

Relationship Between Audit Opinion And Credit Rating: Evidence From Korea

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ABSTRACT

In this study, we investigate the relationship between credit ratings and audit opinions of financially distressed companies impending bankruptcy. Using Korean publicly-held firms for the years 2007 through 2014, we analyze 97 bankrupt companies with credit rating available before they file bankruptcy. Following prior research (Geiger et al., 2005), we find that the propensity to issue a going concern audit opinion is associated with the credit score issued by NICE immediately prior to the audit opinion date. We also compare credit ratings to audit opinions to investigate which of the two is more conservative and provides the earlier signal of bankruptcy. Through empirical test, we can conclude that audit system has more successfully predictive function in signaling preceding bankruptcy than CRAs' system with overly optimism. We argue that after a string of high-profile corporate failures such as Enron and Arthur Anderson's bankruptcies, legislators portrayed auditors negatively and ultimately led to the enactment and more forced liabilities and thus auditors become more conservative. To remedy CRAs' failure by providing overly optimism, we suggest that like as auditors, CRAs' regulations should be more strengthened on their liability about issuing credit ratings.

Keywords: Credit Rating; Going-Concern Opinion; Credit Rating Agency; Auditor

1. INTRODUCTION

*I*n this study, we investigate whether credit ratings influence audit opinions of financially distressed firms facing bankruptcy as well as which of the two is more conservative and provides more relevant information.

Credit ratings represent the opinions of rating agencies about credit risk, which is the ability and willingness of a borrower or an issuer of a debt security, such as a corporation, state, or city government, to meet its financial obligations. In addition, credit rating agencies (CRAs) also publish ratings concerning the credit quality of specific issues, such as a bond or other debt obligation, and the relative likelihood that it may default (S&P, 2015).

The role of the audit is to determine whether the reports prepared by the manager conform to the contract's provisions, including the agreed-upon accounting principles. Thus, the auditor's verification of financial information adds credibility to the report and reduces information risk, or the risk that information circulated by a company is false or misleading, potentially benefiting both the owner and manager. While other forms of monitoring might be possible, the extensive presence of auditing in such situations suggests that auditing is a cost-effective monitoring device.

With common points between the credit rating and auditing, both play an important role in capital markets by providing investors and other related parties with information about the relative financial strength of the companies they rate or audit. The Dodd–Frank Act of 2010 points out the gravity of both auditors and credit rating agencies (CRAs) in helping to maintain the efficient performance of US industries (Dodd–Frank Act, 2010, Section 931, par.1). Gray, Mirkovic and Rangunathan, (2006) show that credit ratings are of great practical importance, as they influence a firm's cost of debt, its financing structure, and even its ability to continue operating. Furthermore, pension plans and some other government-regulated investment groups have limited trade financial goods rated

“investment grade” by the Nationally Recognized Statistical Rating Organization (NRSRO¹). AICPA (1988) reported that although auditors do not give an opinion on a client’s creditworthiness, they are required to report if there is doubt about a client’s ability to continue as a going-concern (GC). Geiger et al. (1998) and Kausar, Taffler, and Tan (2009) find that a GC audit opinion has significant economic consequences for a company, such as negative stock returns and an increased likelihood of bankruptcy.

Like most business, CRAs continuously face challenges. CRAs’ legitimacy and acceptability have been questioned. Some blame CRAs’ allegedly inflated ratings for contributing to the recent financial crisis (Story, 2011). The Economist and Nobel laureate Joseph Stigler state, “They were the party that performed the alchemy that converted the securities from F-rated to A-rated. The banks could not have done what they did without the complicity of the rating agencies.” In a naturally very concentrated industry, in which most users of ratings do not directly pay for them, the former NRSRO status that prevailed for decades and the embeddedness of ratings in rules and regulations excessively protected the agencies from any competitive threat. This does not prohibit rivalry amongst the agencies from being intense, as the practices of ratings’ shopping and notching suggest, but the big CRAs continue to be too comfortable in the industry when their quality is not monitored closely by their users. Although in the long run, CRAs have an incentive to provide the best possible quality to remain prominent CRAs that investors systematically refer to, in the short run, their profits increase much more by rating more issues than by improving quality. With the context of rating shopping, improved methodology, and due diligence would have scared away some initiators or arrangers to a rival’s more lenient rating. The reputation, independence, disclosure, and accuracy of CRAs may stand at a crossroads. As their credibility has been damaged, we assume that CRAs have a deep incentive to improve their qualities. However, at this time, regulators still allow the CRAs to do their jobs without license and intrusive prescription about how to issue credit ratings, leaving the market open to entry and relying on self-reinforcing transparency in compliance with the International Organization of Securities Commissions (IOSCO) code² about the conduct of a ratings business. There is a real caveat that codes and regulations could undermine the responsibilities of boards and management, which can simply check them off without worrying about the principles they perform. It is fact that the subprime crisis occurred while the CRAs had already adapted the IOSCO code. Therefore, the former NRSRO status may have fallen in June 2007, as the subprime mortgage crisis was just revealing itself but after the vast volume of problematic residential mortgage-backed securities (RMBS) and collateralized debt obligations (CDOs) had been rated and issued.

Contrary to the CRAs, there have been continuous key changes in the audit environment since the early 1990s, which collectively could influence the relationship between auditors’ GC reporting and auditors’ litigation. An important aspect of the audit environment is tightened regulations to audit services that allow third parties, such as investors, to sue auditors in an effect to recover damages. The Center for Audit Quality (2008) reports auditor litigation costs were 15.1 percent of their domestic auditing revenues for the six largest auditing firms for 2007, asserting that “auditors face liability exposure dramatically more onerous than any other type of business.” For example, the Private Securities Litigation Reform Act of 1995 (PSLRA) amended the Securities Act of 1934 and offered a stay on discovery until the courts reached a decision on a motion to dismiss the lawsuit. In addition, the SPSLRA imposed a stricter pleading standard and generally eliminated joint and several liabilities. The Sarbanes–Oxley Act (SOX) (2002) required management certifications, audits of internal control systems, and the establishment of the Public Company Accounting Oversight Board (PCAOB) to govern auditors. Both acts were enacted in 2002 (Kaplan & Williams, 2013). Recently, the Public Company Accounting Oversight Board (PCAOB, 2011) issued a concept release for comments concerning alternatives to the audit report, aimed to enhance its usefulness. Comprehensive effort has been made to amend and improve audit quality and risk after the SOX, subprime mortgage crisis, Enron scandal, and so on, and tightened regulations for audit service and the audit service system have been enacted positively and provided more useful information for managers, investors, regulators, and related parties than CRAs.

¹ NRSROs issue credit ratings that the US SEC permits other financial firms to use for certain regulatory purposes. According to the SEC, “the single most important factors in the Commission staff’s assessment of NRSRO status is whether the rating agency is nationally recognized in the U.S. as an issuer of credible and reliable ratings by the predominant users of securities ratings” (SEC, 2003, p.9, quoted in Feldman and Read, 2013).

² According to the IOSCO code, the principles for the activities of CRAs are as follows. 1) Rating actions should reduce information asymmetry. 2) Rating actions should be independent and objective. 3) CRAs should pursue transparency and disclosure. 4) CRAs should keep confidential all non-public information.

The motivation to investigate this subject is continuous dissatisfaction with both credit ratings and audit opinions. Although CRAs and auditors produce a similar public good to financial markets, such as credit rating and audit opinion, there is little research about the relationship between CRAs and auditors. In addition, unlike auditors, CRAs' liability to investors is immaterial. CRAs have been criticized widely for not warning the public adequately about impending bankruptcies and for their role in the sub-prime mortgage crisis (Dodd-Frank, 2010). Similarly, auditors were criticized for accounting scandals, such as Enron, and high-profile bankruptcies. Harris (2011) points out that auditors are unable to signal financial risks with the existing audit report model and the GC opinion was rarely used or reported, despite the many risks that threatened the banking industry.

There is little literature about how credit ratings influence audit opinion in distressed firms. Many studies have modeled the GC decision, yet the relationship between credit ratings and audit opinions remains largely untested. Similarly, the literature on credit rating has not directly assessed the impact that the audit opinion has on determining a firm's credit rating. In this research, we investigate Korea firms that filed for bankruptcy and we examine the audit opinions and credit ratings issued by NICE³ as a NRSRO, prior to bankruptcy. Most sample companies are in financial distress, therefore providing a setting in which both a GC opinion⁴ and a lowest possible credit rating are plausible. With samples of the financially distressed firms, we know with certainty that these firms did not continue operations and thereby the lowest possible credit rating and GC opinion may be taken for granted. Based on a GC (modified opinion) model, we find empirical results that credit ratings inform auditors' GC decisions for clients subsequently filing for bankruptcy. Of 49 of our total sample of 97 companies (50.52%) that had the lowest credit rating category prior to the audit opinion date, all but 9 (81.63%) received a GC opinion. We conducted an analysis to find evidence of more conservative and relevant auditor reporting relative to credit ratings with respect to signaling bankruptcy. Nine out of the 49 samples (18.37%) with lowest credit rating did not receive a GC opinion from auditors. We can analyze this frequency as only credit ratings being successful. However, there are 20 (41.67%) firms with a GC opinion with ratings higher than the lowest. We can analyze this frequency as only auditors being successful.

This study contributes new insight into the credit ratings literature by providing empirical evidence that credit ratings inform auditors' GC opinions for firms that subsequently file for bankruptcy. In addition, we find that firms that have credit ratings closer to default in the month preceding the audit opinion date are significantly more likely to receive a GC opinion. For approximately 49 out of 97 of the final samples (50.52%) that had the lowest credit rating category prior to the audit opinion date, 40 (81.63%) received a GC opinion. Furthermore, we find evidence that audit opinions are more conservative and relevant to signal bankruptcy than credit ratings.

There are several limitations of this research. First, there is no clear definition of when a credit rating indicates a likely bankruptcy. Second, our analysis of credit ratings is limited to those compiled only by NICE. Third, the regression model we adopt in the main analysis cannot determine causality. We do not test whether GC opinions result in credit rating changes, nor do we examine the impact of GC reports or other factors that may effect changes of credit rating. Therefore, this results in a potential endogeneity problem in which audit opinion has informational value.

Section 2 provides the background and development of our hypothesis. Section 3 describes the sample selection, and presents the research design and results of the empirical test. Section 4 concludes.

2. BACKGROUND AND DEVELOPMENT OF HYPOTHESES

2.1 Auditors' Legal Liability

In this era of litigation against auditors for malpractice, investors and creditors who suffer financial losses and experience market downturns are likely to be targets for recovery through lawsuits. Auditors should approach every engagement with the prospect that they may be required to defend their work in court. However, the concern of

³ NICE is one of the largest and the leading credit information service company in South Korea.

⁴ In this study, we define "Going Concern" opinion as modified opinions that are other than unqualified opinions.

litigation is not only costs; lawsuits damage a professional's reputation. If auditors are negligent in expressing an opinion on financial statements, thousands of investors, as well as firm creditors, may sustain losses.

In Korea, auditors have both common law and statutory law liability. Common law liability develops through case decisions generally arising as a result of a breach of contract, negligence, and fraud. Statutory liability develops when a government unit passes laws and regulations that either implicitly or explicitly impose potential liability upon auditors.

In addition, in many cases, an auditor has a liability to third parties under common law. Under the known-user case, auditors are held liable for ordinary negligence only to third-party beneficiaries for whose benefit the audit was performed. Other third parties must prove gross negligence on the part of the auditors. Under the foreseen-user case, liability for ordinary negligence to third parties is extended to include any limited class of parties that could be foreseen to rely upon the financial statements. The foreseen-user case extends the auditors' liability for ordinary negligence even further to include any third party the auditors could reasonably foresee as recipients of the financial statements. In addition, auditors may be held liable to third parties under the securities trading laws, which allow class action lawsuits by purchasers or sellers of company securities. The Securities Trading Act is unique in that most of the burden of proof in litigation is shifted to auditors, with the primary defenses available to the auditor consisting of knowledge by the plaintiffs of errors or omissions or due diligence by the auditors. Furthermore, auditors are subject to criminal prosecution for violation of various statutes, including criminal fraud in which their conduct was intentional or involved collusion with the client. To protect themselves from litigation, auditors have strived to adhere to high levels of professional performance.

2.2 Importance of Going-Concern Reporting

Concerning the role of auditors, legislators periodically focus on instances of firms filing for bankruptcy after receiving an unmodified (standard) audit reporting and question the role of auditors in warning the public about impending bankruptcy (U.S. House of Representatives, 2008; U.S. Senate, 2002). The PSLRA (1995) requires that "each auditor ... of the financial statements of an issuer by an independent certified public accountant shall include ... an evaluation of whether there is substantial doubt about the ability of issuer to continue as a GC during the ensuing fiscal year." The GC reporting provisions of the PSLRA (1995) essentially codified the professional standards at the time into law. However, the fact that the Congress mandated a specific audit procedure for all SEC registrant audits for the first time by elevating going-concern reporting to the status of law is indicative of legislators' concerns about early warning of impending client bankruptcies in the form of modified audit opinions. Currently, to protect themselves and avoid liability, auditors are willing to report modified (going-concern) opinion, which is a relevant method to avoid high-risk litigation and lose their reputation, if substantial doubt remains about their client's ability to continue as a GC after considering management's plan.

2.3 Litigation Risk and Audit Reporting

The absence of a GC report for a financially stressed client leaves auditors vulnerable to litigation, as investors may allege reporting failure if a GC report was not issued (Carcello & Palmrose, 1994; Geiger & Rama, 2006). Furthermore, resignation and/or additional efforts are likely to be poor substitutes when the auditor is at the stage of making a GC reporting decision. As the GC report represents uncertainty about the future, the ability of an additional audit effort to resolve uncertainties about the client's future viability may be limited. Issuing a GC report to a financially stressed client generally should eliminate the possibility of the auditor being accused of negligence with respect to GC reporting. We argue that investors that have suffered losses in their financially stressed investments would be predisposed to consider the absence of a GC report as a reporting failure. In general, Hawkins and Hastie (1990) and Harley (2007) show that individuals exhibit hindsight bias, which is the tendency to overestimate the predictability of an event outcome when it is known. Having formed a directional decision preference, individuals engage in motivated or biased reasoning to reach their decisions (Kunda, 1999). For example, for investors that have suffered losses in their financially stressed investment and wish to sue the auditor, reaching the decision to sue the auditor is the preferred conclusion. Under motivated reasoning theory, Kunda (1999) assert that individuals "search for, interpret, and process information in a biased manner and, consequently, are more likely to reach the preferred conclusion."

Generally, managers of companies prefer that audit reports do not contain GC opinions. Thus, Carcello and Neal (2003) and Lennox (2000) find that issuing a GC audit report increases the likelihood of management-initiated auditor switches. From the previous paragraph, we can infer the expected benefits to auditors from issuing a GC report. The auditors are willing to accept to resign as a result of issuing a GC report because their clients have undergone hardships; legal costs in which auditors are named in court due to alleging auditing negligence represented more than 15% of U.S. domestic audit revenues for 2007 (The Center for Audit Quality, 2008). In other ways, to enhance their defensibility, auditors may increase their number of audit hours or resign from the audit engagement. Nevertheless, the auditors may intentionally decide not to issue a GC opinion to accommodate the client's preference. However, auditors' GC decision is related to the quality of the auditor's performance and mitigates the information asymmetry between the firm's management and outside related parties.

2.4 Role, Failures, and Remedies of and for Credit Rating Agencies

CRA have been criticized for their role in the recent financial crisis, such as failure to flag mortgage-backed securities. Investors and banks lost hundreds of billions of dollars because of misguided confidence in sub-prime securities. According to Moody's Investors Service (2001), credit ratings are used by investors to evaluate the credit risk of borrowers and are important because many investors explicitly or implicitly restrict themselves to dealing with counterparties whose credit ratings are above minimum levels. Moreover, there is a thin market for debt issued without credit ratings. Nicholls (2005) finds that debt issued without credit ratings tends to be issued at lower prices, thereby carrying higher effective interest rates than corresponding debt with credit ratings. For example, debt held by banks for capital requirement purposes, as well as most debt investments held by pension funds, are required to have credit ratings above a threshold, such as investment grade. Frost (2007) argues that prior to 2008, the three biggest CRAs—Standard & Poor's, Moody's, and Fitch—provided credit ratings for mortgage-backed securities that turned out to be far riskier than their ratings implied. These inflated ratings allegedly contributed to the recent financial crisis and called into question the credibility and independence of CRAs. Specifically, CRAs have been accused of recklessly abandoning the output of their quantitative models in order to satisfy security issuers' desire for high ratings. In the case of U.S. CRAs, after the 2008 mortgage loan crisis, the Dodd–Frank Act triggered reforms to the current credit rating environment designed to correct two perceived issues: (1) CRAs are currently paid by security issuers, which gives them an incentive to inflate ratings; and (2) the rating process lacks transparency, which gives CRAs the opportunity to inflate ratings (Jollineau, Tanlu, and Winn, 2014).

CRAs play a critical role in financial markets by providing investors with information about the companies they rate. In addition, auditors provide important signals to investors about a distressed company's financial condition. However, there are quite differences between the characteristics of audits and credit ratings; auditors generally engage in a backward-looking, confirmatory task in judging whether the initial information provided by management falls within an acceptable range and is in accordance with Generally Accepted Accounting Principles (GAAP). By contrast, credit rating analysts engage in a forward-looking, probabilistic task of judging the likelihood of a firm defaulting on a security (Jollineau et al., 2014). Unlike audit firms, CRAs have been protected historically from exposure to liability under the First Amendment to the U.S. Constitution (Partnoy, 2006). The structure of the relationship between a client and its audit firm is quite different from the relationship between a CRA and its clients. Although auditors and CRAs are hired by the companies involved, auditors usually communicate directly with the audit committee of the board of directors, which helps their independence to be preserved. Auditors and CRAs have used clients' financial data, but the audit firm spends more time and endeavor carrying out the audit and can require a client to provide information it deems necessary for the audit report. Management has no liability to comply with the CRA's request for information. However, because the chief executive officer (CEO) is eager to obtain a better credit rating, companies extend more information to CRAs and make effort to secure friendly working relationships in their best interests.

There are several important differences between auditors and CRAs regarding potential consequences of issuing a qualified audit opinion and lowest credit rating to a client that subsequently files for bankruptcy. For auditors, a more notable difference relates to the Private Securities Litigation Reform Act of 1995 (Reform Act), which elevates the status of the auditor's responsibility for GC reporting to that of law, instead of simply yet another audit procedure. In addition, with respect to auditors, Pryor and Terza (2001) and Venuti (2004) find that a widely held belief maintains that a company receiving a GC opinion is more likely to file for bankruptcy. Geiger, Raghunandan,

and Rama (1998) argues that the self-fulfilling prophecy, coupled with evidence of clients switching auditors after receiving a GC opinion, may make auditors cautious about issuing GC reports. However, according to Carcello and Palmrose (1994), failure to issue a GC opinion prior to a client's bankruptcy is costly to auditors, both in terms of reputation and potentially costly litigation. Unlike auditors, CRAs are protected by the First Amendment right to free speech, thereby shielding CRAs from legal liability (Frost, 2007).

Because CEOs are willing to provide CRAs with important information about financial merit, it seems to be argued plausibly that credit ratings might influence auditors in making their decisions on audit opinions. However, it is possible that CRAs' ratings have harmful effects on auditors' decisions if the CRAs do not issue timely downgrades when financial situations worsen and issue inflated ratings. Given the understanding that credit ratings extend useful information to the financial and stock markets and that ratings are related to auditor decision making, it is not surprising that both auditors and ratings agency analysts use common information, as they monitor a firm's corporate governance mechanisms. For example, ratings agencies have stated that internal control weakness is important in ratings classification and that the assessment of internal control is a fundamental part of an audit. The relevant information set conveys beyond firm-specific data. Therefore, we suggest that auditors that carry out audits of companies with impending financial distress might be influenced by the clients' credit ratings in issuing their audit opinions. Thus, we hypothesize the following.

Hypothesis 1: Credit rating influences the issuance of a GC audit opinion, especially when companies face imminent bankruptcy.

An interesting issue is the relative conservativeness of auditors and the major CRAs in their roles as watchdogs protecting investors against financial calamities. The various government and private watchdogs that were supposed to monitor Enron's⁵ activities and warn investors of its impending bankruptcy did not fulfill their responsibilities. The staff report by the SEC was critical of Arthur Anderson for its issuance of a clean audit opinion prior to Enron's collapse. The nationally recognized CRAs were criticized for continuing to rate Enron's long-term debt as investment grade, even as its stock plummeted and collapsed in value in the weeks before the company's demise. Cheng and Neamtiu (2009) state that the major NRSROs maintained investment grade ratings for Enron, California utilities, and other bankrupt companies, days before each declared bankruptcy. Given the prominent watchdog roles of auditors and the largest CRAs in providing the investing public with timely warnings of bankruptcy risk, an interesting question is whether one group is more conservative than the other. Although CRAs have been criticized widely, they have not been subjected to the same civil and criminal prosecution that applies to auditors. Rating agencies have been protected by the First Amendment as members of the media and the courts do not hold credit rating agencies accountable for providing misleading information, unless their actions were reckless. Kraft (2009) argues that accountants, on the other hand, face significant risk of legal liability and are held to a much higher standard than CRAs. Carcello and Palmrose (1994) find that failing to issue a GC opinion preceding bankruptcy filing subjects auditors to a higher likelihood of litigation. Therefore, an auditor may have more incentives to be conservative when contemplating a GC opinion relative to a CRA deciding to downgrade a company's credit rating.

Hypothesis 2: The audit opinion has more conservative and timely informational value than does the credit rating, especially when companies face imminent bankruptcy.

3. RESEARCH DESIGN AND RESULTS

3.1 Research Model

To examine H1, we use a multivariate regression model with audit opinion type as the dependent variable and control variables used in prior research (Geiger, Ragunathan, and Rama, 2005). We investigate whether the propensity to issue a GC audit opinion is associated with the credit score issued by NICE immediately prior to the audit opinion date. Control variables contain firm size measured as annual sales, probability of bankruptcy measured

⁵On October 24, 2001, the day Enron CFO, Andrew Fastow, resigned the stock traded at \$16.41. On November 8, 2001, less than a month before Enron's bankruptcy, Enron's stock closed at \$8.41, when Enron disclosed it had overstated earnings by \$500,000 since 1997. Nevertheless, S&P continued to rate the firm through most of November at "investment grade."

by the Zmijewski score, time between the audit opinion date and the bankruptcy filing date, time between the fiscal year-end and the audit opinion date, auditor type, and prior year audit opinion⁶, that is, whether the company received a GC report prior to the last audit opinion before bankruptcy. Using the measurement of credit rating by the variable *Credit Category*, we analyze whether credit rating influences GC opinion.

$$GC = \beta_0 + \beta_1 \text{LnSL} + \beta_2 \text{ProB} + \beta_3 \text{BLAG} + \beta_4 \text{RLAG} + \beta_5 \text{BIG4} + \beta_6 \text{PBAD} + \beta_7 \text{CC} \quad (1)$$

Where:

GC= 1 if audit opinion is going-concern modified, and 0 otherwise;

LnSL = natural log of total sales;

ProB= probability of bankruptcy measured by the Zmijewski score⁷;

BLAG= natural lag of the number of days between the audit opinion date and bankruptcy date;

RLAG= natural lag of the number of days between the fiscal year-end and audit opinion date;

BIG4= 1 if a Big Four auditor, and 0 otherwise;

PBAD= 1 if the client was issued with a GC modification prior to the last opinion before bankruptcy;

CC= 1 if the NICE score in the month preceding the audit opinion date is 10 (equivalent to D or SD); 2 if the NICE score in the month preceding the audit opinion date is 9 (equivalent to “lowest speculative” category); 3 if the NICE score in the month preceding the audit opinion date is 8 (equivalent to “medium speculative”); and 4 if the NICE score in the month preceding the audit opinion date is 6 or 7 (equivalent to “upper speculative”).

3.2 Sample Selection

The sample consists of Korean publicly held firms for the period 2007 through 2014, drawn from the KIS Value⁸. From the KIS Value, we select all Korean companies that filed for bankruptcy. Following prior research (Geiger et al., 2005), we eliminate any firm in financial services, with no fiscal year-end year, and with no credit rating. After identifying our initial sample, we select firms whose audit report date is 12 months or less prior to the bankruptcy filing, thereby identifying each firm as having received a GC report or unqualified (clean) audit opinion prior to filing for bankruptcy. In addition, we identify the fiscal year-end date, audit opinion date, auditor, credit rating month, and whether the firm was in technical or payment default. We access the KIS Value to acquire financial and industry data, specifically about firm size and financial variables related to bankruptcy. Table 1 shows the sample derivation, which results in a preliminary sample size of 149 companies that filed for bankruptcy. Then, we choose the subset of those companies that have credit ratings issued by NICE available prior to bankruptcy. Therefore, the final samples available are 97 observations, as shown in Table 1.

⁶Reynolds and Franci (2000), Hunt and Lulseged (2007) find that companies issued with GC opinions in the preceding year are more likely to receive GC opinions in the current year.

⁷The Zmijewski Score is a bankruptcy model (Zmijewski, 1984), used to predict a firm's bankruptcy by probit analysis. Scores greater than X represent a higher probability of default. One of Zmijewski's criticisms was that other bankruptcy scoring models oversampled distressed firms and favored situations with more complete data.

Formula: Zmijewski Score = -4.803-3.599* (net income/total assets) + 5.406* (total liabilities/total assets) - 0.100* (current assets/current liabilities)

⁸ The KIS Value comprises industrial databases by NICE of Korean companies providing financial information to clients.

Table 1. Sample Selection Criteria

Description	Sample Number
Firms filed bankruptcy	149
- Firms involved in financial industries	(5)
- Firms not having year-end fiscal year	(6)
- Firms no credit rating	(40)
- Firms no audit opinion	(1)

We use the long-term issuer credit rating for each firm rated by NICE, as reported in the KIS Value, to define our credit rating categories. This reflects the organization's assessment of the overall creditworthiness of the company. For better understanding, we use the NICE credit score instead of the credit rating and also compare the NICE credit score with the S&P credit rating, which is composed of 22 possible "letter" ratings ranging from AAA (highest) to D and SD (lowest). Since we restrict our sample to financially distressed companies, it is no wonder that 94 of our 97 bankrupt firms have ratings within the non-investment grade range (from 4 to 10 for NICE credit scores, and from BB+ to D for S&P credit ratings). The NICE credit score codes these letter ratings numerically, with low numbers indicating better financial strength; we categorize the NICE credit scores into four groups with high numbers indicating better financial strength. In our sample, the NICE credit scores range from 3 (corresponding to AA-) to 10 (corresponding to D or SD, by which S&P defines the companies as default or selective default). We define the variables and credit category, following prior studies (Ashbaugh-Skaife, Collins, and LaFond, 2006; Bradley, Chen, Dallas, and Synderwine, 2008). We categorize the credit ratings into categories that represent four levels of risk within the non-investment grade range. The highest group (upper speculative grade) encompasses credit ratings from BBB+ to BBB- (Category 4), while our lowest category consists of default (D) and selective default (SD) ratings (Category 1). In addition, we use a "medium speculative grade" that consists of credit ratings from B to CC (Category 3) and a "lower speculative grade" for ratings ranging in C (Category 2). Table 2 shows the credit ratings divided into four groups, the credit scores, and the number of sample firms with each credit score.

Table 2. Credit scores and ratings of bankrupt firms, grade, assigned category, and number of firms with each credit score

NICE Score	Grade	Category	S&P Rating	No. of Firms
1	extreme strong (investment)	-	AAA	0
2	very strong (investment)	-	AA+ , AA	0
3	strong (investment)	-	AA-	0
4	still strong (investment)	-	A+ , A	0
5	adequate (investment)	-	A-	0
6	less vulnerable (speculative)	4	BBB+ to BBB	1
7	more vulnerable (speculative)	4	BBB-	2
8	currently vulnerable (speculative)	3	B, CC, CCC	19
9	currently highly vulnerable (speculative)	2	C	26
10	extremely vulnerable (default, SD)	1	D, SD	49
				97

We cannot figure out the exact date when CRAs issued credit scores or ratings, and therefore, we cannot grasp whether the issuance of credit ratings preceded or followed the date of the audit opinion in the month that the audit report was issued. Thus, we use the credit ratings from the month immediately preceding the audit opinion date for our research. Giving this reasoning, we presume that credit ratings are not influenced and reflected by information from audit opinions. Control variables include firm size, probability of bankruptcy, default status, the time between the audit opinion date and the bankruptcy filing date, and the time between the fiscal year-end and the audit opinion date.

3.3 Empirical Results

To test H1, we present means and standard deviations of variables in our model by four credit rating categories, using the analysis of variance method. We find significant differences in means through the rating categories ($p < 0.01$ or $p < 0.05$) for most variables. With consistent expectations, firms with poor credit ratings have a higher probability of bankruptcy, a shorter bankruptcy lag, more GC opinions, and a longer reporting lag. They hired the Big Four auditors less. An important consequence of the descriptive statistics is that the reporting lag, time that

auditors take after the fiscal year-end to issue their audit opinion, is longer when the client's credit rating is poorer (toward lower speculative and closer default).

The main concern of H1 is the relationship between GC opinions and credit rating categories. In Table 3, we can interpret clearly that companies with credit ratings "closer to default" in the month preceding the audit opinion date are more likely to receive GC opinions. In detail, we find that 40 of 49 firms (82%) in default or in selective default received GC opinions. On the other hand, firms assigned a rating in the "medium speculative" category (B, CC, and CCC) were issued GC opinions in less than one out of three cases. This analysis supports H1.

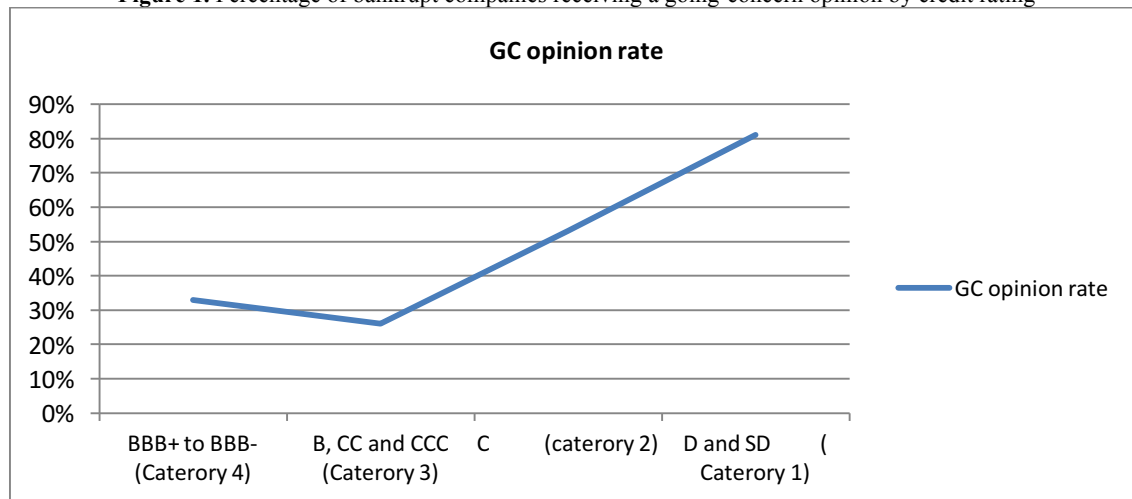
Table 3. Variable Mean (Standard Deviation) by credit rating

Credit Rating	BBB+ to BBB- [Category 4]	B,CC and CCC [Category 3]	C [Category 2]	D and SD [Category 1]	
Sample No.	3	19	26	49	
Variable	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	ANOVA F-statistics
GC	0.33 (0.58)	0.26 (0.45)	0.54 (0.51)	0.82 (0.39)	8.07***
LnSL	22.75 (1.31)	24.57 (1.44)	24.93 (0.99)	23.88 (1.83)	3.77**
ProB	0.03 (0.03)	0.49 (0.32)	0.79 (0.34)	0.99 (0.01)	35.76***
BLAG	4.64 (1.20)	4.25 (0.92)	3.95 (1.26)	3.21 (0.53)	9.41***
RLAG	4.26 (0.33)	4.43 (0.31)	4.45 (0.18)	4.49 (0.15)	3.21**
PBAD	0 (0)	0.53 (0.51)	0.46 (0.51)	0.43 (0.5)	0.99
BIG4	0.33 (0.58)	0.21 (0.42)	0.58 (0.50)	0.27 (0.45)	3.22**

***, **, * indicate a significant difference between companies with different credit ratings at $p < 0.01$, $p < 0.05$, $p < 0.1$, respectively

To examine further the relationship between receiving GC opinions and credit ratings, we describe the percentage of GC reports over credit ratings and illustrate these results in Figure 1. This analysis shows that as credit ratings become more speculative, that is, credit ratings are no higher than "C," the auditor is inclined toward issuing a GC opinion.

Figure 1. Percentage of bankrupt companies receiving a going-concern opinion by credit rating



Although the results in Table 3 and Figure 1 obviously suggest a strong relationship between GC opinions and credit ratings, we need to test the relationship further using a multivariate model. Table 4 tabulates the results of two logistic regressions based on the model, using 97 bankrupt companies in our sample. Column 1 shows the results for the model with only the control variables. Column 2 repeats the test but includes the variable *Credit Category*, thereby testing H1. Both columns are highly significant ($p < 0.01$) with χ^2 of 55.98 and 59.98, respectively. The variable of interest, Credit Category, is significant with χ^2 of 3.83 ($p < 0.05$). Overall, our empirical results support H1, suggesting that the information provided by a client's credit rating is reflected in the audit opinion. That is, there is a negative relationship between credit ratings and GC opinions. A comparison between Columns 1 and 2 shows that including the Credit Category variable improves interpretation power from 59.63% to 62.71%. The control variables for firm size, bankruptcy probability, report lag, and Big Four are in the expected directions. The variables for report lag is statistically significant.

Table 4. Output of logistic regression model

Variable	Column 1 Coefficient (χ^2)	Column 2 Coefficient (χ^2)
Constant	-8.26 (0.01)	-6.64 (0.01)
LnSL	-0.09 (0.39)	-0.12 (0.51)
ProB	1.84*** (7.30)	0.72 (0.70)
BLAG	-0.33 (1.95)	-0.30 (1.53)
RLAG	2.06* (3.34)	2.28** (4.59)
PBAD	-0.18 (0.21)	-0.11 (0.08)
BIG4	0.21 (0.21)	0.30 (0.40)
Credit Category	-	-0.62** (3.83)
likelihood Ratio (χ^2)	55.98***	59.98***
Max rescaled R ²	59.63%	62.71%

***, **, * indicate a significant with p-values at $p < 0.01$, $p < 0.05$, $p < 0.1$, respectively

To verify whether an audit is more conservative and timely than a credit rating service in respect of providing a signal for impending bankruptcy, we examine H2. Because all sample companies went bankrupt within 12 months of the audit opinion, GC opinion or qualified opinion is desirable and appropriate. To define the appropriate credit rating for companies with impending bankruptcy, we use the S&P long-term credit rating structure⁹. The language S&P uses to describe its ratings indicates that the rating categories are relative. S&P defines its credit rating by category as follows: a CCC rating category is “currently vulnerable, and is dependent upon favorable business, financial and economic conditions to meet its financial commitments”; a CC rating category is “currently highly vulnerable to non-payment and is used when a default has not yet occurred, but Standard & Poor’s expects default to be a virtual certainty, regardless of the anticipated time to default”; and a C rating category is “currently highly vulnerable to non-payment, and the obligation is expected to have lower relative seniority or lower ultimate recovery compared to obligations that are rated higher” (S&P, 2015). This terminology is utilized. In most cases, unless the rating is deep into speculative category, a downgrade does not mean that default is anticipated (CRISIL, 2010; S&P 2015). The deepest category within the speculative rating group is C. Considering the above descriptions, we are sure that an observation has an appropriate credit rating if the company with impending bankruptcy had a rating of D

⁹ Issuing credit ratings can be either long-term or short-term. Short-term ratings are generally assigned to those obligations considered short-term in the relevant market. In the U.S., for example, that means obligations with an original maturity of no more than 365 days—including commercial paper. Short-term ratings are also used to indicate the credit worthiness of an obligor with respect to put features on long-term obligations. Medium-term notes are assigned long-term ratings (sited from S&P rating definition)

or SD the month before the audit opinion was issued. To be considered as a desirable watchdog, CRAs preceding the audit opinion must assign lower than C and auditors must issue GC reports. Table 5 suggests the result of an χ^2 test comparing successes in signaling bankruptcy for credit rating to success for the auditor.

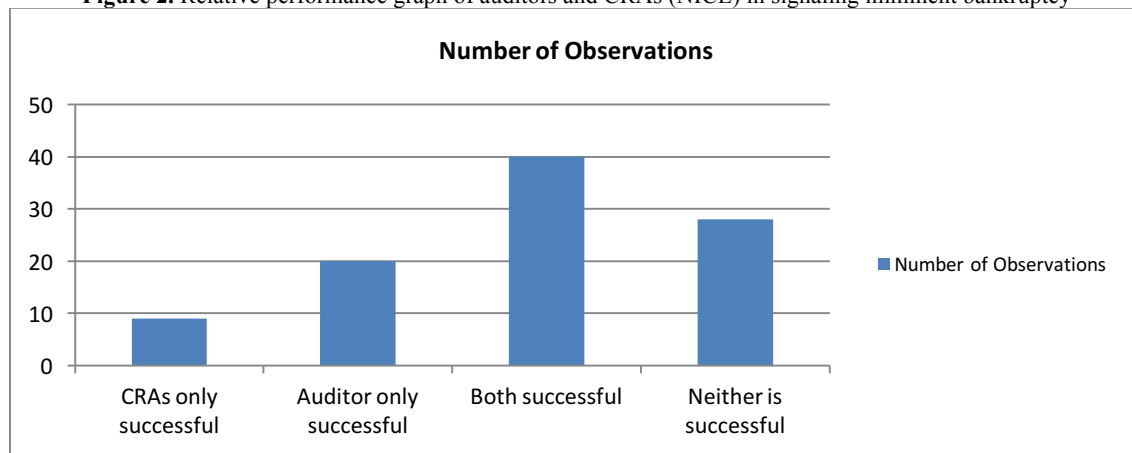
In 40 out of 49 observations (81.63%) with ratings of D and SD, the auditors issued GC opinions. Therefore, when CRAs issued very low ratings, the auditors almost always issued GC opinions. On the contrary, among the 48 observations with ratings higher than C, there are 20 companies that received GC opinions from their auditors. Through our matrix of audit opinions and credit ratings, we can conclude and infer that the audit system has a more successful predictive function in signaling preceding bankruptcy than the CRAs system with over-optimism. Of 48 credit ratings above C, 28 (58.33%) observations have unqualified audit opinions. Thus, we can assume that both auditors and CRAs incline to produce over-optimistic assessments. This analysis to test H2 is highly significant within an χ^2 statistic of 16.41 ($p < 0.01$). This result explains that auditors' are more conservative than CRAs, which supports H2.

Table 5. Comparison of audit opinion of impending bankruptcy and credit rating before issuing audit opinion

	No GC opinion (Type II error)	GC opinion (negative signal)	Total
Rating higher than C (relatively desirable)	28 (58.33%)	20 (41.67%)	48 (49.48%)
Rating D and SD (strong negative signal)	9 (18.37%)	40 (81.63%)	49 (50.52%)
Total	37 (38.14%)	60 (61.86%)	97 (100%)

χ^2 statistic 16.41 with $p < 0.01$

Figure 2. Relative performance graph of auditors and CRAs (NICE) in signaling imminent bankruptcy



4. CONCLUSION

In this study, we investigate the relationship between credit ratings and audit opinions of financially distressed companies impending bankruptcy. We analyze 97 bankrupt companies with credit rating available before they file bankruptcy. Because all sample file bankruptcy within 12 months following the audit opinion date, it is no wonder that almost all but three have credit ratings in the speculative range. Only three companies were rated as investment grade. We design the GC opinion decision using credit ratings transformed into a variable *Credit Category* and find that variable to be significant in the expected direction. It verified that credit ratings are related to the issuance of going-concern opinions for a sample of companies impending bankruptcy.

We compare credit ratings to audit opinions to investigate which of the two is more conservative and provide the earlier signal of bankruptcy. In 49 samples, we find that CRAs certainly signals impending corporate failure with

credit rating of D or SD. The auditor issued a GC modified report for 40 (81.63%) of these companies the following months. For the 48 companies with higher credit ratings, 20 companies (41.67%) received a GC from their auditors. In these cases, CRAs had room to lower its rating, but it did not. From this result, we can infer that the auditors take a more conservative and timely prospect than the CRAs. Though auditors have been criticized for high frequency of type II errors which 37 (38.14%) out of 97 total bankrupt sample companies, they seem to provide a timelier signal of impending bankruptcy relative to CRAs. Geiger et al. (2005) find that after a string of high-profile corporate failures such as Enron's bankruptcy on Dec. 2, 2001 by accounting manipulation which led to have Arthur Anderson audit company caused dissolution due to indulging willful corporate fraud and corruption, a series of congressional hearing and legislators portrayed auditors negatively and ultimately led to the enactment and more forced liabilities such as the Sarbanes-Oxley Act. Due to these continuing concern of legislators and the public about the adequacy of early warnings from auditors about pending client failures in the form of modified audit opinion, it is certain that there was a significant shift in auditors' decision in the post-2002 period and that auditors' decisions were more conservative based on the forced enactment to auditor's liability than CRAs'. To remedy CRAs' failure for exacerbating the financial crisis by providing overly optimistic debt ratings in order to please security issuers with higher credit ratings, we find that audit system is better timelier and more conservative. According to audit experience on its failure and remedy, thus, it is desirable that CRAs' regulation should be more strengthened on their liability about issuing credit ratings. The empirical result in this study suggests that there is a CRAs' credit rating to influence audit behavior and audit opinion is more conservative than CRA's, which means audit is more credible and appropriate to interests of financial market. Like as case of auditor's endeavor in order to enhance their reputation, reduce litigation risk and be proactive to reduce government intervention after their audit opinion failure, CRAs' way to remedy their failure is to strengthen the regulation on their liability significantly in order to regain a positive reputation so that reduce the possible threat of litigation. Addition to the belief that CRAs' profession is self-correcting, we suggest that regulators and standard setters should evaluate the extent of CRAs profession's changed behavior and aggressively modify the regulation to avoid further investors' damages due to inflated or (and) slowing downgraded ratings.

There are several limitations of this study. First, there is no clear definition of when a credit rating is indicating a likely bankruptcy. Second, our analysis of credit ratings is limited to those compiled by only NICE. Third, the regression model we adopted in main analysis cannot determine causality. We did not test whether GC opinions result in credit rating changes and also examine the impact of GC report or other factors that may effect to change of credit rating. Therefore, it results in potential endogeneity problem which, audit opinion has informational value. We conclude with a discussion of limitation. Our study focuses only on Type II misclassification (bankruptcies without a prior going-concern modified opinion or without lowest credit rating). Though such audit misclassifications continue to be the focus of legislators, it is also critical to examine the Type I error (going-concern modified opinions for subsequently viable companies).

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