

How do Analysts Deal with Internal Control Weaknesses?

Tesfalidet Tukue

Corresponding Author: Tesfalidet Tukue
College of Business, Southern University, LA

ABSTRACT: *This study aims to bridge two streams of research in accounting and finance that have largely developed independently: ICW disclosures and analysts' behaviours. By connecting the disclosure of ICWs event with analyst behaviour based on extant literature, this paper attempts to formulate research questions on how security analysts deal with such bad news and provide value-relevant information to investors in a timely manner. The paper concludes by forwarding research question related to different scenarios of Internal Controls.*

KEY WORD: *Analysts Recommendation, Bad News, Internal Control Weaknesses*

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I. INTRODUCTION

Security analysts, often regarded as sophisticated processors of financial information, play a vital role in the efficient functioning of financial markets by acting as intermediaries between firms and investors (Schipper, 1991). Existing literature highlights that analyst coverage reduces information uncertainty (Zhang, 2006) and facilitates the efficient pricing of securities in capital markets (Beaver, 2002). Studies further demonstrate that analyst opinions significantly influence stock prices. On average, markets respond positively to favourable information and negatively to unfavourable information issued by analysts (e.g., Womack, 1996; Barber et al., 2001). Additionally, firms with higher levels of analyst coverage experience faster market reactions to new information (e.g., Gleason and Lee, 2003; Zhang, 2006).

However, the rationality and efficiency of security analysts have been questioned in various contexts. For instance, analysts' earnings forecasts tend to systematically overestimate actual earnings (e.g., Brown, 1997), and "buy" recommendations are consistently more frequent than "sell" recommendations (e.g., Womack, 1996). Moreover, analysts often exhibit selective reporting behaviour, favouring stocks they view positively while avoiding those they view unfavourably (e.g., McNichols and O'Brien, 1997).

The enactment of the Sarbanes-Oxley Act of 2002 (SOX) by the U.S. government was a response to a series of high-profile corporate scandals that undermined public confidence in capital markets. Among these, the Enron scandal stands out as a pivotal event that highlighted the critical need for regulatory reform. Enron's fraudulent activities and the collapse of its auditor, Arthur Andersen, emphasized the importance of identifying material internal control weaknesses (ICWs) early. Sections 302 and 404 of SOX were specifically designed to address this issue by requiring the timely identification and disclosure of ICWs to enable corrective action.

Security analysts faced significant criticism from investors and regulators in the aftermath of these scandals for their perceived bias. For example, in the case of Enron, nearly 90% of analysts covering the company continued to recommend its stock as a "buy" or "strong buy" just six weeks before the firm declared bankruptcy.

1.1. Analysing Analysts' Reactions to Firm-Level ICWs:

The disclosure of firm-level ICWs is typically viewed as adverse news by both managers and investors. Literature suggests that investors are generally less efficient in processing negative news compared to positive news (e.g., Womack, 1996; Dichev and Piotroski, 2001). Additionally, managers are often reluctant to disclose bad news due to the potential negative impact on firm value and their reputations. Hong et al. (2000) argued that managers have limited incentives to promptly update investors when firms are sitting on bad news. Given these dynamics, security analysts may play a crucial role in identifying, interpreting, and disseminating ICW disclosures, particularly given the average investor's limited time, expertise, and resources to analyze complex financial information.

This study raises key questions regarding how security analysts handle the disclosure of ICWs. Specifically, do analysts anticipate the disclosure of ICWs? How do analysts react to such disclosures? Do they remain engaged in covering firms that disclose ICWs, or do they withdraw coverage?

This study aims to bridge two streams of research in accounting and finance that have largely developed independently: ICW disclosures and analysts' behaviours. By reviewing and synthesizing extant literature, this study seeks to formulate research questions regarding how security analysts deal with ICW disclosures and whether they provide timely, value-relevant information to investors. Therefore, the study endeavours to shed light on the role of analysts in interpreting and disseminating critical information related to ICWs, thereby enhancing investor decision-making and market efficiency.

1.2. Summary of the Objectives:

To summarize, the objectives of the study is to formulate research questions that explores and answers:

1. If security analysts anticipate firm level ICWs disclosure by investigating if they downgrade more aggressively their stock recommendations for ICW firms in comparison to similar non-ICW firms within the pre-ICWs period.
2. If security analysts are more likely to cease coverage of ICW firms than similar non-ICW firms.
3. How security analysts react to the publication of a firm level ICW disclosure by comparing their stock recommendations for ICW firms between the pre- and post-ICW period.
4. If security analysts' interest in ICW firms change (remain the same) after the disclosure of such bad news.
5. If security analysts self-select the ICW firms they cover following the disclosure of firm level ICW depending on the corrective measures taken to fix ICWs.

The remainder of the paper is organized as follows: The following section reviews the relevant literature to put the research questions in context and explain the logic behind the development of the research questions to be forwarded. The final section formally presents the research questions.

II. LITERATURE REVIEW

Researches on security analyst activity constitute one of the major streams of research in finance and accounting. According to Ramnath et al. (2008), more than 250 studies on analyst activity have been published in only the nine major research journals since 1992. Similarly, the number of studies dealing with Internal Control Weakness has continued to grow both in quantity and quality since the enactment of SOX 2002 and several dozens of academic papers this issue are published in research journals. This section deals with literature on these two topics that I intend to relate in this project. However, as it is impossible to provide an extensive review of papers on both ICWs and Analysts Recommendations in this term paper, the review will be limited to the specific topics related the scope of this study.

2. 1. Internal Control Weaknesses (ICWs)

The Sarbanes Oxley Act of 2002 was enacted by the US congress to restore the investors' confidence and over all confidence in the capital market after a serious of corporate scandals severely damaged large companies financially and ruined their reputations in the early 21st century. Sections 302 and 404 of the SOX 2002 are specific provisions related to internal controls which require public firms to maintain and continuously assess the effectiveness of the Internal Control Systems.

SOX 302 (effective since August 2002), requires all the executives of SEC registrants to personally certify that they have evaluated the effectiveness of their internal controls and have notified their Audit Committee and independent auditors of any deficiencies. Similarly, section 404 of SOX (effective since November 2004) also requires an annual reporting which includes an evaluation of internal controls for financial reporting. The independent auditors must also certify to management's assertion of the effectiveness of its internal controls.

However, these two sections are also two of the most controversial provisions of the Act. On the one hand, many firms believe that the Internal Control problems are not consequential; and their benefit is too small to justify the high costs of compliance. (e.g., American Bankers Association, 2005; Microsoft, 2005). On the other hand, regulators and concerned professional units claim that the internal control requirements of SOX will improve the quality, reliability and assurance of financial reports by reducing information collection and interpretation costs which in turn will reduce cost of capital (e.g. U.S. House of Representatives 2005; Donaldson 2005b, COSO 2009a). Moreover, the Committee of Sponsoring Organizations of the Tread way Commission asserts that effective internal control monitoring should enhance the efficiency of internal control processes, and, in turn, the assurance over such processes. Rating agencies also emphasize that internal control weaknesses are one of the important considerations in the evaluation process and investors should be rewarded with extra risk premium for their investment at ICW firms (Moody's Investor Service 2004; Fitch Ratings 2005). Therefore, given their crucial intermediary role between firms and investors, ICWs could be of considerable interest to the security analysts.

2.1.1 Causes and Consequences of Internal Control Weaknesses

Internal controls over financial reporting are designed to assure reliability of accounting information, thereby providing external users with financial statements of potentially higher quality. Reported material weaknesses in internal controls encompass a wide variety of issues.

ICW can either be related to specific accounting issues (e.g. revenue recognition or inventory accounting) or firm level control issues (e.g. lack of expertise or trained personnel or “tone at the top”). According to Ge and McVay (2005), majority of ICWs disclosed pursuant to Section 302 of SOX are related to problems with specific accounts (e.g., inventory, accounts receivables/payables). Moreover, other ICWs are broader in scope and their effect can go beyond affecting the quality of the financial reports to affect organizational control processes indirectly. Such weaknesses could stem from overall systems or organizational design weakness such as lack of segregation of duties or poor information systems security. ICWs can also stem from lack of expertise or trained personnel. Furthermore, Ge and McVay (2005) noted that most of the firms that reported internal control weakness are plagued with human resource problems. Finally, ICW can arise from the highest levels of the organization, including poor corporate governance structures and the top management’s attitude toward internal controls (“tone at the top”).

The PCAOB (2004) defines a material weakness in internal controls over financial reporting as one or more deficiencies that “results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected.” ICW can significantly increase the likelihood of misstatement in financial statements for at least three reasons. First, ICWs can increase the likelihood of accounting errors. For example, inadequately trained staff increases the likelihood of errors in the interpretation and application of GAAP. Second, as outlined by Ge and McVay (2005), systemic ICWs can increase the scope for managing earnings at various levels in the organization. For example, internal control problems related to contractual agreements with customers and the monitoring of such contracts can make it easier for managers to manipulate earnings through recognition of revenue. Finally, material ICWs can also increase the propensity for financial fraud. For example, inadequate or improper segregation of duties can create opportunities for employee fraud. Accordingly, ICWs can increase accounting risk and therefore have the potential to impair accounting quality.

2.1.2. Theoretical Framework and Market Interpretations of IWCs

Drawing on the accounting and finance literature, Ogneva (2007) argued that there are at least two fundamental reasons to expect higher cost of equity for ICW firms. First, ICWs can result in poor accounting quality, thereby increasing information risk. Information risk has been both analytically (e.g., Easley and O’Hara 2004; Lambert et al. 2007) and empirically (Francis et al. 2004, 2005) linked to higher cost of equity. Second, ICW may reflect poor management controls in general, which could increase business risk and the cost of equity to the extent this risk is systematic.

Easley and O’Hara (2004) and Lambert et al. (2007) also developed analytical framework that hypothesize that information risk has a non-diversifiable component that is priced by the market. According to Easley and O’Hara (2004), information quality represents a unique risk factor arising from information asymmetry and uninformed investors will demand higher expected return for securities with greater information asymmetry to protect themselves from their information disadvantage relative to the informed ones. And poor (public) information quality increases cost of capital because it exacerbates information asymmetry. Similarly, Lambert et al. (2007) proposed that information quality can affect cost of capital both directly and indirectly. The direct effect arises because superior information quality reduces a firm’s beta by lowering conditional covariance of the firm’s cash flows with the market. The indirect effect occurs because poor information quality can affect the firm’s real decisions by increasing agency problems. Empirical support for the Easley and O’Hara’s (2004) model come from the work (Francis et al. 2004) to show the existence of an inverse relationship between earnings quality and implied cost of equity.

Moreover, a number of studies argue that weak internal controls over financial reporting can also stem from general management control deficiencies, including inadequate controls over business processes and poor corporate governance structures (e.g. Ge and McVay, 2005; Ogneva et al., 2007). Such effect is expected to be especially strong when internal control weaknesses over financial reporting are caused by systemic problems such as top management’s philosophy toward internal controls (“tone at the top”). Poor management controls may lead to excessive risk taking by managers (e.g., investing in highly risky projects), especially during periods of poor performance. Increased risk taking can increase cash flow volatility, which will be priced to the extent it is systematic. Excessive risk taking can also increase the probability of business failure, which may be priced by the stock market (Fama and French 1995).

Using a conditional logit analyses, Zhang et al. (2007) found that firms are more likely to be identified with an internal control weakness, if their audit committees have less accounting financial expertise and non-accounting financial expertise. In a parallel study, Chan et al (2007) also documented that firms reporting

material internal control weaknesses under section 404 have higher level of earnings management manifested in a form of higher positive and absolute discretionary than for other firms. Similarly, using a short-window design, Beneish et al. (2008) find that Section 302 disclosures are associated with negative announcement abnormal returns, and that firms experience an abnormal increase in equity cost of capital.

Experimental evidence on the effect of ICWs comes from the recent works of Jacob et al (2010). Their laboratory experiments and survey on nonprofessional investors and directors showed that investors adjust their investment risk assessments in response to disclosure of ICWs. Moreover, they concluded that the perception of the investment risk associated with the levels of investor trust in management.

However, firms reporting ICWs (both under Section 404 and under the related Section 302) are relatively more distressed and have lower market values, greater complexity of operations, higher incidence of organizational change and greater accounting measurement risk (e.g. Ge and McVay, 2005; Ashbaugh-Skaife et al. ; 2009, Doyle et al. ,2007a), As a result, Ogneva et al. (2007) argued that higher cost of equity associated with ICWs could be attributable to these primitive firm characteristics rather than to ICWs per se. In an attempt to substantiate this argument, Ogneva et al. (2007) examined the association between cost of equity and ICWs for firms that filed first-time Section 404 reports with the SEC. Their analysis showed a higher implied cost of equity for ICWs firms than for a control sample of firms that disclosed no ICW. Moreover, they also found that analysts' forecasts for ICWs firms are more optimistic than for control firms. However, the higher cost of equity associated with ICWs disappears after controlling for primitive firm characteristics and for analyst forecast bias. Consequently, they concluded that, on average, ICWs are not directly associated with higher cost of equity. Nevertheless, Subramanyam et al. (2007) did not rule out the indirect effect of ICWs on the cost of equity.

Recognizing importance of the issue and as well as to meet the regulatory, a number of firms make a considerable investment aimed at ensuring effective internal control weakness. Ashbaugh - skaife et al. (2008) assessed how changes in internal control quality affect firm risk and cost of equity using non-audited pre-SOX 404 disclosures and SOX 404 audit opinions. After controlling for other risk factors, they find that firms with ICWs have significantly higher idiosyncratic risk, systematic risk, and cost of equity. Particularly, they document that auditor confirmed changes in internal control effectiveness (including remediation of previously disclosed internal control deficiencies) are followed by significant changes in the cost of equity that range from 50 to 150 basis points. As a result, they concluded that disclosure of ICWs affects investors' risk assessments and firms' cost of equity.

Masli et al. (2010) is another empirical study that analyzed the potential benefits that firms can realize by implementing effective internal control systems. Their study revealed the implementation of internal control monitoring technology in response to the internal control requirements of the Sarbanes-Oxley Act can increase both internal and external assurances in a form of lower likelihood of material weaknesses report, smaller increases in audit fees, and smaller increases in audit delays during the post-SOX time period.

In a related study, Misnuf et al. (2011) found that SEC registrants that remediate previously disclosed material weaknesses in internal control have lower audit fees when compared to firms that continue to report material weaknesses in internal control. However, the remediating firms continue to pay, in the year of remediation as well as one and two years subsequent to remediation, a significant audit fee premium compared to firms that have clean Section 404 reports in each of the first four years. In general, their result suggests that audit fees are "sticky" for firms that have material ICWs over financial reporting.

To summarize, proponents of Section 302 and 404 of SOX 2002 claim that effective internal control system reduces accounting risk through improved accounting quality and this improved accounting quality (or reduced accounting risk) will reduce cost-of-equity capital.

Prior researches have shown that there are at least two reasons to expect higher cost of equity for ICW firms. First, ICWs can result in poor accounting quality, thereby increasing information risk. Second, ICWs may be symptom for poor management controls in general, which could increase business risk and the cost of equity to the extent this risk is systematic. Therefore, in addition its direct effect on the cost of equity through quality of accounting information, ICWs can indirectly be associated with higher cost of equity as it can be a symptom for generally poor corporate controls and increased business risk.

However, as the disclosure of ICWs is perceived as bad news, managers may not have the incentive to notify their Audit Committee and independent auditors about such weaknesses as mandated by section 302 of SOX 2002 since the disclosure affects the value of firm and their reputation adversely.

How do analysts deal with this issue? As sophisticated processors of information, are they able to detect the ICWs and before its public disclosure and adjust their stock recommendations and coverage decisions accordingly? The following section provides a background literature on the role of analysts and their behavior.

2.2. Security Analysts

2.2.1. The Activity of Security Analysts

In broad terms, security analysts can be grouped into two categories: buy-side analysts and sell-side analysts. Although, all security analysts share common fundamental activity, their research differs in substantially vary in a number of ways including the scale and scope of their coverage, the sources of information on which their research is based, the private versus public dissemination of reports, their target audiences and the ways that they are compensated Groysberg et al. (2008).

Their fundamental difference in the activities of the analysts lies in the differences between the employers of each analyst category. Buy-side analysts often work for money management firms or institutional investors, whereas sell-side analysts are usually employed at broker/dealer firms that serve individual and institutional investors (Schipper, 1991). As a result, buy-side research is often private and only available to the portfolio managers of buy-side firms. As a result, recommendations and the reports issued by the sell-side analysts is widely and easily available to institutional and retail clients. Consequently, this study will focus on sell-side analysts.

Security analysts collect process and disseminate information to current and prospective investors. Ramnath et al. (2008) identify important sources of information used by analysts in their activity: information from the SEC filings, earnings information, industry information, macroeconomic information, management communications and other information. After collecting and processing this information, analysts disseminate their end product in a form of research report that includes earnings forecasts, target price forecasts, investment recommendations and conceptual arguments supporting the forecasts and recommendations.

Analyst activity has increased dramatically over the years. Hong et al. (2000) document that sell-side analyst coverage of U.S. traded firms rose from less than 30% in 1978 to 63% in 1996. Nowadays, thousands of analysts work for hundreds of sell-side investment firms and frequently produce evaluation and recommendation reports on securities of public firms. Given their crucial role as intermediaries between firms and investors, analysts are usually seen as sophisticated agents, who tend to follow a portfolio of firms in a given industry or economic sector (Schipper, 1991).

2.3.1.2. The Significance and Economic Values of Security Analysts

The importance of security analyst can be justified in a number of instances. Firstly, several studies have documented that analyst coverage and monitoring activity can reduce the agency costs of public firms designed with the separation of ownership and control (e.g., Jensen and Meckling, 1976; Doukas et al, 2000). In the words of Doukas et al. (2000) “firms with weak analyst coverage are more likely to be plagued by information asymmetries and engage in non-value maximizing corporate activities”.

Secondly, analysts are vital source of information to investors and researchers as analysts are viewed as surrogates for market expectations. As Beaver (2002) noted, analyst activity seems to be particularly important for the average investor as the average investor may lack the time, skill, or resources to analyze and interpret financial statements. Michaely and Womack (2005) argued noted that analysts’ forecasts and analysts’ recommendations are two key sources of information to the investment community that aim at anticipating changes in company fundamentals as well as reacting to news or company reports. Furthermore, Elton et al. (1986) noted that analysts’ recommendations provide a clear and unequivocal course of action to investors.

Security analysts are seen as sophisticated processors of financial information given their privileged position as intermediaries between firms and investors. Empirical findings show that, on average, markets react favorably (unfavorably) to recommendation upgrades (downgrades) (e.g., Elton et al., 1986; Barber et al., 2006; Womack, 1996). In particular, these studies show that positive (negative) changes in analysts’ recommendations are associated with positive (negative) abnormal returns. Womack (1996) finds strong evidence that stock prices are significantly influenced by analysts’ recommendation changes. The later findings of Barber et al. (2001) also substantiate these claims by showing the potential to earn higher returns by buying the most highly recommended stocks and short selling the least favorably recommended stocks.

In a related research, Ivkovic and Jegadeesh (2004) document that analysts have the ability to gather a wide variety of information that are not readily available to investors; and they can process and interpret this information more efficiently. Moreover, they concluded that the value of analyst comes from their individual effort to collect information than their reliance and use of public information.

2.3.3. Analyst Optimism and Self Selection Bias

Despite the studies documenting the economic value of analyst information and their efficiency in processing of the information, considerable number of studies suggests that analysts are biased. Such biases are often manifested in a form of optimistic recommendations and self-selection of firms to be covered. Several studies claim that security analyst’s recommendations are optimistic. Their optimism is reflected in the

permanently and systematically higher number of “buy” recommendations compared to the number of “sell” recommendations (e.g., Womack, 1996; Ho and Harris, 1998; Barber et al.; 2006).

Specifically, Womack (1996) finds that the “buy”/ “sell” ratio is approximately 7/1 in the U.S. whereas Ho and Harris (1998) claim that this ratio varies between 4.1/1 and 5.2/1 depending on the rating system used. In addition, Barber et al. (2006) mention that “buy” recommendations peaked at 74% of the total at the end of the second quarter of 2000.

Analyst self-selection bias is related to decision of analysts to report on stocks about which they have favorable views and to avoid reporting on stocks about which they have unfavorable views. As a result, analysts will spend less effort in the coverage of underperforming stocks.

In his analytical model, Hayes (1998) showed that analysts have higher incentives for gathering information about firms with better stock performance. Empirical support for Hayes (1998) comes from the works of McNichols and O’Brien (1997) which documented that analysts tend to start covering firms they view favorably and stop covering firms they view unfavorably. In particular, McNichols and O’Brien (1997) found that stocks receiving initial coverage tend to obtain more “buy” recommendations than those already covered whereas stocks dropped by analysts tend to have lower ratings than those whose coverage continues.

In general, on the one hand, there is evidence that analyst coverage has a positive impact on the efficiency with which the market processes information (e.g., Zhang, 2006). On the other hand, documented studies show that security analysts are prone to behavioral biases in a similar fashion to non-sophisticated agents (e.g., Easterwood and Nutt, 1999; Michaely and Womack, 1999).

However, the marginal contributions of security analysts may be significant in case of bad news such as ICWs. Actually, managers may be reluctant to notify their Audit Committee and independent auditors about the ICWs as mandated by the internal control weakness provisions of SOX as early as possible if they have the alternative to avoid it as it affects the value of firm and their reputation adversely. As Hong et al. (2000) stated, “if the firm is sitting on bad news, its managers will have much less incentive to bring investors up to date quickly”. Intuitively, it makes sense to consider that managers have less incentive to disclose information that affects the firms’ value negatively. Givoly and Palmon (1982) and Chambers and Penman (1984) had also documented similar finding that firms delay earnings announcements in situation where they report lower-than-expected earnings.

However, there could be instances where managers will be motivated to disclose bad news a head of good news. Skinner (1994) argued that litigation risk and reputations as the two important reasons that motivate managers to disclose bad news as soon as possible. According to Skinner (1994), litigation and reputations can force the manager to voluntarily disclose the bad news as soon as possible by introducing an asymmetric loss function. Nevertheless, Kothari (2009) recently documented that managers can withhold bad news up to a certain threshold. Yet, preventions are better than cures as the legal mechanisms may fully restore the damage suffered. Therefore, “do analysts’ recommendations provide investor with value-relevant information in the case of ICWs in a timely manner?” will be the natural question that follows.

2.2.4. How Do Analysts Deal with Disclosure of Firm Level Bad News?

There are few studies directed at the behavior of analysts in case of firm level bad news. In one of the studies addressing this issue, Griffin (2003) investigates analyst behavior for companies with corrective restatements or disclosures that lead to allegation of securities fraud. His findings show that analysts have low interest in following these companies and the number of analysts covering such firms decreases slowly over several months following a corrective disclosure. Their result also suggested that analysts do not anticipate the corrective restatements but react to such an event by making a strong forecast revision to reduce the forecast errors in the event-month.

However, there are some studies showing that analysts are able to detect some types of accounting fraud before its public disclosure (Dechow et al., 1996; Cotter and Young, 2007). Dechow et al. (1996) find that analysts anticipate the public announcement of an accounting fraud by stopping analyst coverage prior to the disclosure of such an event whereas Cotter and Young (2007) show that analysts use different signals to inform investors about different type of fraud. In some instances, analysts cease coverage of firms associated with accounting fraud whereas in other instances analysts downgrade stock recommendations for such firms.

Clarke et al. (2006) also compared analysts’ recommendations for a sample of 384 bankrupt firms with similar non-bankrupt firms from 1995 to 2001. In this study, they document that analysts are more aggressive in downgrading their stock recommendations for bankrupt firms than for matched firms as the bankruptcy date approaches, showing that analysts can detect the financial downfall of firms a head of the public.

In a related study, Conrad et al. (2006) explored how analysts’ recommendations respond to major news using large price changes as a proxy for public information shocks. They find that analysts are more likely to downgrade a stock following an extreme price decrease than upgrade a stock following an extreme price increase. This suggests that analysts believe they have private information and that recommendation changes are

“sticky” in one direction, with analysts reluctant to downgrade. Similarly, McNichols et al. (2005) find that analysts take longer to downgrade a stock compared to the upgrade decision and the reluctance to downgrade is more severe in the case of affiliated analysts.

2.4. Major Findings from the Literature Review

The literature review highlights the following important points related to this study:

1. ICWs can induce higher cost of equity. First, ICWs can result in poor accounting quality, thereby increasing information risk. Second, ICWs could be an indicator of poor management controls in general, which could increase business risk and the cost of equity to the extent this risk is systematic.
2. ICWs also incur higher audit fee, longer audit delays. However, those firms that implemented effective internal control mechanism in response to the SOX requirement and remediate the previously disclosed weaknesses have lower likelihood of material ICWs report, smaller increases in audit fees, and smaller increases in audit delays. However, the effect of the previously disclosed ICWs continues to linger for the subsequent years even after remediation.
3. Firms with ICWs have significantly higher idiosyncratic risk, systematic risk, and cost of equity. As a result, they concluded that disclosure of ICWs affects investors’ risk assessments and firm’s cost of equity. Investors also perceive the disclosure of material ICWs as bad news and the stock market responds negatively to these events.
4. Managers are also reluctant to notify their Audit Committee and independent auditors about such weakness as mandated by SOX 2002 since it affects the value of firm and their reputation adversely. Regulators, rating agencies, investors and concerned professional units believe that the effective internal control systems major determinant of quality and reliability of financial report as well as cost of capital. Therefore, given their crucial intermediary role between firms and investors, ICWs could be of considerable interest to the security analysts.
5. Analysts’ recommendations have impact in the market. Generally, the market reacts favorably (unfavorably) to recommendation upgrades (downgrades). Moreover, analyst coverage reduces information uncertainty and asymmetry; and has a positive impact on the speed with which the market assimilates new information in stock prices.
6. Analysts are not unbiased. Their bias is reflected in their optimistic recommendation and self-selective coverage of firms. Generally, the number of “buy” recommendations is persistently higher than the number of “sell” recommendations. Moreover, analysts are inclined to report on firms about which their expectations are favorable while avoiding reporting on those firms that their expectations are unfavorable.
7. There is mixed evidence on the ability of analysts to anticipate bad news events, and how they react to the disclosure of such news. Specifically, analysts use two signals to communicate negative information: downgrade of stock recommendations and coverage cessation.

III. HYPOTHESIS AND RESEARCH QUESTION DEVELOPMENT

The literature review has identified some important research gaps that are considered to develop research propositions. In general, the paper tries to relate two areas of the literature that have been developing separately while being ignored jointly: the ICWs and analyst behavior.

A couple of reasons make this research question worthy of its undertaking. Firstly, Schipper (1991) highlights the importance of investigating how analysts behave in extreme situations since there is evidence that optimism is more pronounced in forecasts preceded by share price declines or earnings declines. Secondly, investors seem particularly slow in assimilating negative information (e.g., Womack, 1996; Dichev and Piotroski, 2001), a phenomenon that can also occur with the disclosure of firm level ICWs. But, as sophisticated processors of information, little is known about how and how fast react to this information? Therefore, the following research questions or propositions are forwarded.

3.1. Research Question 1 (RQ 1)

Prior researches provide mixed evidence on the ability of analysts to anticipate bad news events. Particularly, Griffin (2003) argues that analysts are not able to anticipate firms’ corrective restatements whereas Clarke et al. (2006) show that analysts respond to the financial deterioration of bankrupt firms before the event announcement. The comparison between stock recommendations for ICW and similar non-ICW firms before the disclosure of ICW provides the opportunity to investigate the ability of analysts to anticipate bad news events.

As a result, investigating whether security analysts anticipate the ICW report by downgrade their stock recommendations more aggressively for ICW firms in comparison to similar non-ICW firms within the pre-ICW period can shade a light on analysts’ ability to anticipate such bad news. As a result, the following research question is formulated:

- **RQ 1:** In the pre-event period, is there any difference in analyst mean and median recommendations and percentage of “buy” recommendations between firms that disclose ICWs and similar firms that do not disclose ICWs?

3.2. Research Question 2 (RQ 2)

It has also been documented in the literature that analysts are reluctant to issue unfavorable recommendations (e.g., McNichols and O’Brien, 1997; Conrad et al., 2006). Moreover, studies have shown that analysts are less interested in following firms associated with bad news (e.g., Griffin, 2003). Particularly, investigating how analysts react to the disclosure of ICW by comparing by comparing their stock recommendations for ICWs firms between the pre- and post-ICW period. Consequently, the following proposition is forwarded.

- **RQ 2:** Is there any difference in analyst mean and median recommendation and percentage of buy recommendations for firms that disclosed ICW between event-quarter -1 and event-quarter +1.

3.3. Research Question 3 (RQ 3)

Prior studies show that security analysts are self-selective (e.g., McNichols and O’Brien, 1997). In other words, analysts tend to stop (start) the coverage of companies about which they have unfavorable (favorable) views. To investigate whether security analysts self-select the ICWs firms they cover following the disclosure of ICWs depending on the remedial measures taken to fix the internal control weakness in their post-ICW period, the following research question is forwarded.

- **RQ 3:** Is there any difference in the proportion of firms covered between the portfolio ICWs firms that have remedied the problem to earn clean opinion relative to those that did not after the disclosure of ICWs.

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