



The effect of auditors' internal control opinions on loan decisions

Arnold Schneider *, Bryan K. Church ¹

College of Management, Georgia Institute of Technology, Atlanta, GA 30308-0520, USA

Abstract

We examine the effect of internal control reports on lending officers' assessments of a company's creditworthiness. We suggest that an adverse internal control opinion can undermine the assurance provided by an unqualified opinion on financial statements taken as a whole and have a negative affect on lenders' assessments. In addition, we investigate whether auditor size plays a role in determining the effect on lenders' judgments.

We gather data from 111 loan officers and find that their judgments are affected by the auditor's report on the effectiveness of internal controls. The lenders' assessment of the risk of extending a line of credit and the probability of extending the line of credit are negatively affected when the company receives an adverse internal control opinion as compared to an unqualified one. We do not find any evidence that the effect is lessened by the use of a Big Four auditor. Additional analyses suggest that an adverse internal control opinion weakens the importance assigned to the balance sheet and income statement in lending decisions and reduces lenders' confidence that financial statements are presented fairly in conformance with generally accepted accounting principles.

© 2007 Elsevier Inc. All rights reserved.

Keywords: Internal control reports; Auditor's opinion; Sarbanes–Oxley Act; Lending decisions

1. Introduction

This paper reports the results of an experiment designed to examine the effect of internal control reports on bank loan officers' assessments of a company's creditworthiness.

* Corresponding author. Tel.: +1 404 894 4907; fax: +1 404 894 6030.

E-mail addresses: arnold.schneider@mgt.gatech.edu (A. Schneider), bryan.church@mgt.gatech.edu (B.K. Church).

¹ Tel.: +1 404 894 3907; fax: +1 404 894 6030.

According to Section 404 of the Sarbanes–Oxley Act (SOX), the auditor must attest to, and report on, management’s assessment of the effectiveness of internal control over financial reporting. If the system includes one or more material weaknesses, management may not conclude that internal control is effective, and the auditor must express an adverse opinion (PCAOB, 2004).²

Notwithstanding the regulatory mandate, the need for reporting on internal control effectiveness, attested by the auditor, is debatable. Generally Accepted Auditing Standards require the auditor to obtain a sufficient understanding of internal control as part of every engagement. Such an understanding is necessary to properly plan and conduct an audit (e.g., the mix of tests of controls and substantive tests). Furthermore, the auditor can issue an unqualified opinion on financial statements even if a company has material weaknesses in internal control. The auditor’s report provides *reasonable assurance*, irrespective of the effectiveness of a company’s internal control.

Even when an auditor provides an unqualified opinion on financial statements, users may view an adverse opinion on internal controls as bad news. William McDonough, former Chairman of the PCAOB, suggests that it is unclear how the marketplace will react when the auditor expresses an adverse opinion on internal control and a clean opinion on financial statements (CFO, 2004). A handful of archival studies examine the effect of internal control disclosures on stock prices, with most of them finding negative market reactions to the reporting of material weaknesses (e.g., Whisenant et al., 2003; De Franco et al., 2005; Cheng et al., 2007; Ashbaugh-Skaife et al., forthcoming; Hammersley et al., forthcoming).

The current study investigates bank loan officers’ reaction to internal control reports. We study bank loan officers because this group of users routinely analyzes financial data and has an inherent interest in the reliability of such data.³ Moreover, the effect of credit decisions in the marketplace is far reaching. Because bank loan officers are knowledgeable users of financial statements, the findings of this study may generalize to other sophisticated user groups.

We conduct an experimental study to investigate whether the disclosure of internal control weaknesses has a negative effect on bank loan officers’ assessments of risk and, in turn, the likelihood of granting a loan. The use of an experimental approach allows us to completely control the information that is available to participants. We are able to control for factors that can create challenges for archival researchers, including concurrent information disclosure, firm-specific characteristics, and self selection. Previous studies (e.g., Doyle et al., 2007a; Ashbaugh-Skaife et al., 2007a) find that most disclosures of material weaknesses are announced by weaker companies and are accompanied by restatements, restructuring, and other bad news. While these studies attempt to control for such problems with self-selection control procedures, the controls are likely insufficient. Hence, an experimental approach is extremely useful to overcome these problems.

² *Auditing Standard No. 2* prescribes that, to comply with Section 404 of SOX, the auditor issues two opinions: one on management’s process for making an assessment of internal control over financial reporting and another on the effectiveness of internal control (PCAOB, 2004). The current study focuses on the latter because we are interested in whether loan officers’ judgments are influenced by the effectiveness of internal control as attested by the auditor.

³ Debt covenants are often written in terms of accounting numbers and the numbers may or may not be defined in terms of GAAP (Mohrman, 1996).

We carefully craft two cases in which the auditor's opinion on internal controls is the only difference in the information presented. Archival findings are mixed as to the effect of internal control disclosures on the cost of equity. Ashbaugh-Skaife et al. (2007b) suggest that the disclosure of internal control weaknesses is associated with a higher cost of equity. Ogneva et al. (2007) find that, after controlling for firm-specific characteristics, the disclosure of internal control weaknesses is not associated with the cost of equity. Our study is expected to shed light on another portion of a firm's total cost of capital – the cost of debt.

In our experimental study, we manipulate the auditor's opinion on internal control (unqualified versus adverse), but in all cases the auditor expresses an unqualified opinion on financial statements.⁴ The manipulation allows us to determine whether internal control weaknesses undermine the assurance provided by an unqualified audit opinion on financial statements taken as a whole.

In addition to internal control disclosures, we investigate whether bank loan officers' assessments are affected by auditor size (Big Four versus other national firm). Much prior research indicates that Big N auditors (Big Eight, Six, Five, Four) provide higher quality service than other auditors and that users' perceive a quality difference (e.g., Palmrose, 1988; Beatty, 1989; Teoh and Wong, 1993; Craswell et al., 1995; Becker et al., 1998). As discussed subsequently, we suggest that the disclosure of internal control weaknesses is less detrimental when a Big N auditor, rather than another national auditor, expresses an unqualified opinion on financial statements taken as a whole. The rationale is that users anticipate that Big N auditors are better able to adapt to internal control weaknesses in conducting an audit.

The remainder of this paper is organized as follows. The next section reviews the relevant literature and provides a basis to develop the research hypotheses. Then, we describe the research method and present our results. Lastly, we offer concluding remarks.

2. Background

Reliable reporting is important for parties that have contractual relations with a company and effective internal controls are critical in achieving reliable reporting (Kinney et al., 1990). According to *Auditing Standards No. 2*, internal controls are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in conformance with generally accepted accounting principles (PCAOB, 2004, paragraph 147). Doyle et al. (2007a) contend further that effective internal controls are a fundamental driver of earnings quality. Several studies provide empirical evidence that lower earnings quality is associated with internal control weaknesses (e.g., Bedard, 2006; Doyle et al., 2007b; Ashbaugh-Skaife et al., forthcoming).

Prior research has not examined bank loan officers' use of internal control disclosures; however, several studies have examined lenders' reaction to uncertainty-modified audit reports (e.g., subject-to uncertainty opinions, going-concern opinions, etc.).⁵ Libby

⁴ We focus on instances in which the auditor's opinion on financial statements is unqualified because the vast majority of companies receive an unqualified opinion. Krishnan and Gul (2002) report that 85% of the companies audited by Big N auditors from 1996 to 2000 received an unqualified opinion.

⁵ In a related stream of research, studies examine the information content of modified audit reports in the marketplace, most notably via the market's reaction to such reports. The findings generally suggest that modified audit reports provide useful information to market participants (e.g., Chow and Rice, 1982; Elliott, 1982; Hopwood et al., 1989; Frost, 1994).

(1979) and Abdel-khalik et al. (1986) find that uncertainty qualifications do not affect lenders' decisions. Houghton (1983) finds a similar result, though bankers in his study indicate that uncertainty qualifications provide useful information. Other studies suggest that the auditor's report affects lenders' judgments/decisions. Bamber and Stratton (1997) find that uncertainty-modified audit reports influence lenders' risk assessments, interest rate premiums, and loan granting decisions. Firth (1979, 1980) and Gul (1987) also document that uncertainty-modified audit reports affect lenders' decisions. The mixed findings are difficult to interpret, though, because the studies have been conducted over different time periods, in different countries, under different regulatory regimes, and examining different uncertainties (see also Bamber and Stratton, 1997).⁶

We investigate whether bank loan officers react to internal control reports, which provide *new* information to the marketplace.⁷ According to Section 404 of SOX, the auditor cannot conclude that internal controls are effective if one or more material weaknesses exist at fiscal-year end. *Auditing Standards No. 2* defines a material weakness as "a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected" (PCAOB, 2004, paragraph 8). Thus, internal control reports have implications for management's oversight of the financial reporting process. The disclosure of material weaknesses suggests that management's oversight may be lacking and, in turn, the risk associated with financial data may be heightened.

The disclosure of material weaknesses has implications for the level of assurance conveyed by the auditor's report on financial statements. The auditor's report provides reasonable assurance as to whether financial statements are presented fairly, in all material respects, in conformance with generally accepted accounting principles. Arguably, the assurance that accompanies the auditor's opinion on financial statements is not affected by the opinion on internal control. An audit provides reasonable assurance, irrespective of the opinion on internal controls. Therefore, if loan officers focus on the underlying financial data, then assessments of creditworthiness may not be affected.

Yet former PCAOB Chairman, William McDonough, commented that the effect of internal control opinions, in the marketplace, in light of an unqualified opinion on financial statements, is unknown. The presence of material weaknesses, along with the auditor's attestation of such weaknesses, may create concerns with the reliability of financial statements, thereby increasing uncertainty and reducing users' comfort. In turn, the level of assurance associated with audited financial statements may be lowered.⁸ Extant evidence is consistent with this assertion. Research findings suggest that internal control disclosures affect users' perceptions of earnings quality (e.g., Altamuro and Beatty, 2006; Ghosh and Lubberink, 2006; Lopez et al., 2006).

⁶ Some contend that uncertainty-modified audit reports do *not* convey new information to the marketplace. That is, the auditor's report does nothing more than draw the reader's attention to a note disclosure that is *already included* in the financial statements. Arguably, users may not react to such reports, especially sophisticated users.

⁷ Prior to the passage of SOX, internal control disclosures were limited to those made voluntarily or those associated with auditor changes.

⁸ Professional auditing standards do not define the meaning of reasonable assurance as it relates to financial statements, and the term itself can be the source of confusion (Goldwasser, 2005). For instance, *Auditing Standards No. 2* indicates that the report on internal controls provides reasonable assurance as to the effectiveness of the control system. Though not absolute, reasonable assurance in this case is defined as a *high level* of assurance (PCAOB, 2004, paragraph 17).

Other evidence suggests that internal control reports will be taken into account in decision-making models and evaluation criteria (D&T et al., 2004, p. 4). A recent report by Moody's suggests that the disclosure of material weaknesses can affect debt ratings (Moody's Investor Services, 2006). For the current study, bank loan officers are expected to consider internal control reports in assessing loan applications and to price the control weaknesses accordingly. Bank loan officers are expected to react differently to an adverse opinion on internal controls (i.e., at least one material weakness exists) as compared to an unqualified opinion (i.e., internal controls are effective). Adverse opinions on internal controls introduce concerns as to the reliability of financial data and increase the uncertainty associated with the loan applicant, which impacts assessments of creditworthiness. Thus, our first research hypothesis is as follows.

H1: Bank loan officers' assessments of a company's creditworthiness are negatively affected by an adverse internal control opinion as compared to an unqualified internal control opinion.

It should be noted that while most archival research involving equity investors has found negative market reactions to internal control weaknesses, as discussed earlier, these results cannot necessarily be generalized to lenders. Lenders typically have access to more information about the company than do equity investors and this greater amount of information might mitigate poor internal controls. Additionally, lenders generally have a shorter-term perspective than investors and tend to focus more on cash flows as opposed to accrual-based earnings.

We also examine whether bank loan officers' reaction is tempered by auditor size. DeAngelo (1981) suggests that Big N auditors provide higher quality services than other auditors. The argument is that Big N auditors have more to lose by not providing high quality audits and, thus, are less likely to engage in opportunistic behavior. Empirical evidence supports this claim. Craswell et al. (1995) find that Big N auditors devote more resources to staff training and development of industry expertise than other auditors. Lennox (1999) concludes that reports issued by Big N auditors are more accurate than reports issued by other auditors, and Palmrose (1988) documents that Big N auditors face less litigation. Becker et al. (1998) find that clients of Big N auditors have smaller discretionary accruals (i.e., the clients are less likely to engage in earnings management).

The extant evidence also suggests that the marketplace views Big N auditors more favorably than other auditors. Dominant audit suppliers enjoy brand-name recognition and an enhanced reputation. In fact, a company may hire a Big N auditor as a mechanism to signal quality (e.g., Francis and Wilson, 1988): the perceived reliability of financial data, to which the auditor attests, is higher for companies audited by a dominant supplier (e.g., Douthett et al., 2001; Krishnan, 2003). Empirical findings indicate that clients of Big N auditors, as compared to those of other auditors, have a higher stock price at the time of an initial public offering (Beatty, 1989) and a higher earnings response coefficient (Teoh and Wong, 1993). Krishnan (2003) finds that the association between market returns and discretionary accruals is greater for clients of Big N auditors than clients of other auditors. Hence, the marketplace perceives that Big N auditors improve information quality and credibility (see also Watkins et al., 2004).

Because dominant audit suppliers provide high quality services, the marketplace views Big N auditors as better able to adapt to factors that increase the risk of conducting an audit. Client-specific characteristics (e.g., financial distress, managers' incentives to engage

in opportunistic behavior, internal control weaknesses) may create concerns about the reliability of financial data, but such concerns can be alleviated by a Big N auditor. Watkins et al. (2004) suggest that Big N auditors provide greater monitoring strength (competence and independence), which can effectively attenuate other concerns. Because Big N auditors are viewed favorably, users of financial statements presume that such auditors are better able to adjust plans and audit around internal control weaknesses. The bad news associated with disclosing internal weaknesses can be partially offset by a Big N auditor expressing an unqualified opinion on financial statements taken as a whole. Hammersley et al. (forthcoming) provide evidence that is consistent with this assertion. They find that the market reacts less negatively to the disclosure of material weaknesses when the audit is performed by a Big N auditor as compared to another auditor (see also Beneish et al., 2007). Hence, our second research hypothesis is as follow.

H2: In the case of an adverse opinion on internal controls and an unqualified opinion on financial statements, bank loan officers' assessments of a company's credit-worthiness are less negative if the company is associated with a Big N auditor than a non-Big N auditor.

In essence, H2 is testing to see if auditor quality is a substitute for weak internal controls. However, any such substitution effect may only exist for the most severe types of internal control weaknesses. In our study, weaknesses are not specified (further discussion of this point is included in Section 4 of the paper).

2.1. Experimental task

2.1.1. Experimental setting

The experimental setting involves a commercial lending decision. Bank loan officers are given questionnaires (included in the Appendix) containing information about a hypothetical company, with background information, size of loan requested, collateral, and the company's most recent balance sheet, income statement, and statement of cash flows. The financial statements are audited by a national CPA firm and an unqualified opinion has been received. Furthermore, the company's management asserts that internal controls over financial reporting are effective and the CPA firm has issued a report on internal controls. The experimental task is to assess: (1) the risk of extending a loan to the company and (2) the probability of extending the loan.

2.1.2. Participants

To administer the questionnaire, one of the authors called over 200 bank branches and spoke to bank loan officers, asking them to participate in a research study dealing with the use of accounting information in commercial lending decisions. Many indicated a willingness to participate and some said they could distribute the questionnaire to one or more colleagues.⁹ Based on participants' preferences, the questionnaires were mailed, faxed, or emailed.

⁹ Because some loan officers indicated that they would distribute the questionnaire to others in their bank, we have no way of knowing how many questionnaires got distributed, so we are unable to ascertain a response rate. A self-selection bias is possible, although it is doubtful, especially since no sensitive questions were asked.

Table 1
Demographic data for experimental groups

	Experimental group			
	Unqualified/Big 4	Adverse/Big 4	Unqualified/non-Big 4	Adverse/non-Big 4
Number of respondents	23	29	35	24
Mean age	40	43	43	41
Mean years of lending	14	18	15	14
Male respondents (%)	83	85	91	67
Masters degrees (%)	35	35	31	38
Sole loan authority (%)	35	26	31	38
Avg. loan size >\$500,000 (%)	74	89	74	75
Banks with assets >\$500 million (%)	74	59	51	46

Notes. Unqualified and adverse refer to the auditor's opinion on internal controls. Big 4 and non-Big 4 refer to auditor size.

We obtained responses from 111 commercial lenders representing at least 45 different bank offices. The largest number of respondents from any one bank was 11.¹⁰ The participants' average age was 42 years and the average amount of experience as a lending officer was 15 years. Ninety-nine participants had at least three years of lending experience.¹¹ The respondents include 19 females and 90 males, with two not reporting any demographic information. Thirty-seven participants had a masters degree or higher, 67 had a bachelors degree, and five had a high school degree. Thirty-five lenders indicated they had sole authority for loan approval, 49 had joint authority with superiors, and 25 had other arrangements (e.g., loan committees).

The number of respondents per experimental group ranges from 23 to 35. A breakdown of demographic characteristics by group is shown in Table 1. The demographic characteristics across the four groups are quite similar.¹²

2.1.3. Experimental design – independent variables

The independent variables in the study are the type of opinion on internal controls (IC-OPIN) and the size of the CPA firm auditing the company (AUD-SIZE). Each of the variables is manipulated across two levels, resulting in a 2 × 2 between-subjects design. For

¹⁰ We could not identify bank affiliation of ten respondents. A possible limitation is that the “scale” of the responses may vary from bank to bank and might have influenced the results. The number of different banks in each group ranges from 17 to 23, so that any idiosyncrasies should not unduly influence the results of a particular group and also would tend to randomize across groups so that the comparisons across groups should not be biased. We have four banks that have five or more responses (one bank with nine responses and three with five responses). We re-analyzed the data omitting the observations from banks with five or more responses (i.e., the analyses are performed four additional times). Inferences are similar: i.e., variables that are statistically significant using the full data set retain significance at $p < 0.075$ in multivariate and univariate analyses of variance.

¹¹ The results, reported subsequently, are unaffected if the participants with less than three years of lending experience are excluded from the analysis.

¹² One-way analysis of variance and Kruskal–Wallis tests indicate that age and lending experience do not differ among the four groups at conventional levels. Chi-square tests indicate that education, loan authority, loan size, and bank size do not differ among the four groups at conventional levels. The number of male/female respondents, however, is not independent of group at $p = 0.10$. Additional analysis, however, indicates that loan officers' assessments (discussed in the next section) are not affected by whether the individual is male or female.

one level of IC-OPIN, the auditor issues an unqualified opinion on the effectiveness of internal controls. For the other level of IC-OPIN, the auditor issues an adverse opinion (i.e., the company has not maintained effective control over internal controls).^{13,14}

The AUD-SIZE variable is operationalized by specifying that the auditor is a Big-Four CPA firm or another national CPA firm (non-Big Four). This dichotomy is consistent with prior research studies that use CPA firm size as a surrogate for audit quality. Moreover, we could not realistically specify a smaller CPA firm because our hypothetical company was publicly-held and had over \$134 million of assets. This company size was necessary due to the applicability of SOX regulations (i.e., the mandated internal control reports) to public companies only.

2.1.4. Bank loan officer assessments – dependent variables

Two dependent variables are elicited in the study. The first asks participants to assess the level of risk, on a 10-point scale from 1 = very low risk to 10 = very high risk, associated with extending a \$5 million line of credit to the company. Because some lenders might issue loans to high-risk companies, we include a second dependent variable. The second measure asks participants to assess the probability (0–100%) that they would extend the \$5 million line of credit at a reasonable rate of interest as determined by their financial institution.

In developing the experimental materials, we tried to avoid the situation in which participants' responses would cluster at either end of the response scales. Through several iterations of pre-testing with graduate students who had banking experience, we modified the experimental material such that the company would not be perceived as either very strong or very weak. We aimed for participants' responses that would yield averages near the scale midpoints: 5.5 for the risk assessment and 50% for the probability assessment. Indeed, bank loan officers' responses produced averages near the midpoints (6.26 for the risk assessment and 52.7% for the probability assessment).

In addition to risk and probability assessments, we ask the bank loan officers to rate the importance of various factors in making their assessments. The ratings are elicited on a 10-point scale from 1 = not important to 10 = very important. Further, as part of a post-experiment questionnaire, we ask participants to indicate their confidence that the financial statements of the hypothetical company (i.e., the loan applicant) are presented fairly in conformance with generally accepted accounting principles. The confidence level is elicited on a 10-point scale from 1 = no confidence to 10 = complete confidence. Bank loan officers' responses to the importance and confidence questions may shed additional insights into their loan assessments.

¹³ As mentioned earlier, the PCAOB requires that the auditors' opinion on internal controls consist of two parts – an assessment on management's process for making its internal control evaluation and an assessment on the effectiveness of the company's internal controls. The experimental materials are constructed such that the auditor's opinion on management's process is consistent with the auditor's opinion on internal control effectiveness. The auditor opines that management's assessment of the process is: (1) fairly stated when internal controls are effective (unqualified opinion) and (2) not fairly stated when internal controls are not effective (adverse opinion). We maintain consistency among the auditor's opinions because, according to the Big Four, this setting is among two of the most likely reporting scenarios (D&T et al., 2004, p. 13), although it may not represent the most likely scenario.

¹⁴ For the adverse opinion, we have kept the experiment simple by not specifying the nature of the material weakness. This avoids the complexity of different types of weaknesses. See the Section 4 for further discussion of this issue.

3. Results

We perform a multivariate analysis of variance (MANOVA) to determine the effect of internal control opinion (unqualified versus adverse) and auditor size (Big Four versus non-Big Four) on the loan officers' assessments of: (1) the risk of extending the line of credit and (2) the probability of extending the line of credit. The MANOVA results are summarized in Panel A of Table 2.

We find that loan officers' assessments are affected by the type of internal control report ($p = 0.033$), but not the auditor's size. The univariate results are similar: the type of internal control report is significant for the risk assessment ($F = 4.76$, $p = 0.031$) and for the probability assessment ($F = 6.82$, $p = 0.01$), whereas auditor size and the interaction term are not statistically significant ($p > 0.30$). The cell means, reported in Panels B and C of Table 2, indicate that an adverse internal control report produces a higher assessed risk and a lower likelihood of extending the line of credit than an unqualified internal control report, which is consistent with our first research hypothesis.¹⁵ Hence, the adverse internal control report negatively impacts loan officers' assessments, even though the auditor's report on financial statements is unqualified.

We do not find any evidence that loan officers' assessments are affected by auditor size and, more specifically, the negative effect that accompanies an adverse internal control report is *not* tempered by auditor size. As indicated above, the interaction effect is not statistically significant in the multivariate analysis or in either of the univariate analyses. These findings are not consistent with our second research hypothesis.

Next we examine bank loan officers' ratings of various factors in making lending decision. The mean response by experimental group is presented in Table 3. We perform a MANOVA to determine whether the vector of loan officers' responses differ across the four groups. The results indicate that the responses of loan officers receiving an unqualified internal control opinion differs from those receiving an adverse internal control opinion ($F = 3.49$, $p = 0.001$). In contrast, responses do not differ between loan officers receiving reports issued by a Big Four auditor and those receiving reports issued by a non-Big auditor ($F = 1.33$, $p = 0.24$). The interaction term also is not statistically significant ($F = 1.13$, $p = 0.349$).

We look at the univariate results to identify the specific differences in importance ratings between bank loan officers in the two IC-OPIN groups, summarized in Table 4. We find that the internal control opinion affects the importance assigned to the income statement, balance sheet, the auditor's opinion on financial statements, and the auditor's opinion on internal control at $p < 0.05$. Internal control opinion affects the importance assigned to auditor size at $p < 0.10$. Summarizing the data, we find that loan officers receiving an unqualified internal control opinion assign more importance to the income statement and balance sheet than those receiving an adverse opinion. By comparison, loan officers receiving an unqualified internal control opinion assign less importance to the auditor's opinion on financial statements, the auditor's opinion on internal control, and

¹⁵ Subsequent analysis indicates that for risk assessments (Panel B of Table 2), the mean response of participants receiving an adverse opinion is significantly greater than the scale midpoint ($t = 4.04$, $p < 0.001$, two-tailed), whereas the mean response of those receiving an unqualified opinion is not ($t = 1.34$, $p = 0.185$, two-tailed). For probability assessments, the mean response of participants receiving an unqualified opinion is significantly greater than the scale midpoint ($t = 2.50$, $p = 0.015$, two-tailed), whereas the mean response of those receiving an adverse opinion is not ($t = -1.11$, $p = 0.271$, two-tailed).

Table 2
MANOVA results and cell means

Effect	Pillai's trace	F-Statistic	p-Value
<i>Panel A: multivariate analysis of variance</i>			
Intercept	0.98	2065.24	0.000
IC-OPIN	0.06	3.54	0.033
AUD-SIZE	0.01	0.52	0.598
Interaction	0.01	0.71	0.493
<i>Panel B: cell means for risk assessment</i>			
IC-OPIN	AUD-SIZE		Total
	Big 4	Non-Big 4	
Unqualified	5.65	6.00	5.86
Adverse	6.48	6.94	6.69
Total	6.12	6.38	6.26
<i>Panel C: cell means for probability assessment</i>			
IC-OPIN	AUD-SIZE		Total
	Big 4	Non-Big 4	
Unqualified	0.63	0.56	0.59
Adverse	0.45	0.47	0.46
Total	0.53	0.52	0.53

Notes. IC-OPIN refers to the auditor's report on internal control (unqualified versus adverse) and AUD-SIZE refers to auditor size (Big 4 versus non-Big 4). The two dependent variables in the analysis include loan officers' assessment of: (1) the risk associated with extending the line of credit (1 = very low risk and 10 = very high risk) and (2) the probability of extending the line of credit (0–100%).

Table 3
Importance scores for experimental groups

Factor	Experimental group			
	Unqualified/Big 4	Adverse/Big 4	Unqualified/non-Big 4	Adverse/non-Big 4
Income statement	9.45	8.61	9.48	9.00
Balance sheet	9.36	8.89	9.58	9.00
Statement of cash flows	8.86	8.61	9.39	8.96
Company growth	6.77	7.14	7.21	7.22
Securing loan with receivables	8.32	7.29	8.09	8.22
Auditor size	4.64	5.64	4.00	4.57
Auditor opinion on F/S	7.59	8.79	7.42	8.76
Auditor opinion on IC	7.18	8.96	7.33	8.30

Notes. Unqualified and adverse refer to the auditor's opinion on internal controls. Big 4 and non-Big 4 refer to auditor size.

auditor size than those receiving an adverse opinion. The findings for the importance ratings suggest that an adverse internal control opinion can result in less weight being placed on the financial statements – on the income statement and balance sheet, though not the statement of cash flows – perhaps because loan officers have less confidence in the underlying numbers.

Further examination of the data indicates that the type of internal control opinion affects participants' confidence that financial statements are presented fairly in conformance with generally accepted accounting principles ($F = 15.41$, $p < 0.001$). Loan officers

Table 4
Effect of IC opinion on importance scores

Factor	IC Opinion		Statistics	
	Unqualified	Adverse	F-Statistic	p-Value
Income statement	9.47	8.78	6.34	0.013
Balance sheet	9.49	8.94	4.75	0.032
Statement of cash flows	9.18	8.76	1.54	0.218
Company growth	7.04	7.18	0.23	0.634
Securing loan with receivables	8.18	7.71	1.09	0.299
Auditor size	4.24	5.16	3.00	0.087
Auditor opinion on F/S	7.42	8.76	10.05	0.002
Auditor opinion on IC	7.27	8.67	12.04	0.001

Notes. The entries under the IC Opinion columns represent the mean importance scores assigned to each factor of interest in the unqualified and adverse IC-OPIN conditions. We performed a 2×2 ANOVA using each factor as the dependent variable and IC-OPIN and AUD-SIZE as the independent variables. The entries under the Statistics columns represent the F-statistic and p-value for IC-OPIN in the ANOVAs (see Table 2 for definitions of variables).

receiving an adverse internal control opinion (mean of 5.93) have less confidence than those receiving an unqualified opinion (mean of 7.48). Taken as a whole, the findings suggest that an adverse internal control opinion can make lenders wary of accruals, but not necessarily cash flows.

A common measure of credit risk, as reflected in loan covenants, is debt to cash flows. If cash flows are proxied using measures such as earnings before interest, taxes, depreciation, and amortization (EBITDA), then accruals can affect cash flows. In turn, a concern with accruals can impact lenders' decisions (see also Doyle et al., 2007b). Our findings suggest that an adverse internal control opinion weakens the lenders' perceptions of credit risk, making it is costly for a company to receive such an opinion.

4. Conclusions

We report the results of a study designed to investigate the effect of internal control reports and auditor size on bank loan officers' assessments of a company's creditworthiness. Section 404 of SOX requires the auditor to issue an opinion on the effectiveness of a company's internal controls as part of the audit engagement. We investigate whether adverse internal control reports, which state that internal controls are not effective, negatively affect lenders' assessments. In addition, we investigate whether the use of a Big Four auditor tempers the negative effect of an adverse internal control opinion on lenders' judgments.

Using data collected from 111 bank loan officers, having an average of 15 years of lending experience, our findings overwhelmingly indicate that judgments are affected by a company's internal control report. Bank loan officers' assessments of the risk of extending a line of credit and the probability of extending the line of credit are more negative when a company receives an adverse internal control opinion as compared to an unqualified opinion; however, we do not find any evidence that the effect is reduced by the use of a Big Four auditor. This latter finding differs from most of the prior research that has addressed the quality of Big N versus non Big N auditors. A possible explanation is that the demise

of Andersen has contaminated the reputation of the remaining Big Four audit firms as well. While virtually all of the prior research took place before Andersen's demise, this study took place afterwards and perhaps has captured a perception of lending officers that the quality of Big Four auditors has deteriorated to the point where it is no better than that of non Big Four auditors. Another possible explanation is that an adverse internal control opinion from a Big Four auditor is taken more seriously than one from a non Big Four auditor and that this offsets the generally positive quality associated with having a Big Four auditor.

Additional analyses indicate that an adverse internal control opinion weakens the importance assigned to the balance sheet and income statement in lending decisions and that it reduces lenders' confidence that financial statements are presented fairly in conformance with generally accepted accounting principles. So, when an unqualified opinion is received on financial statements taken as a whole, an adverse internal control opinion weakens the reliability of financial statements. Hence, our results imply that lenders find auditors' internal control opinions useful in their decision making.

There has been much controversy in the press regarding the costliness of Section 404 of SOX, but the results of this study suggest that there may be some benefits as well, especially to those companies that are potential borrowers. Companies that invest in internal controls and as a result receive unqualified internal control opinions by auditors may find it easier to obtain bank loans. Hence, there are rewards to maintaining effective internal control systems.

Our study is subject to the usual limitations of behavioral accounting experimental research such as providing participants with data sets that do not contain all of the information they may receive when they process actual loan applications. Another limitation is that this study did not specify the nature of the material weakness for the adverse internal control opinion. As a result, the paper does not address the effect of the potential types of internal control weaknesses. By leaving the material weakness vague, it is unclear what the lenders were actually thinking as to the severity of the weakness. With a clear portrayal of severe weaknesses in our cases, we may have obtained even stronger results. However, our finding of an overall effect is the first step in understanding the role of internal control opinions and future research can examine whether or not all internal control weaknesses produce similar effects. In particular, future studies should examine the trade-offs between internal controls and substantive testing. As [Moody's Investor Services \(2006\)](#) suggests, some internal control weaknesses are so severe that it is difficult to audit around these problems. Perhaps lenders would believe that lesser weaknesses (e.g., ones involving specific accounts or transactions only) could be offset by substantive testing and that only the severe weaknesses (e.g., company-wide problems) would impact lending decisions negatively. Our study may also be limited because in our case scenario, management does not agree with the disclosed weakness and this is not the situation for most actual adverse auditor opinions on internal controls. With a scenario in which management agrees with the adverse opinion, different results may have been obtained, though unlikely due to the subtlety of scenario differences. Since the lenders in our study were probably not actively engaged in making loans to accelerated filer companies at the time the study was conducted, these lenders might not be representative of actual lenders examining internal control reports. However, it is likely that our lenders would be making lending decisions at a later date to companies reporting on internal controls, so they are representative of those who are expected to be evaluating internal control reports in the future.

Future research should investigate why lenders view adverse internal control opinions in a negative light. Is it because they believe the weak internal controls cannot be compensated for by other controls or by substantive tests? Is it because of concern not of current financial stability but rather future stability that might be impacted by the weak internal controls? Or, is it because lenders perceive the accrual-based financial statements to be of lower quality, as our results would seem to suggest from the decreased reliance on the income statement and balance sheet? Behavioral experimental studies would be appropriate to address this question.

Another avenue of future research would be to compare the impact of internal control reports on decisions made by equity investors to those made by lenders. Lenders typically have access to more information about the company than do equity investors and one interesting issue is whether this additional information might mitigate poor internal control reports. Another difference between lenders and investors is that lenders generally have a shorter-term perspective than investors and tend to focus more on cash flows as opposed to accrual-based earnings. Future research can examine whether these characteristics of lenders make internal controls more or less important vis-à-vis investors.

Acknowledgements

We gratefully acknowledge the participation of the bank loan officers who participated in the study. We are also grateful for the valuable comments provided by Michael Bamber and two anonymous reviewers.

Appendix.

The experimental questionnaire is shown on the next four pages. We use [] and [[]] to denote wording differences for experimental manipulations, all of which appear on the first page.

Questionnaire

Robinson Book Wholesalers, a publicly-traded company, has experienced steady growth since operations began in 1996. Revenues have increased an average of 8% per year for the past four years and, according to the CFO, they are expected to increase by 12% during the next year.

The company is seeking to obtain a \$5,000,000 line of credit for the next year from your financial institution because it is planning an aggressive marketing campaign. The line of credit would be secured by the company's accounts receivable. Robinson Book Wholesalers does not currently have a business relationship with your financial institution.

To facilitate your analysis, financial statements are presented next. These financial statements were audited by a [Big Four CPA firm] [[national CPA firm (non-Big Four)]] and received a clean (i.e., unqualified) opinion. The CPA firm also reported on Robinson Book Wholesalers' internal controls, in compliance with the Sarbanes–Oxley Act of 2002. Robinson's management has issued a report asserting that the company has maintained effective internal control over financial reporting. [Robinson's CPA firm issued an opinion that this assessment by management was fairly stated. Furthermore, the CPA firm issued a clean opinion on Robinson Book Wholesalers internal control over financial reporting,

stating that the company had maintained effective internal controls.] [[However, Robinson's CPA firm issued an opinion that this assessment by management was not fairly stated. Furthermore, the CPA firm issued an adverse opinion on Robinson Book Wholesalers internal control over financial reporting, stating that the company had not maintained effective internal controls.]]

**ROBINSON BOOK WHOLESALERS
BALANCE SHEET
As of June 30, 2004**

ASSETS

Current Assets:

Cash	\$ 12,496,000
Accounts Receivable, net	31,072,000
Inventories	<u>50,208,000</u>
Total Current Assets	<u>\$93,776,000</u>

Fixed Assets, net	<u>40,736,000</u>
-------------------	-------------------

Total Assets	<u>\$134,512,000</u>
---------------------	-----------------------------

LIABILITIES AND STOCKHOLDERS' EQUITY

Current Liabilities:

Notes Payable	\$16,448,000
Accounts Payable	30,512,000
Income Taxes Payable	<u>784,000</u>
Total Current Liabilities	<u>\$47,744,000</u>

Long-Term Notes Payable	<u>\$30,840,000</u>
-------------------------	---------------------

Total Liabilities	<u>\$78,584,000</u>
-------------------	---------------------

Stockholders' Equity:

Common Stock, \$1 par value, 10,000,000 shares outstanding	\$10,000,000
Additional Paid in Capital	38,016,000
Retained Earnings	<u>7,912,000</u>

Total Stockholders' Equity	<u>\$55,928,000</u>
----------------------------	---------------------

Total Liabilities and Stockholders' Equity	<u>\$134,512,000</u>
---	-----------------------------

ROBINSON BOOK WHOLESALERS
STATEMENT OF INCOME AND RETAINED EARNINGS
For the Year Ended June 30, 2004

Sales	\$432,000,000
Cost of Goods Sold	<u>342,400,000</u>
Gross Margin	\$89,600,000
Operating Expenses	<u>82,000,000</u>
Income from Operations	\$ 7,600,000
Interest Expense	<u>3,860,000</u>
Income Before Taxes	\$ 3,740,000
Income Tax Expense	<u>1,010,000</u>
Net Income	\$ 2,730,000
Retained Earnings at Beginning of Year	<u>5,182,000</u>
Retained Earnings at End of Year	<u>\$ 7,912,000</u>
Earnings Per Share	\$ 0.27

ROBINSON BOOK WHOLESALERS
STATEMENT OF CASH FLOWS
For the Year Ended June 30, 2004

CASH FLOWS FROM OPERATING ACTIVITIES

Net Income	\$2,730,000
Add (deduct) items not requiring cash:	
Depreciation	3,400,000
Increase in accounts receivable	(4,256,000)
Increase in inventory	(2,816,000)
Decrease in notes payable	(528,000)
Increase in accounts payable	1,392,000
Increase in income tax payable	<u>384,000</u>
	\$306,000

CASH FLOWS FROM INVESTING ACTIVITIES

Cash payments for fixed assets	(\$5,544,000)
--------------------------------	---------------

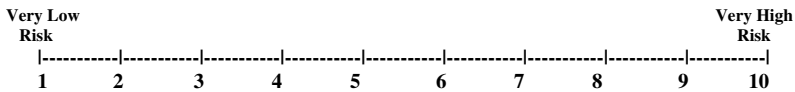
CASH FLOWS FROM FINANCING ACTIVITIES

Payments on long-term notes	<u>(\$2,736,000)</u>
-----------------------------	----------------------

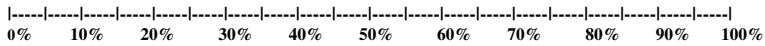
Net decrease in cash	<u>\$(7,974,000)</u>
-----------------------------	------------------------------

Assume that your financial institution does not restrict you on the size of the loan that you may grant and that your institution is not limited in the amount of the funds that it has available to lend. If you feel you need to make any further assumptions to enable you to answer the following questions, please state them in writing below.

- (a) Based on the information provided, what is your assessment of the risk associated with extending the \$5,000,000 line of credit to Robinson Book Wholesalers? (circle the appropriate number)



- (b) What is the probability that you would extend the \$5,000,000 line of credit to Robinson Book Wholesalers at a reasonable rate of interest as determined by your financial institution?



Please indicate the importance of each of the following factors in making your lending decisions above (circle the appropriate number for each factor).

Factor	1 = No Importance	2	3	4	5	6	7	8	9	10 = Very Important
Income Statement	1	2	3	4	5	6	7	8	9	10
Balance Sheet	1	2	3	4	5	6	7	8	9	10
Statement of Cash Flows	1	2	3	4	5	6	7	8	9	10
Company Growth	1	2	3	4	5	6	7	8	9	10
Securing Loan with Receivables	1	2	3	4	5	6	7	8	9	10
Use of a Big Four vs. non-Big Four CPA firm	1	2	3	4	5	6	7	8	9	10
Auditor's Opinion on Financial Statements	1	2	3	4	5	6	7	8	9	10
Auditor's Opinion on Internal Controls	1	2	3	4	5	6	7	8	9	10

References

Abdel-khalik, A.R., Graul, P.R., Newton, J.D., 1986. Reporting uncertainty and assessment of risk: Replication and extension in a Canadian setting. *Journal of Accounting Research* 24 (2), 372–382.

Altamuro, J., Beatty, A., 2006. Do internal control reforms improve earnings quality? Working Paper, September.

Ashbaugh-Skaife, H., Collins, D., Kinney, W., 2007a. The discovery and reporting of internal-control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics* 44 (1/2), 166–192.

Ashbaugh-Skaife, H., Collins, D., Kinney, W., LaFond, R., 2007b. The effect of internal control deficiencies on firm risk and cost of equity capital. Working Paper, April.

Ashbaugh-Skaife, H., Collins, D., Kinney, W., LaFond, R., forthcoming. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review*.

Bamber, E.M., Stratton, R.A., 1997. The information content of the uncertainty-modified audit report: Evidence from bank loan officers. *Accounting Horizons* 11 (2), 1–11.

Beatty, R., 1989. Auditor reputation and the pricing of initial public offerings. *The Accounting Review* 64 (4), 693–709.

- Becker, C.L., DeFond, M.L., Jambalvo, J., Subramanyam, K.R., 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15 (1), 1–21.
- Bedard, J., 2006. Sarbanes Oxley internal control requirements and earnings quality. Working Paper, August.
- Beneish, M.D., Billings, M.B., Hodder, L.D., 2007. Internal control weaknesses and information uncertainty. Working Paper, May.
- CFO, 2004. *The Enforcer*. CFO, August, pp. 45–53.
- Chow, C.W., Rice, S.J., 1982. Qualified audit opinions and share prices – An investigation. *Auditing: A Journal of Practice and Theory* 1 (2), 35–53.
- Cheng, C.S.A., Ho, J.L.Y., Tian, F., 2007. Impact of the Sarbanes–Oxley Act Section 404 internal control disclosures on firm valuation. Working Paper, September.
- Craswell, A.T., Francis, J.R., Taylor, S.L., 1995. Auditor brand name reputations and industry specialization. *Journal of Accounting and Economics* 20 (3), 297–322.
- DeAngelo, L., 1981. Auditor size and audit quality. *Journal of Accounting and Economics* 3 (3), 113–127.
- De Franco, G., Guan, Y., Lu, H., 2005. The wealth change and redistribution effects of Sarbanes–Oxley internal control disclosures. Working Paper, April.
- Deloitte and Touche (D&T), Ernst and Young (E&Y), KPMG, PricewaterhouseCoopers (PwC), 2004. *Perspectives on Internal Control Reporting*. D&T, E&Y, KPMG, and PwC.
- Douthett Jr., E.B., Duchac, J.B., Warren, D.L., 2001. The association between auditor size and bank regulator ratings. *Journal of Managerial Issues* 13 (1), 13–27.
- Doyle, J., Ge, W., McVay, S., 2007a. Determinants of weaknesses in internal control over financial reporting and the implications for earnings quality. *Journal of Accounting and Economics* 44 (1/2), 193–223.
- Doyle, J., Ge, W., McVay, S., 2007b. Accruals quality and internal control over financial reporting. *The Accounting Review* 82 (5), 1141–1170.
- Elliott, J., 1982. ‘Subject to’ audit opinions and abnormal security returns – outcomes and ambiguities. *Journal of Accounting Research* 20 (2), 617–638.
- Firth, M., 1979. Qualified audit reports and bank lending decisions. *Journal of Bank Research* 9 (4), 237–241.
- Firth, M., 1980. A note on the impact of audit qualifications on lending and credit decisions. *Journal of Banking and Finance* 4 (3), 258–267.
- Francis, J., Wilson, E., 1988. Auditor changes: A joint test of theories relating to agency costs and auditor differentiation. *The Accounting Review* 63 (4), 663–682.
- Frost, C., 1994. Uncertainty-modified audit reports and future earnings. *Auditing: A Journal of Practice and Theory* 13 (1), 22–35.
- Ghosh, A., Lubberink, M., 2006. Timeliness and mandated disclosures on internal controls under section 404. Working Paper, September.
- Goldwasser, D.L., 2005. The past and future of reasonable assurance. *The CPA Journal* (November), 28–31.
- Gul, F.A., 1987. The effects of uncertainty reporting on lending officers’ perceptions of risk and additional information required. *Abacus* 23 (2), 172–181.
- Hammersley, J.S., Myers, L.A., Shakespeare, C., forthcoming. Market reactions to the disclosure of internal control weakness and to the characteristics of those weaknesses under section 302 of the Sarbanes–Oxley Act of 2002. *Review of Accounting Studies*.
- Hopwood, W., McKeown, J., Mutchler, J., 1989. A test of the incremental explanatory power of opinions qualified for consistency and uncertainty. *The Accounting Review* 64 (1), 28–48.
- Houghton, K.A., 1983. Audit reports: Their impact on the loan decision process and outcome: An experiment. *Accounting and Business Research* 14 (53), 15–20.
- Kinney Jr., W.R., Maher, M.W., Wright, D.W., 1990. Assertions-based standards for integrated internal control. *Accounting Horizons* 4 (4), 1–8.
- Krishnan, G., 2003. Audit quality and pricing of discretionary accruals. *Auditing: A Journal of Practice and Theory* 22 (1), 109–126.
- Krishnan, G.V., Gul, F.A., 2002. Has audit quality declined? Evidence from the pricing of discretionary accruals. Working Paper, April.
- Lennox, C.S., 1999. Are large auditors more accurate than small auditors? *Accounting and Business Research* 29 (3), 217–227.
- Libby, R., 1979. The impact of uncertainty reporting on the loan decision. *Journal of Accounting Research* 17 (Supplement), 35–57.
- Lopez, T.J., Vandervelde, S.D., Wu, Y., 2006. The auditor’s internal control opinions: An experimental investigation of relevance. Working Paper, April 2006.

- Moody's Investor Services, 2006. The Second Year of Section 404 Reporting on Internal Control, May. Available for download at http://www.404institute.com/docs/Moodys_2nd_Year_Filers.pdf.
- Mohrman, M.B., 1996. The use of fixed GAAP provisions in debt contracts. *Accounting Horizons* 10 (3), 78–91.
- Ogneva, M., Raghunandan, K., Subramanyam, K., 2007. Internal control weakness and cost of equity: Evidence from SOX 404 disclosures. *The Accounting Review* 82 (5), 1255–1297.
- Palmrose, Z., 1988. An analysis of auditor litigation and audit service quality. *The Accounting Review* 63 (1), 55–73.
- Public Companies Accounting Oversight Board, 2004. Auditing Standard No. 2: An Audit of Internal Control over Financial Reporting Performed in Conjunction with an Audit of Financial Statements. PCAOB, March 9.
- Teoh, S.H., Wong, T.J., 1993. Perceived auditor quality and the earnings response coefficient. *The Accounting Review* 68 (2), 346–366.
- Watkins, A.L., Hillison, W., Morecroft, S.E., 2004. Audit quality: A synthesis of theory and empirical evidence. *Journal of Accounting Literature* 23, 153–193.
- Whisenant, J.S., Sankaraguruswamy, S., Raghunandan, K., 2003. Market reactions to disclosure of reportable events. *Auditing: A Journal of Practice and Theory* 22 (1), 181–194.