THE MEDIATING ROLE OF PERCEPTIONS OF AUDITOR INDEPENDENCE

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ABSTRACT

Public users expressed concerns about auditor independence after a series of accounting scandals. In response to their concerns, since 2002, the Sarbanes–Oxley Act of 2002 (SOX), U.S. Securities and Exchange Commission (SEC) and Public Company Accounting Oversight Board (PCAOB) have issued additional requirements designed to strengthen auditor independence. Because auditor independence in fact, is unobservable, the public's decisions only rely on auditor independence in appearance, i.e., their perceptions of auditor independence. This study aims to examine whether public users' perceptions of auditor independence impact their decisions, which are associated with their opinions on internal control over financial reporting (ICFR). This study also explores the effects of a new auditor independence clarification requirement on perceptions of auditor independence. The results indicate that an ICFR opinion affects the loan officers' decisions via the mediating effects of their perceptions of auditor independence as well as perceptions of financial reporting reliability and lending risk assessments. The findings provide empirical evidence to support the importance of the perceptions of auditor independence as well as an ICFR opinion.

INTRODUCTION

This study establishes a model to examine the mediating role of public users' perceptions of auditor independence in the relationship between opinion on internal control over financial reporting (ICFR) and their lending decisions. This model is based on a series of prior research (e.g., DeAngelo, 1981; Lowe et al., 1999; Hodge, 2003; Brandon et al., 2004; Ruiz-Barbadillo et al., 2004; Khurana and Raman, 2006; Schneider and Church, 2008; Holt and DeZoort, 2009; Lopez et al., 2009; PCAOB, 2017). Auditor independence is the bedrock of audit quality (EC, 2010). Public users expressed concerns about auditor independence after they were confronted by a wave of accounting scandals such as WorldCom and Enron in the early 2000s and AIG and Lehman Brothers during the financial crisis of 2008. In response to their concerns, a series of auditor independence requirements were issued. The Sarbanes-Oxley Act of 2002 (SOX) set stricter rules on auditor independence, such as prohibiting some non-audit services and requiring partner rotation. In 2008, the Public Company Accounting Oversight Board (PCAOB) adopted Ethics and Independence Rule 3526 to require auditors to confirm, in writing, their independence to audit committees before the audit engagement. Later, in 2017, the PCAOB issued a new standard to require that an auditor explicitly clarify auditor independence in an integrated auditor's report. In summary, more and more importance has been attached to auditor independence since 2002.

The increasing importance of auditor independence and public concerns motivate us to investigate the effect of auditor independence on public users' decisions. The U.S. Securities and Exchange Commission (SEC), Independence Standards Board (ISB), and American Institute of Certified Public Accountants (AICPA) define auditor independence on two levels: independence *in fact* and independence *in appearance*. Independence *in fact* means an auditor possesses an independent mind and attitude to perform an audit, while independence *in appearance* means the auditor's behavior is perceived to be independent of management by public users. Because auditor independence *in fact* is unobservable, public users' decisions are only based on auditor independence *in appearance* (Dopuch et al., 2003), i.e., public users' perceptions of auditor independence determine their public users' decisions. If public users perceive an auditor to be independent, they believe the auditor provides unbiased and fair opinions on financial statements. This belief leads public users to perceive financial reporting as truthful and reliable (Hodge, 2003), which lowers their risk assessments. Ultimately, these factors affect public users' decisions (Firth, 1980; Dykxhoorn, 1982; Schneider and Church, 2008; Holt and DeZoort, 2009). This causal chain suggests mediating auditor independence, perceptions of reliability, and lending risk assessments. Most of the previous studies focus on the effects of different factors on public users' perceptions of auditor independence (e.g., Ghosh et al., 2009; Church and Zhang, 2011). Few studies have examined the effects of public users' perceptions of auditor independence on their decisions, associated explicitly with an ICFR opinion. Moreover, whether the new auditor independence clarification requirement issued by PCAOB in 2017 affects loan officers' perceptions of auditor independence needs to be examined.

The research on an ICFR opinion is driven by the current importance of an ICFR opinion on mid-size companies, which is evidenced by increased debates on exempting mid-size companies from section 404 (b) by many regulators such as the SEC, U.S. Congress, the AICPA, and the Center for Audit Quality (CAQ) (Dodd-Frank Act, 2010; JOBS Act, 2012; AICPA, 2012; CAQ, 2014). On one side, several regulatory rollbacks, such as the Dodd-Frank Act (Dodd-Frank Act, 2010) and the Jumpstart Our Business Startups (JOBS) Act (JOBS Act, 2012), exempted small companies from Section 404(b). Furthermore, the Dodd-Frank Act proposed that the exemption should be applied to mid-term firms with a market capitalization between $75 million and $250 million. On the other side, the AICPA and CAQ are fighting any legislation that would exempt the mid-size companies from internal control reporting of SOX Section 404(b) (AICPA, 2012; CAQ, 2014). They believe that eroding Section 404(b) will substantially impact the quality of financial disclosures and thus destroy public confidence about the integrity of financial reporting. The study aims to provide empirical evidence to support the opinions of AICPA and CAQ.

We establish a model based on the template of Hayes (2013) and employ an experimental approach to test this model. The participants are 98 experienced bank loan officers recruited from the Hugo Dunhill Mailing Lists, Inc. (HDML). Three reasons drive the choice of loan officers as participants. First, loan officers are significant providers of external financing. They have consistently determined more than 50 percent of total debt financing in American debt markets over the last three decades (Graham et al., 2008; Costello and Wittenberg-Moerman, 2011). Specifically, loan officers often include an internal control provision in their loan contracts. This provision is an affirmative covenant and requires a firm to report the internal control events (Costello and Wittenberg-Moerman, 2011). Therefore, loan officers' confidence about an ICFR opinion has economic significance. Second, loan officers are sophisticated primary users of an auditor's report and their perceptions represent public users' long-term experience in internal control reporting quality and auditor independence (Schneider and Church, 2008). These perceptions may be generalized to other sophisticated user groups and are important references for general public users.

This study finds that after the 2008 financial crisis, an adverse ICFR opinion on the mid-size company significantly decreased loan officers' intent to lend to the company. Loan officers' perceptions of auditor independence mediate the effect of an ICFR opinion on their decisions. Perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments are serial multiple mediators in the relationship between an ICFR opinion and decisions of the loan officers. In terms of loan officers' decision process, the results of serial mediation analysis revealed that an adverse ICFR opinion significantly decreases loan officers' intent to lend via significantly decreasing their perceptions of auditor independence, decreasing their perceptions of financial reporting reliability, and increasing their lending risk assessments. Also, the results indicate that although the new auditor independence clarification requirement by PCAOB (2017) slightly enhances loan officers' perceptions of auditor independence, this effect is not significant.

This study has three contributions. The first contribution of this study is that it provides first-hand evidence on the importance of loan officers' auditor independence clarification. This study investigates how loan officers' perceptions of auditor independence affect their decision process. The results reveal that loan officers' perceptions of auditor independence mediate the effects of an ICFR opinion on their lending decisions, as well as their perceptions of financial reporting reliability and lending risk assessments. The findings support the long-term effects of the PCAOB to strengthen auditor independence to enhance audit quality.

Secondly, the findings contribute to the prior literature related to the informative value of an ICFR opinion. Although loan officers are one of the primary users of an auditor's report, except Schneider and Church (2008), few studies have focused on the effects of their perceptions on their decisions. However, Schneider and Church (2008) conducted the study before the 2008 financial crisis and did not specify the nature of the material weakness for the adverse ICFR opinion. To make the experimental design more representative of the current real-world issues, this study specifies the most frequently identified internal control material weakness. Consistent with the prior literature, the results indicate that an ICFR opinion significantly affects loan officers' lending decisions. The findings provide empirical evidence in support of the AICPA and CAQ's opposition to the internal control reporting exemption of section 404(b) for midsized companies.

Finally, this study explores the effect of the new auditor dependence clarification requirement on the loan officers' perceptions of auditor independence. The insignificant result suggests that this new standard fails to achieve the PCAOB's expectation of enhancing public users' understanding of the auditor independence obligations (PCAOB, 2017). During the public hearing for the proposed standard, some people argued that it is redundant and unnecessary because it was already embedded in the auditor's report's current title. The finding of this study supports their opinion. Nevertheless, this study justifies the significant effects of perceptions of auditor independence on users' decisions. In practice, auditors are liable for the consequences if they lack auditor independence. This implies that auditors should strictly comply with the auditor independence rules and regulations of PCAOB and SEC, including the new clarification statement that clarifies the nature and scope of auditors' existing responsibilities regarding auditor independence.

The remainder of this paper is organized as follows. The next section gives a review of the literature and develops the hypotheses based on the model established by this study. The third section describes the research method. The fourth section presents the results, and the final section concludes with a discussion of the results.

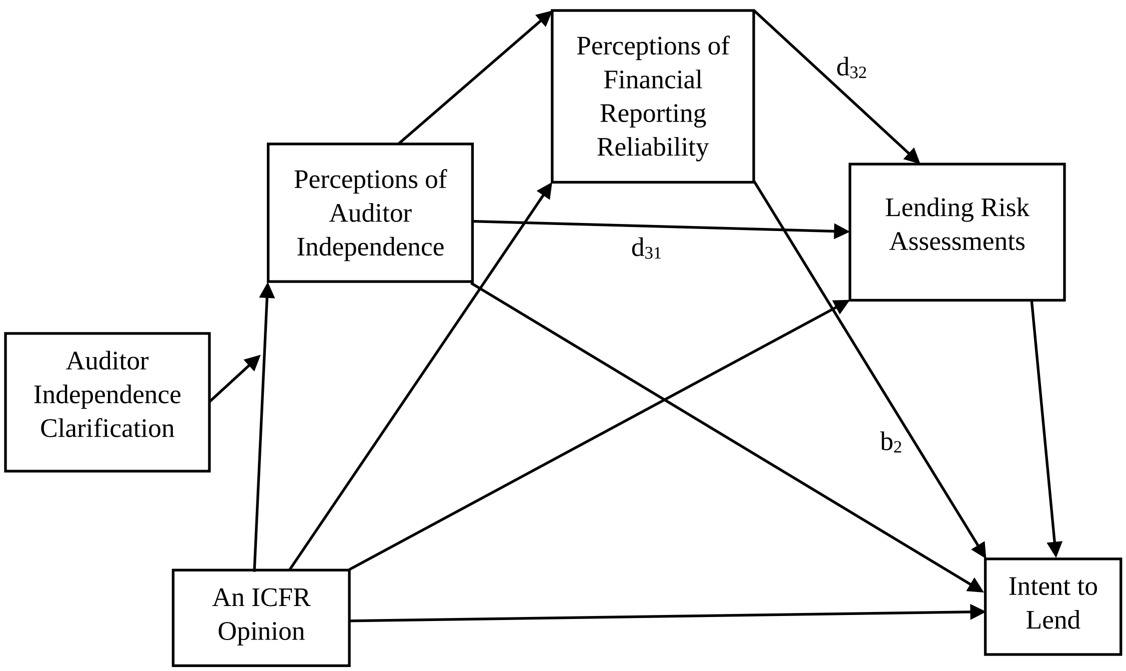
LITERATURE REVIEW

This study develops and tests a theoretical mediation model, as illustrated in Figure 1. This model is based on prior research reviewed in the latter part of this section. It is categorized as the Model 6 of the template of Hayes (2013). As Hayes (2012) indicates, using process or mediation analysis typically solves questions of “how,” whereas using moderation analysis often answers questions of “when.” Accordingly, we use process and mediation analysis to explore how loan officers’ perceptions of auditor independence affect their decisions associated with an ICFR opinion. Also, we use moderation analysis to answer whether the new auditor independence clarification enhances loan officers’ perceptions of auditor independence.

In this model, loan officers’ perceptions of auditor independence are our focus. Their perceptions of auditor independence may mediate the relationship between an ICFR opinion and loan officers’ decisions. This relationship might also be mediated by loan officers’ perceptions of financial reporting reliability and lending risk assessments. Loan officers’ perceptions of auditor independence, perceptions of financial reporting liability, and lending risk assessments are serial multiple mediators. They produce six different causal order models. Also, this study tests whether the new auditor independence clarification requirement moderates loan officers’ perceptions of auditor independence associated with an ICFR opinion. The four topics for review using this model are:

1. The effect of an ICFR opinion on loan officers’ decisions;
2. The importance of perceptions of auditor independence and its mediating role;
3. Perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessment are serial multiple mediators; and
4. The role of an auditor independence clarification on perceptions of auditor independence associated with an ICFR opinion.

Figure 1
Serial Mediation and Moderation Model



Effect of an ICFR Opinion on Lending Decisions

Research related to ICFR opinions continues to be of vital importance to companies, regulators, legislators and auditors because the compliance of Section 404(b) of SOX has become a controversial issue. On the one hand, the Dodd-Frank Act and the JOBS Act were issued and legally exempted small firms from Section 404(b) in recent years. The Dodd-Frank Act further proposed to exempt mid-size firms with a market capitalization between $75 million and $250 million. On the other hand, AICPA and CAQ strongly oppose any legislation that erodes section 404(b) (AICPA, 2012; CAQ, 2014). They believe this exemption will reduce the integrity and quality of financial reporting and destroy public users' confidence about capital markets.

Compared to several studies that examine the effects of an ICFR opinion on equity markets (e.g., Beneish et al., 2008; Ashbaugh-Skaife et al., 2009; Lopez et al., 2009; Asare and Wright, 2012a, 2012b), only a few studies investigate the effects of an ICFR opinion on debt markets. Costello and Wittenberg-Moerman (2011) find that internal control material weakness negatively influences lenders' use of financial covenants and financial-ratio-based performance pricing provisions, while Dhaliwal et al. (2011) report that internal control material weakness marginally increases a firm's credit spread and thus marginally increases a firm's cost of debt. Kim et al. (2011) examine the loan contracts with firms that report internal control weaknesses. They obtain evidence that lenders do not intend to sign loan contracts with the firms that report internal control weaknesses.

To date, Schneider and Church (2008) is the only one experimental study to examine the effects of an ICFR opinion on individual loan officers' decisions. Specifically, this ICFR opinion is for a mid-size company. They conclude that an adverse ICFR opinion significantly increases lenders' risk assessments and decreases their willingness to lend. However, they do not "specify the nature of the material weakness for the adverse internal control opinions" (Schneider and Church, 2008, p. 12). Moreover, their study was conducted before the 2008 financial crisis. To make the experimental design reflect the real-world issues, this study addresses this limitation by specifying the internal control material weakness listed in PCAOB Auditing Standard No. 2. The type of material weakness is "sales personnel frequently contract modification of revenue to manipulate revenue recognition and gross margin" (PCAOB, 2004, p. 256). It is categorized as revenue recognition violations in accounting documentation and procedure. Based on the University of Pennsylvania Wharton Database, from 2004-2011, among all ineffective internal control accounting rule violations reported by auditors, revenue recognition violation is one of the major violations, which has 676 reports and occupies 9.98 percent. (Chao and Foote, 2012). Accordingly, it is reasonable that the current study employs a revenue recognition violation to represent internal control material weakness.

Based on the findings of Schneider and Church (2008) and other studies related to debt markets (e.g., Costello and Wittenberg-Moerman, 2011; Dhaliwal et al., 2011; Kim et al., 2011), this study posits the following hypothesis specifically related to loan officers' lending decisions for the mid-size companies after the 2008 financial crisis :

H1: An adverse ICFR opinion negatively affects loan officers' intent to lend to the client as compared to an unqualified ICFR opinion.

Importance of Perceptions of Auditor Independence and its Mediating Role

Auditor independence is very important to public users because it is a determinant of auditors' responsibility to the public and thus affects audit quality (DeAngelo, 1981). Auditors' intent to report the misstatements in their clients' financial reporting depends on auditor independence (Ruiz-Barbadillo et al., 2004). In other words, auditor independence determines whether auditors are willing to provide negative information on financial reporting to public users. It helps public users establish confidence about auditors' reports so that they can rely on the management's financial report to make decisions (PCAOB IAG, 2011).

Public users expressed serious concerns about auditor independence when they were confronted with a series of accounting scandals. In response to their concerns and to restore their confidence, a series of rules and regulations on auditor independence have been established. In 2002, SOX set stricter rules on auditor independence, which were adopted by SEC in 2003. These rules include prohibiting nine types of non-audit services such as bookkeeping, appraisal or valuation services; investment advising services; pre-approval non-audit services by the audit committee; prohibiting some relationships between management and auditors; and auditor rotation. In 2008, to increase the communications between the audit committees and the auditors, the PCAOB adopted Ethics Rules and Independence Rule 3526 to require that auditors confirm, in writing, their independence to the audit committees before the audit engagement. In 2017, PCAOB issued a new standard to require that an auditor explicitly clarifies auditor independence in an integrated auditor's report.

In recent years, a new threat to auditor independence emerges due to the rise in consulting and advisory services by the Big Four firms. Compared with auditing services, the Big Four firms pay more attention to consulting and advisory services. The revenue for these services has exceeded audit revenue. Providing both consulting services and auditing services result in more auditor independence violations (Harris, 2016). This phenomenon results in the fact that it currently becomes more important to enhance the auditors' independence - both auditor independence *in fact* and independence *in appearance.* are important for public users. Because auditor independence *in fact* is unobservable, public users' judgments and decisions only depend on auditor independence *in appearance* (Dopuch et al., 2003), or perceptions of auditor independence.

In earlier studies, both Firth (1980) and Dykxhoorn (1982) have found that if perceived auditor independence improves the lending and investment decisions, whereas non-independence impair these decisions. Recent studies identify that some non-audit services are one of the most important threats to auditor independence. Higher non-audit fees impair perceptions of auditor independence and result in negative equity market reactions (e.g., Frankel et al., 2002; Francis and Ke, 2006). For the debt market, Brandon et al. (2004) reveal that non-audit service fees affect bond raters' perceptions of auditor independence. A significant negative relationship exists between non-audit service fees and bond ratings - the higher the non-audit fees, the lower a firm's bond rating. Similarly, non-audit fees weaken auditor independence, which significantly increases cost of debt.

These findings imply that whether an auditor is perceived to be independent or not determines the informative value of an auditor's report. Only when public users perceive that an auditor is independent, are they likely to rely on the auditor's opinion to make their decisions. If the public perceives that an auditor is not independent, his/her opinion will be of no value (Firth 1980). In terms of the effect of an ICFR opinion, even though there is a significant positive relationship between an ICFR opinion and loan officers' decisions, without loan officers' confidence about auditor independence, the strong relationship is questioned. Accordingly, this study posits the following hypothesis:

H2: Loan officers' perceptions of auditor independence mediate the relationship between an ICFR opinion and loan officers' intent to lend to the client.

Perceptions of Auditor Independence, Perceptions of Financial Reporting Reliability, and Lending Risk Assessment are Serial Multiple Mediators

In this study, we also consider loan officers' perceptions of financial reporting reliability and lending risk assessments as mediators of the above relationship according to previous studies. Several studies examine the mediation effect of investors' confidence in the relationship between an ICFR opinion and investors' decisions. Schneider and Church (2008) infer that an adverse ICFR opinion reduces loan officers' confidence about financial reporting reliability. Holt and DeZoort (2009) find that investors' perceptions of financial reporting reliability mediate the relationship between an ICFR opinion and investment decisions. Lopez et al. (2009) examine a series of price-relevant factors that mediate the relationship between an ICFR opinion and investors' decisions. These factors include investors' perceptions of risk of financial statement misstatement, the risk of a future financial statement restatement, and risk premium. The current study generalizes the results to loan officers and proposes the following hypotheses:

H3: Loan officers' perceptions of financial reporting reliability mediate the relationship between an ICFR opinion and loan officers' intent to lend to the client.

H4: Loan officers' lending risk assessments mediate the relationship between an ICFR opinion and loan officers' intent to lend to the client.

Perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments have causal relationships. Prior literature indicates that impaired perceptions of auditor independence significantly reduce perceptions of financial reporting reliability. Hodge (2003) reveals that the correlation between auditor independence and financial reporting reliability is positive and significant, which suggests that perceived decline in auditor independence decreases the investors' perceived reliability of audited financial information. Khurana and Raman (2006) find that the higher audit fees are the implied threat to auditor independence, which lower the investors' perceptions of financial reporting credibility of a Big Five audit. Moreover, Lowe et al. (1999) find a serial causal relationship that internal audit outsourcing impairs loan officers' perceptions of auditor independence, which reduces their perceptions of financial statement reliability and hence lowers the percentage of loan approvals.

Hayes (2013) indicates in a multiple mediator model, more than one mediator has indirect effect on the relationship between independent variable X and dependent variable Y. If these mediators have causal associations with each other, they are defined as serial multiple mediators (M_1, M_2, and so on). That is, "X causes M_1, which in turn causes M_2, and so forth, concluding with Y as the final consequent" (Hayes, 2013, p. 167).

Based on the prior literature, when public users perceive auditors to be independent of management, they also perceive auditors as serving public users such as loan officers instead of their clients. In other words, auditors are perceived to have neither mutual nor conflicting interests with clients and fairly judge and report on what they discover, which leads loan officers to perceive the management's financial reporting as trustworthy and reliable. These perceptions lower their lending risk assessments. Otherwise, if loan officers doubt the auditor's independence, the doubtfulness will significantly reduce loan officers' confidence about financial reporting reliability. Loan officers perceive higher risks if they decide to lend to the client because the information provided in the financial statements is likely to be highly uncertain.

Accordingly, this study considers perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments as serial multiple mediators. Loan officers' perceptions of auditor independence positively affect their perceptions of financial reporting reliability, which in turn negatively affect their lending risk assessments. A hypothesis is posited as follows:

H5: Loan officers' perceptions of auditor independence, financial reporting reliability, and lending risk assessments serially mediate the effect of an ICFR opinion on their lending decisions.

Moderating Effect of an Auditor Independence Clarification

This study also examines the moderating effect of an auditor independence clarification on the relationship between an ICFR opinion and loan officers' perceptions of auditor independence. An auditor independence clarification in an integrated auditor's report is a new requirement by PCAOB (2017). The 2008 financial crisis shook the public's confidence about auditor independence. To restore their confidence, in 2017, after a 6-year effort, the PCAOB issued a standard to require that an auditor clarify auditor independence for the public in an integrated auditor's report. As PCAOB (2011) and PCAOB (2017) request, except for the title "Report of Independent Registered Public Accounting Firm," an auditor should explicitly clarify auditor independence by stating that the auditor has a responsibility to be independent of the client and has complied with applicable independence requirements of PCAOB and SEC. Through this statement, the PCAOB expects to enhance public users' understanding of the auditor independence obligations (PCAOB 2017).

Nonetheless, during the public hearing for the proposed standard, some commenters question whether the statement will improve this understanding and increase any benefits or insight to public users. They argue that auditor independence, i.e., "Report of Independent Registered Public Accounting Firm" is already embedded in the current title of an auditor's report and a new independence clarification statement is redundant and unnecessary. Although the standard has been finally issued, it is necessary to provide some empirical evidence to answer the question of whether an auditor independence clarification enhances loan officers' understanding of the auditor independence clarification, i.e., perceptions of auditor independence. Accordingly, this study proposes the following research question:

Q: Does an auditor independence clarification enhance loan officers' perceptions of auditor independence associated with an ICFR opinion?

METHODOLOGY

Participants

We recruit loan officers from the Hugo Dunhill Mailing Lists, Inc. (HDML)[1] to serve as participants. This study randomly selects 1,500 loan officers from HDML's national loan officers' mailing list and mails the experimental instrument to them. Through two rounds of mailings, 98 participants provide completed and usable data, for a 6.6 percent response rate. The characteristics and responses of the first and second round respondents have no significant difference. Although the response rate is relatively low, it is consistent with mail and online surveys in accounting studies regarding auditing and financial reporting issues (e.g., Graham and Harvey, 2001; Graham et al., 2005; Anderson and Lillis, 2011; Burton et al., 2012; Dichev et al., 2013). Every response rate of these studies is below 10 percent.

Experimental Design and Variables

To test the model, this study conducts a 2×2 between-subject experiment, as illustrated in Table 1. The audit client is a hypothetical book wholesale company, Abookware. The financial statements are adapted from Schneider and Church (2008). The experiment presents a proposed integrated audit report including auditor independence clarification (if present), a financial statements audit opinion, and an internal control opinion. Two independent variables are manipulated: auditor independence clarification (clarification vs. no clarification) and an internal control opinion (unqualified vs. adverse). To emphasize the importance of an ICFR opinion, in an integrated audit report, the financial statements audit opinion is unqualified and identical in all four scenarios. Also, the auditor and its report title "Independent Registered Public Accounting Firm" are identical. Participants are randomly provided with experimental cases describing one of four scenarios.

[1] The experiment was approved by the IRB office at Jackson State university.

Table 1 Experimental Design		
	Unqualified ICFR	**Adverse ICFR**
Clarification	Unqualified financial statements audit opinion & Unqualified ICFR & auditor independence clarifications	Unqualified financial statements audit opinion & Adverse ICFR & auditor independence clarifications
No Clarification	Unqualified financial statements audit opinion & Unqualified ICFR	Unqualified financial statements audit opinion & Adverse ICFR

To express an adverse ICFR opinion, the hypothetical auditor in this study specifies the internal control material weakness is related to revenue recognition manipulation, which is listed as an example in PCAOB (2004). The revenue recognition manipulation is listed as one of the top two internal control violations amongst all ineffective internal controls that auditors reported for public companies during 2004-2011 (Chao and Foote, 2012). In addition, this study manipulates auditor independence clarification (clarification vs. no clarification) as a moderating variable of the relationship between an ICFR opinion and loan officers' perceptions of auditor independence. The clarification is based on the proposal of PCAOB (2011), which was formally issued in PCAOB (2017). As PCAOB (2011) requests, except for the title "Report of Independent Registered Public Accounting Firm," an auditor explicitly clarifies auditor independence by stating that the auditor has a responsibility to be independent of the client and has complied with applicable independence requirements of PCAOB and SEC.

This study measures four dependent variables: loan officers' perceptions of auditor independence, perceptions of financial reporting reliability, lending risk assessments, and intent to lend. Similar to Jennings et al. (2006), both perceptions of auditor independence and perceptions of financial reporting reliability are measured on an 11-point Likert scale ranging from "0 = no confidence" to "10 = extreme confidence." The measurement of loan officers' lending risk assessments and their intent to lend is based on the designs of Schneider and Church (2008) and Lopez et al. (2009). Lending risk assessments is measured on an 11-point Likert scale anchored at "0 = very low risk" and "10 = very high risk;" whereas intent to lend is measured on an 11- point Likert scale anchored at "0 = definitely not lend" and "10 = definitely lend."

Case Materials

This study uses a hypothetical book wholesale company, Abookware, as the audit client. Abookware is a mid-size publicly traded company with a market capitalization between $75 million and $250 million, which is perceived as being neither very strong nor very weak. The company size is in response to the current dispute between AICPA and the Dodd-Frank Act about the exemption of internal control reporting for the mid-size company. The case information consists of two parts: background information and an integrated auditor's report. The background information is adapted from Schneider and Church (2008). It includes a brief introduction of the company and its financial statements such as balance sheet, income statement, and statement of cash flow. The background information in all scenarios is identical. The second part of an integrated auditor's report contains two manipulated variables – an ICFR opinion and an auditor independence clarification that creates four scenarios as previously described. This report is issued by a hypothetical auditor, K&D, Big Four CPA firm. It includes the title "Independent Registered Public Accounting Firm," an auditor independence clarification (if present), a financial statements audit opinion, and an ICFR opinion.

Experimental Procedures

This study mails participant's experimental instruments in booklet form. The instrument includes seven sections: (1) a cover letter and a business reply envelope; (2) background information of Abookware; (3) an integrated auditor's report with two manipulated variables; (4) questions on loan officers' perceptions of auditor independence, perceptions of financial reporting reliability, lending risk assessments and intent to lend; (5) manipulation check questions about an ICFR opinion and auditor independence clarification; (6) supplemental questions on the factors included in the experimental case; and (7) demographic information. The participants are encouraged to complete the experimental instrument in thirty days. After thirty days, a second round of requests is mailed out.

Manipulation Checks

Two questions that serve as manipulation checks are included in the experimental instrument. To assess the effectiveness of an auditor independence clarification, the participants are asked to identify whether the auditor's report explicitly indicates that the audit firm (K&D) is independent. The participants choose to answer "Yes" or "No." 70 out of 98 respondents correctly answer the question. The pass rate is 71.4 percent. To assess the effectiveness of an ICFR opinion, the participants are asked to indicate the type of audit opinion on ICFR issued by the external auditor. The participants select answers from "Unqualified clean opinion: internal control is effective" or "Adverse unclean opinion: a material internal control weakness exists". 87 out of 98 respondents correctly respond. The pass rate is 88.8 percent. No significant differences exist in correct response rates across two conditions for either manipulation checks. Because including or excluding the respondents who fail the manipulation checks does not affect the results for the hypotheses tests, this study includes all 98 responses in its statistical analysis as well as the presentation of results. This method is consistent with the recent literature on auditing issues (e.g., Asare and Wright, 2012b; Burton et al., 2012; Kadous and Mercer, 2012; Yen, 2012; Taylor and Curtis, 2013).

Data Analysis Technique

To test the serial mediation model, this study employs SPSS macro PROCESS developed by Hayes (2012). Based on Hayes (2012), PROCESS first provides a coefficient estimation of a model using ordinary least squares (OLS) regression (for continuous outcomes) or maximum likelihood logistic regression (for dichotomous dependent variables). According to the results, PROCESS generates direct and indirect effects with one or more mediators (for model 4 or model 6, the total effect is also included). A bias-corrected bootstrap technique is used to determine the significance of direct and indirect effects. If the bootstrap confidence intervals do not include/cross zero, the effect is considered significant. The bootstrap technique will be helpful if the experimental sample size is limited and may not satisfy the distribution of the assumption of normality.

The current serial mediation model fits the Model 6 of Hayes (2013), which allows us to estimate serial multiple mediators such as perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments. For serial mediation analysis, PROCESS tests the above serial multiple mediators as well as all their possible combinations. With these three mediators, there are seven causal possibilities. In this study, total, direct, and indirect effects are based on 5,000 bootstrap samples with one-sided 95% confidence intervals. In addition, this study uses General Linear Model-Univariate to test the moderating effect of an auditor independence clarification on the relationship between an ICFR opinion and loan officers' perceptions of auditor independence.

RESULTS

Demographic Analysis

A majority of 98 respondents are male (92 percent), have over 10 years work experience (92 percent), and frequently use financial statements (86 percent). In terms of audit experience, 92 percent of the respondents "fully" or "averagely" understand the auditors' opinions, 79 percent "frequently" or "averagely" use auditor's reports, and 97 percent have "positive" or "neutral" prior experience with auditor's report use and auditors. Thus, the 98 respondents are eligible to serve as a representation of experienced loan officers. Furthermore, this study uses the chi-square test to analyze the demographic characteristics of respondents. The result indicates that there is no significant difference among the four groups for each demographic variable.

Descriptive Statistics and Correlations

Table 2 presents descriptive statistics for the dependent measures in this study as well as bivariate correlations between all independent and dependent variables. As hypothesized, an ICFR opinion is negatively related to perceptions of auditor independence, perceptions of financial reporting reliability, and intent to lend but positively related to lending risk assessments ($r = -0.250$, $p < 0.05$; $r = -0.556$, $p < 0.01$; $r = -0.409$, $p < 0.01$; $r = 0.411$, $p < 0.01$, respectively). Moreover, perceptions of auditor independence and perceptions of financial reporting reliability are positively related to intent to lend ($r = 0.363$, $p < 0.01$; $r = 0.541$, $p < 0.01$, respectively); whereas lending risk assessments are inversely related to intent to lend ($r = -0.620$, $p < 0.01$). Finally, the results reveal that perceptions of auditor independence are positively related to perceptions of financial reporting reliability ($r = 0.603$, $p < 0.01$), which are inversely related to lending risk assessments ($r = -0.369$, $p < 0.01$).

Table 2
Descriptive statistics and correlation matrix

Panel A: Descriptive Statistics (n=98)

Variable	Mean	Median	SD	Min	Max	Quartiles 25%	50%	75%
Perception of Auditor Independence	6.81	8	2.451	0	10	5	8	8
Perception of Financial Reporting Reliability	5.66	6	2.769	0	10	4	6	8
Lending Risk Assessment	6.99	7	2.135	2	10	5	7	9
Intent to Lend	3.57	3	2.38	0	8	2	3	5.5

Panel B: Pearson Correlation between Variables

	Variable	1	2	3	4	5	6
1	ICFR[a]	1					
2	Clarification[b]	-0.219*	1				
3	Perception of Auditor Independence	-.250*	0.015	1			
4	Perception of Financial Reporting Reliability	-.556**	0.113	0.603**	1		
5	Lending Risk Assessment	.411**	0.015	-0.134	-0.369**	1	
6	Intent to Lend	-.409**	0.035	0.363**	0.541**	-0.620**	1

* $p < 0.05$, two-tailed

** $p < 0.01$, two-tailed

[a] Internal Control = 0 for an unqualified ICFR opinion and =1 for an adverse ICFR opinion

[b] Clarification = 0 for no independence clarification and =1 for an independence clarification

The above significant correlation coefficients reveal several path relationships: 1) an ICFR opinion → lending decisions; 2) an ICFR opinion → perceptions of auditor independence → lending decisions; 3) an ICFR opinion → perceptions of financial reporting reliability → lending decisions; 4) an ICFR opinion → lending risk assessments → lending decisions; 5) an ICFR opinion → perceptions of auditor independence → perceptions of financial reporting reliability → lending decisions; 6) an ICFR opinion → perceptions of auditor independence → perceptions of financial reporting reliability → lending risk assessments → lending decisions. These correlation coefficients are in the expected directions of the model. Based on Cohen (1988), considering both the significance (for every correlation, $p<0.05$) and effect size (for every correlation, $r > 0.2$) of the correlation coefficients, the above correlations are strong.

Specifically, the six path reveals the serial mediating role of perceptions of auditor independence, perceptions of financial reporting reliability and lending risk assessments. Because the correlation coefficient of perceptions of auditor independence and perceptions of financial reporting reliability is significant and large ($r = 0.603$, $p < 0.01$), this study considers these two perceptions together. Furthermore, because the correlation coefficient of perceptions of auditor independence and lending risk assessments is not significant and small ($r = -0.134$) but the correlation coefficient of perceptions of financial reporting reliability and lending risk assessment is strong ($r = -0.369$, $p < 0.01$), perceptions of financial reporting reliability is a bridge between perceptions of auditor independence and lending risk assessments. Thus, the result of the correlation analysis provides preliminary support for the model. In terms of an auditor independence clarification, although its relationship with an ICFR opinion exists ($r = -0.219$, $p < 0.05$), it has no significant relationship with perceptions of auditor independence ($r = -0.015$). The moderating effect of an auditor independence clarification on the relationship between an ICFR opinion and perceptions of auditor independence is questioned.

Tests of the Serial Mediation Model

As mentioned above, this study employs SPSS macro PROCESS Model 6 (Hayes, 2013) to test the serial mediation model. The bootstrap sample size is 5,000 with one-sided 95% confidence intervals. The result is presented in Table 3. In Model 6, independent variable X = ICFR represents an ICFR opinion, while dependent variable Y = decision represents loan officers' intent to lend to the client. The three serial multiple mediators are M_1 = independence representing loan officers' perceptions of auditor independence, M_2 = reliability representing their perceptions of financial reporting reliability, and M_3 = risk representing their lending risk assessments. Panel A shows the regression results with estimation coefficients of the model. The results indicate that loan officers' perceptions of auditor independence significantly increase their perceptions of financial reporting reliability ($d_{21}= 0.5483$, $p < 0.0001$, one-tailed) and their intent to lend ($d_{31} = 0.1498$, $p = 0.0487$, one-tailed). However, their perceptions of auditor independence have no significant effect on lending risk assessments ($b_1 = 0.0635$, $p = 0.2709$, one-tailed).

In terms of the total effect of an ICFR opinion on the intent to lend decision, the result in Panel A reveals that an adverse ICFR opinion significantly decreases loan officers' intent to lend ($c = -2.0072$, $p < 0.0001$, one-tailed). In the presence of multiple mediators, this total effect is decomposed into a direct effect and indirect effects. The total effect is not influenced by the three mediators. This result supports hypothesis H1. The result in Panel A also indicates that the direct effect of an opinion on the intent to lend decision is not significant ($c' = -0.2502$, $p = 0.2855$, one-tailed). Based on Panel B of Table 3, the direct effect is intervened by five significant indirect effects, which are the indirect effect through perceptions of auditor independence ($a_1b_1 = -0.1780$, 95% CI = [-0.4533, -0.0236], one-sided), the indirect effect through perceptions of financial reporting reliability ($a_2b_2 = -0.5249$, 95% CI = [-1.0120, -0.1445], one-sided), the indirect effect through lending risk assessments ($a_3b_3 = -0.6614$, 95% CI = [-1.2962, -0.2204], one-sided), the indirect effect through perceptions of auditor independence and perceptions of financial reporting reliability in serial ($a_1d_{21}b_2 = -0.1395$, 95% CI = [-0.3583, -0.0414], one-sided), and the indirect effect through perceptions of auditor independence, perceptions of financial reporting reliability and lending risk assessments in serial ($a_1d_{21}d_{32}b_3 = -0.0616$, 95% CI = [-0.1958, -0.0051], one-sided).

The first three indirect effects show that an adverse ICFR opinion significantly decreases loan officers' intent to lend through respectively decreasing their perceptions of auditor independence, decreasing their perceptions of financial reporting reliability, and increasing their lending risk assessments. Hypotheses H2, H3, H4 are respectively supported. The fourth indirect effect shows perceptions of auditor independence and perceptions of financial reporting reliability are serial multiple mediators. An adverse ICFR opinion significantly decreases loan officers' perceptions of auditor independence, which in turn significantly decreases their perceptions of financial reporting reliability. The decreased perceptions of financial reporting reliability significantly decrease loan officers' intent to lend to the client. The fifth indirect effect shows

Table 3
Mediation effects on the relationship between ICFR and decisions

Panel A: Regression Results

		Coefficient	Standard Error	t	p[a]
Independence regressed on:	*Constant*	7.4524	0.3693	20.1798	0.0000
(R^2 = 5.85%, p = 0.0091)	*ICFR*	a_1 = -1.1882	0.4944	-2.4032	0.0091
Reliability regressed on:	*Constant*	3.3186	0.6602	5.0265	0.0000
(R^2 = 55.19%, p < 0.0001)	*Independence*	d_{21} = 0.5483	0.0799	6.8594	0.0000
	ICFR	a_2 = -2.4514	0.3928	-6.2410	0.0000
Risk regressed on:	*Constant*	6.8414	0.7859	8.7057	0.0000
(R^2 = 18.77%, p = 0.0003)	*Independence*	d_{31} = 0.0635	0.1036	0.6125	0.2709
	Reliability	d_{32} = -0.1775	0.1099	-1.6148	0.0549
	ICFR	a_3 = 1.2416	0.4941	2.5132	0.0069
Decision regressed on:	*Constant*	5.2558	0.9163	5.7358	0.0000
(R^2 = 51.22%, p < 0.0001)	*Independence*	b_1 = 0.1498	0.0894	1.6755	0.0487
	Reliability	b_2 = 0.2141	0.0960	2.2300	0.0141
	Risk	b_3 = -0.5326	0.0903	-5.8995	0.0000
	ICFR	c' = -0.2502	0.4400	-0.5687	0.2855
Decision regressed on: (Total Effect Model)					
(R^2 = 18.23%, p <0.0001)	*Constant*	4.7619	0.3292	14.4629	0.0000
	ICFR	c = -2.0072	0.4408	-4.5534	0.0000

Panel B: Summary of Total, Direct and Indirect Effects and One-sided 95% Confidence Intervals[b]

Model Pathways	Estimated Effect	Standard Error	One-sided 95% CI Lower	One-sided 95% CI Upper
Total Effect:				
ICFR → Decision[c]	c = -2.0072	0.4408	-2.8825	-1.1318
Direct Effect:				
ICFR → Decision	c' = -0.2502	0.4400	-.9816	0.4811
Indirect Effect:				
ICFR → Indepedence → Decision[c]	a_1b_1 = -0.178	0.1226	-0.4533	-0.0236
ICFR → Reliability → Decision[c]	a_2b_2 = -0.5249	0.2631	-1.0120	-0.1445
ICFR → Risk → Decision[c]	a_3b_3 = -0.6614	0.3212	-1.2962	-0.2204
ICFR → Indepedence → Reliability → Decision[c]	$a_1d_{21}b_2$ = -0.1395	0.0876	-0.3583	-0.0414
ICFR → Reliability → Risk → Decision	$a_2d_{32}b_3$ = -0.2318	0.1834	-0.5948	0.0116
ICFR → Indepedence → Risk → Decision	$a_1d_{31}b_3$ = 0.0402	0.0669	-0.0443	0.1767
ICFR → Indepedence → Reliability → Risk → Decision	$a_1d_{21}d_{32}b_3$ = -0.0616	0.0540	-0.1958	-0.0051

[a]One-tailed for variables, two-tailed for constant;
[b]5,000 bootstrap samples;
[c]Empirical one-sided 95 % CI did not overlap with zero
Note: ICFR = Internal control over financial reporting; independence = Perception of auditor independence; Reliability = Perception of financial reporting reliability; Risk = Lending risk assessment; Decision = Intent to lend decision.

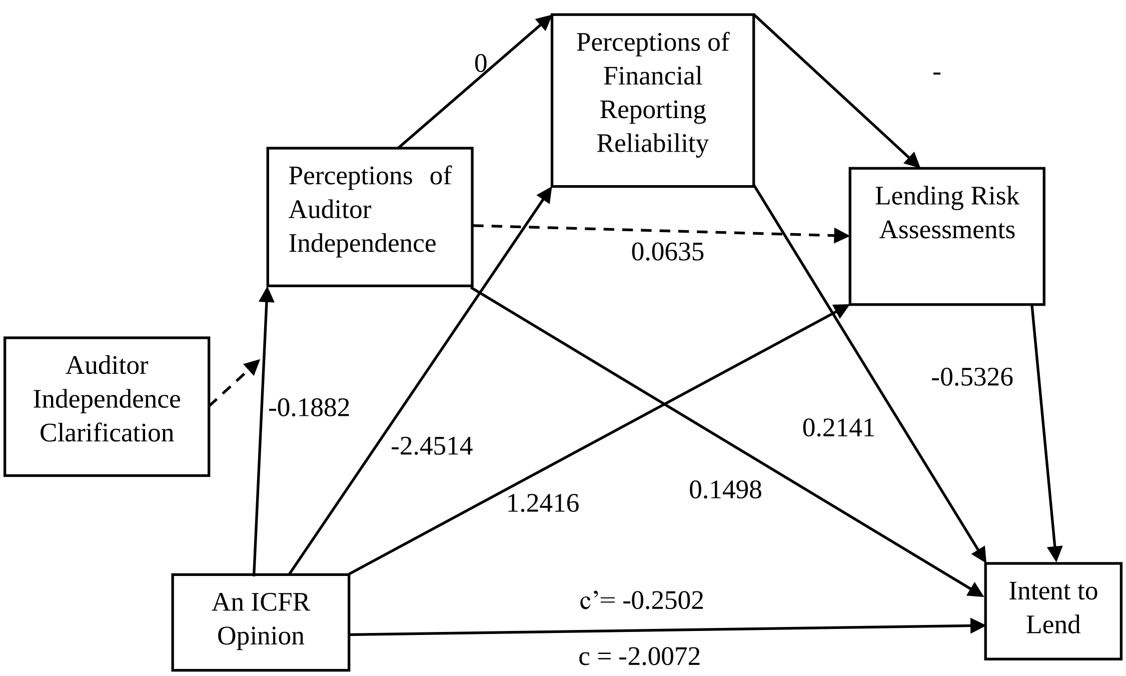
perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments are serial multiple mediators that sequentially affect loan officers' intent to lend. An

adverse ICFR opinion significantly decreases loan officers' perceptions of auditor independence, which in turn significantly decreases their perceptions of financial reporting reliability, resulting in decreases of their lending risk assessments. The decreased lending risk assessments reduce loan officers' intent to lend. Thus, all three mediators are in a causal chain. Hypotheses H5 is supported by the fourth and fifth indirect effects.

Based on the above discussions, the results support hypotheses H2, H3, and H4. Perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments mediate the relationship between ICFR opinion and lending decisions, respectively. Moreover, the results support hypothesis H5. Perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments are serial multiple mediators. The results support the proposed serial mediation model except the effect of an auditor independence clarification, which will be discussed in the next subsection. The model is depicted in Figure 2.

Except that an adverse ICFR opinion significantly decreases loan officers' perceptions of financial reporting reliability ($a_2 = -2.4514$, $p < 0.0001$, one-tailed) and increases their lending risk assessments ($a_3 = 1.2416$, $p = 0.0069$, one-tailed), here it is worth noting that an adverse ICFR opinion with an unqualified financial statements audit opinion significantly decreases loan officers' perceptions of auditor independence ($a_1 = -0.1882$, $p = 0.0091$). Although this finding seems somewhat counterintuitive, it is consistent with prior literature and loan officers' conservative attitudes towards an integrated auditor's report. PCAOB (2007) indicates that an

Figure 2
Serial Mediation and Moderation Model



ICFR opinion and a financial statements audit opinion are closely interrelated in an integrated report, or an ICFR opinion has effects on a financial statement audit opinion. An adverse ICFR opinion reflects that there are material weaknesses in internal control and thus increases the possibility that material misstatements in the financial statements are not detected (Goh et al., 2013; Myllymäki, 2014). Therefore, the assurance of an unqualified financial statements audit opinion in the same auditor's report is doubtful.

Moreover, after a series of business scandals and financial crises, loan officers have lower confidence in auditors and auditors' reports. If an auditor issues an adverse ICFR opinion simultaneously with an unqualified financial audit opinion, loan officers may believe that both clients' internal control and financial statements have some material weaknesses. However, because of economic bonding between an auditor and the client, they believe that an auditor has a motivation to "avoid the important and dwell on the trivial" in the audit report. The auditor would rather issue an adverse ICFR opinion only than issue an adverse ICFR opinion together with an adverse financial statements audit opinion. Thus, issuing an adverse ICFR opinion with an unqualified financial statements audit opinion decreases loan officers' perceptions of auditor independence.

Test of the Moderating Effect of an Auditor Independence Clarification

Table 4 presents the results of a General Linear Model-Univariate test for perceptions of auditor independence. Consistent with Table 3, an adverse ICFR opinion has a negative significant effect on the loan officer's perceptions of auditor independence (Panel A, $F_{1, 92}$ = 7.238, p = 0.004, one-tailed). However, although an auditor independence clarification increases the loan officers' perceptions of auditor independence (Panel B, Mean = 6.77, SD = 2.727 for no clarification vs. Mean = 6.85, SD = 2.217 for clarification), the increase is not significant (Panel A, $F_{1, 92}$ = 0.429, p = 0.257, one-tailed). The result also reveals that the interaction of an ICFR opinion and auditor independence clarification does not enhance loan officers' perceptions of auditor independence (Panel A, $F_{1, 92}$ = 1.552, p = 0.108, one-tailed). These findings indicate that an auditor independence clarification has no significant moderating effect on loan officers' perceptions of auditor independence associated with an ICFR opinion. Although the effect of an auditor independence clarification is consistent with the expectation of PCAOB (2017), this effect is not significant. Accordingly, the answer to research question Q is that an auditor independence clarification does not enhance loan officers' perceptions of auditor independence associated with an ICFR opinion.

CONCLUSIONS

Since 2002, the SOX, SEC, and PCAOB have issued a series of requirements to regulate auditor independence. Their aims are to protect public users such as investors and loan officers. To better specify how public users' understanding, or perceptions of auditor independence affect their decisions, this study establishes and tests a multiple-mediation model to examine the effect of loan officers' perceptions of auditor independence on their lending decisions associated with an ICFR opinion. In this model, the relationship between an ICFR opinion and loan officers' decisions are mediated by loan officers' perceptions of auditor independence as well as perceptions of financial reporting reliability and lending risk assessments. Using 98 loan officers as participants, this study provides evidence to support this model. First, the results support the proposed process of loan officers' decision making related to auditor independence. Loan officers' perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments

Table 4
Effect of an auditor independence clarification on perception of auditor independence[a]

Panel A: Analysis of Variance

Source[b]	Question	Sum of Squares	df	Mean Square	F	Significance[c]
Test Variables						
ICFR		41.302	1	41.302	7.238	0.004
Clarification		2.449	1	2.449	1.552	0.257
ICFR*Clarification	Q1	8.853	1	8.853	0.429	0.108
Error		524.971	92	5.706		
*R^2 =0.111						

Panel B: Descriptive Statistics (Mean, Standard Deviation, and N)

		Non-Clarification	Clarification	Total
ICFR-Unqualified	*Mean*	8.14	7.17	7.49
	SD	2.507	1.929	2.153
	N	14	29	43
ICFR-Adverse	*Mean*	6.13	6.43	6.26
	SD	2.623	2.519	2.558
	N	30	23	53
Total	*Mean*	6.77	6.85	6.98
	SD	2.727	2.217	2.33
	N	44	52	96

[a] Perceptions of auditor independence are measured on a 11-point Likert scale anchored at 0 (No Confidence) and 10 (Extreme Confidence)

[b]Variable coding:
Clarification=0 for no independence clarification and =1 for independence clarification
ICFR=0 for an unqualified ICFR opinion and =1 for an adverse ICFR opinion

[c]One-tailed p-Value for main effects; two-tailed p-value for interaction.

are three mediators on the relationship between an ICFR opinion and loan officers' decisions. Through indirectly decreasing their perceptions of auditor independence, decreasing their perceptions of financial reporting reliability, and increasing their lending risk assessments, an adverse ICFR opinion significantly decreases loan officers' intent to lend Moreover, perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments are serial multiple mediators, which are included in a causal chain: an adverse ICFR opinion, decreased perceptions of auditor independence, decreased perceptions of financial reporting reliability, increased lending risk assessments, and lower intent to lend to the client. In addition, the results indicate the new auditor independence requirement by PCAOB (2017) slightly increases the loan officers' perceptions of auditor independence. However, this effect is not significant.

Specifically, this study finds the negative effect of an adverse ICFR opinion integrated with an unqualified financial statements audit opinion on loan officers' perceptions of auditor independence. Although the finding seems somewhat counterintuitive, it is consistent with prior literature and loan officers' conservative attitudes towards an integrated auditor's report. After the financial crisis, loan officers have low confidence in an ICFR opinion integrated in an auditor's report (Wittenberg-Moerman, 2011; Dhaliwal et al., 2011; Kim et al., 2011). If an auditor issues an adverse ICFR opinion simultaneously with an unqualified financial statements audit opinion, they believe that the material weakness in internal control increases the undetected risk of material misstatements in the financial statements and thus decreases the reliability of unqualified financial statements (Goh et al., 2013; Myllymäki, 2014). However, because of economic bonding between auditors and the clients (DeAngelo, 1981), the auditors may have a motivation to "avoid the important and dwell on the trivial." Therefore, they may only issue an adverse ICFR opinion rather than issue an adverse financial statements audit opinion and an adverse ICFR opinion together.

This study contributes to prior accounting literature regarding auditor independence by investigating the mediating effect of loan officers' perceptions of auditor independence on their lending decisions associated with an ICFR opinion. The findings suggest the importance of public users' perceptions of auditor independence and provide evidence to support the continuing efforts of PCAOB to strengthen auditor independence. In terms of public users' decision process, Lopez et al. (2009) find the relationship of an ICFR opinion and investors' decisions is mediated by the investors' assessments of risk of financial statement misstatement, risk of a future financial statement restatement, information asymmetry, financial statement transparency, risk premium, cost of capital, sustainability of earnings, and earnings predictability. This study adds three more mediators for this relationship such as loan officers' perceptions of auditor independence, perceptions of financial reporting reliability, and lending risk assessments.

The second contribution is that this study provides evidence to support the informative value of an ICFR opinion for the mid-size company on loan officers' decisions. An ICFR opinion continues to be of vital importance to public users. Some businesses petition regulators to provide more exemptions from SOX Section 404(b) because they believe ICFR attestation by auditors is costly and invaluable to public users. However, AICPA and CAQ are fighting with any legislation that would exempt the mid-size company from internal control reporting of SOX Section 404(b) (AICPA 2012; CAQ 2014). They insist that the exemption will substantially impact the quality of financial disclosures and public confidence about financial reporting integrity. The SEC recommends no new exemptions for a mid-size company based on its study of Section 404(b) (SEC 2011). The findings of this study support the persistence of the AICPA, CAQ and the recommendations of the SEC.

Finally, this study preliminarily explores whether the new auditor independence clarification statement enhances loan officers' perceptions of auditor independence, as PCAOB (2017) expects. Although the effect is insignificant, the new statement clarifies the nature and scope of auditors' existing reliability with respect to auditor independence. In practice, PCAOB requires that auditors should comply with this new auditor independence regulations.

LIMITATIONS AND RECOMMENDATIONS

This study has several limitations, which may provide promising directions for future research. The first limitation is the usual limitation of experimental research. Considering the length of the experimental instrument, the instrument does not provide the participants all information that loan officers collect from financial reporting in the real word. The information may be insufficient for some participants. Future research can provide participants with more information such as two years of balance sheet, three years of income statement and statement of cash flow. Because the experimental instrument becomes longer, future research would better choose face-to-face experimental methods to collect data. Second, this study does not investigate why an adverse ICFR opinion significantly reduces loan officers' perceptions of auditor independence. Instead, this study only presents a possible explanation that loan officers strongly doubt auditors' unqualified financial statements audit opinion with an adverse ICFR opinion. The explanation of why an adverse ICFR opinion significantly reduces loan officers' perceptions of auditor independence needs to be verified by future experimental research. Additionally, future research can explore whether there are any possible or reasonable alternative explanations. Due to the lack of related literature, open-ended survey methods may be appropriate for future research.

The third limitation is the generalization of the findings to other groups. Except for loan officers, investors are another primary representative of public users. However, investors have different characteristics than loan officers. While loan officers focus more on statements of cash flows due to their short-term perspective, investors pay more attention to accruals. Future research can use investors as participants to investigate whether the results can be mapped to them. Finally, because of the complexity of loan officers' decision process, there may be some other factors such as perceptions of audit quality and perceptions of audit information transparency to mediate the relationship. Future research can add more factors to the model and explore their mediation effects.

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