *Auditing: A Journal of Practice & Theory* 10 (Supplement): 1–13.

Menon, K., and D. Williams. 1991. Auditor credibility and initial public offering. *The Accounting Review* 66 (2): 313–332.

Mutchler, J. 1985. A multivariate analysis of the auditor's going-concern opinion decision. *Journal of Accounting Research* 23 (Autumn): 668–682.

————, W. Hopwood, and J. McKeown 1997. The influence of contrary information and mitigating factors on audit opinion decisions on bankrupt companies. *Journal of Accounting Research* 35 (2): 295–310.

Myers, J., L. Myers, and T. Omer. 2003. Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation? *The Accounting Review* 78 (3): 779–798.

————, ————, Z-V. Palmrose and S. Scholz. 2005. The length of auditor-client relationships and financial statement restatements. *Working Paper*, Abstract available at: SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=740525.

Ooghe, H., P. Joos, and C. de Bourdeaudhuij. 1995. Financial distress models in Belgium: The results of a decade of empirical research. *International Journal of Accounting Education and Research* 30 (Spring): 245–274.

Palmrose, Z-V. 1987. Litigation and independent auditors: The role of business failures and management fraud. *Auditing: A Journal of Practice & Theory* 6 (Spring): 90–103.

Raghunathan, B., B. L. Lewis, and J. H. Evans III. 1994. An empirical investigation of problem audits. *Research in Accounting Regulation* 8: 33–58.

Schwartz, K., and K. Menon. 1985. Auditor switches by failing firms. *The Accounting Review* 15 (April): 248–261.

St. Pierre, K., and J. A. Anderson. 1984. An analysis of the factors associated with lawsuits against public accountants. *The Accounting Review* 59 (April): 242–263.

Summer, M. 1998. Does mandatory rotation enhance auditor independence? *Zeitschrift-fur-Wirtschafts—und-Sozialwissenschaften* 118 (3): 327–359.

Vanstraelen, A. 2000. Impact of renewable long-term audit mandates on audit quality. *The European Accounting Review* 9 (3): 419–442.

———. 2003. Going-concern opinions, auditor switching, and the self-fulfilling prophecy effect examined in the regulatory context of Belgium. *Journal of Accounting, Auditing and Finance* 18 (2): 231–253.

Walker, P. L., B. L. Lewis, and J. R. Casterella. 2001. Mandatory auditor rotation: Arguments and current evidence. *Accounting Enquiries* 10 (Spring/Summer): 209–242.