

THE IMPACT OF MANAGERIAL OVERCONFIDENCE AND ABILITY ON  
AUDITOR GOING-CONCERN DECISIONS AND AUDITOR TERMINATION

by

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A Dissertation Submitted to the Faculty of the

DEPARTMENT OF ACCOUNTING

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

2016

UNIVERSITY OF ARIZONA  
GRADUATE COLLEGE

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## ACKNOWLEDGEMENT

I would like to thank my dissertation committee, Dan Dhaliwal (chair), Shyam Sunder, Jayanthi Sunder, and Paul Michas for their guidance. This paper has also benefited from helpful comments by Melissa Lewis-Western, Lin Cheng, Andrew Finley, Pablo Machado, Phillip Lamoreaux, participants of the University of Arizona Tax Seminar, University of Arizona Summer Brownbag Series, participants of Doctoral Student Faculty Interchange at 2015 West Regional Meeting, and workshop participants at University of Arizona, Arizona State University, George Mason University, the State University of New York at Binghamton, and the State University of New York at Buffalo.

I am also grateful to all my friends and colleagues in Accounting Department, Eller College of Management, and University of Arizona for their support and friendship.

Lastly, I dedicate my dissertation to my parents and rest of the family. None of this would have been possible without their love and sacrifice.

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## ABSTRACT

I examine the influence of managerial overconfidence and ability on 1) auditors' decision to issue a going concern opinion and 2) auditor dismissal rates after issuing a going concern opinion. When there is substantial doubt about the entity's ability to continue as a going concern for a reasonable period of time, auditing standards prescribe that auditors obtain and evaluate information about client management's remedy plans. I find that clients with overconfident managers are more likely to receive a going concern opinion. I also show that managerial ability mitigates the positive association between managerial overconfidence and the likelihood of a going concern opinion. Additionally, I examine how these managerial attributes influence auditor retention decisions, and find that auditors are more likely to be dismissed after issuance of a going concern opinion when the client company has overconfident management. Finally, I find that the association between managerial overconfidence and auditor dismissal is stronger when management is more powerful than the company's audit committee.

## 1. Introduction

Auditing Standards require auditors to obtain an understanding of client management personnel as part of audit risk assessment procedures.<sup>1</sup> ‘Tone at the top’, set by the client management, is an important factor that can affect audit risk (Gartland, 2015). However, despite the role of the client management in the audit process, there is relatively scant literature on whether auditors take into consideration characteristics of client managers in their audit decisions or how managerial characteristics affect auditor-client relationships. The purpose of this study is to examine how certain managerial attributes can affect audit outcomes and the auditor-client relationship. Specifically, I examine how managerial overconfidence and ability affect the auditors’ decision to issue a going-concern modification. I also examine if these managerial attributes influence the likelihood that an auditor is dismissed after issuing a going concern opinion. Lastly, I investigate if internal power dynamics between management and the company’s audit committee strengthen (or weaken) the aforementioned associations between managerial attributes and auditors.

Auditors spend a considerable amount of time with their clients and frequently meet with senior management (i.e. Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”)). Through these meetings, the auditor is able to assess the quality of management, including managerial confidence and ability. As client management is an important source of information for auditors, auditors are likely to take into consideration management’s competence when

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<sup>1</sup> See Auditing Standard No. 12, “Identifying and Assessing Risks of Material Misstatement”, paragraph 10 ([http://pcaobus.org/Standards/Auditing/Pages/Auditing\\_Standard\\_12.aspx](http://pcaobus.org/Standards/Auditing/Pages/Auditing_Standard_12.aspx))

evaluating the reliability of evidence provided by management (Anderson, Koonce, and Merchant 1994; Hirst 1994). Further, different experiences with various clients and managers enable auditors to make proper assessments of the quality of client management. Therefore, I expect that auditors incorporate these attributes of client management in their audit opinions.

Extant research documents how management overconfidence influences corporate decisions. Overconfident managers over-trust their own ability to control events, and therefore systematically overestimate (underestimate) the probability of favorable (negative) events on the firm performance (Ahmed and Duellman 2013)<sup>2</sup>. Prior studies find that managerial overconfidence leads to more aggressive investing and financing decisions (e.g. Malmendier and Tate, 2005, 2008; Ben-David, Graham and Harvey 2013). Recent research has extended the managerial overconfidence literature by investigating whether external parties contracting with the company recognize the effect of managerial overconfidence on corporate decisions. For example, Sunder, Sunder, and Tan (2013), a concurrent working paper, document that investors incorporate managerial overconfidence in their decisions when they contract with the company. The study finds that companies with overconfident CEOs face stricter debt covenants compared to other companies with similar firm characteristics.

Extending this stream of research, I examine whether managerial overconfidence affects audit decisions. During an audit, the auditor is required to identify conditions or events that lead to a substantial doubt about a client firm's ability to continue as a going concern. When this occurs,

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<sup>2</sup> While some studies use 'overconfidence' and 'optimism' interchangeably (e.g. Campbell, Gallmeyer, Johnson, Rutherford, and Stanley 2011), overconfidence has several manifestations that include optimism. I further discuss the difference between overconfidence and optimism in the next section.

the auditing standards direct that the auditor obtain management's plans to mitigate such concerns, and assess the probability that the plans will succeed.<sup>3</sup> Overconfident managers tend to underestimate the uncertainty of outcomes (Ben-David et al. 2013) and have an overly optimistic outlook on the future (Hribar and Yang 2015). Thus, it is likely that overconfident managers present riskier plans with more uncertain outcomes or plans that are overly optimistic and therefore insufficient to remedy the crisis. Further, independently of riskiness and over-optimism of the plans, the auditor may view managerial overconfidence itself as one factor that increases uncertainty in management's plans to overcome substantial doubt about the firms' ability to continue as a going concern.

On the other hand, it is also possible that there is a negative or no meaningful relationship between managerial overconfidence and the likelihood of going concern opinions. First, if firm characteristics already reflect aggressive decisions made by overconfident management that lead to higher firm risk, there may be no incremental effect of managerial overconfidence on the likelihood of a going concern opinion. Second, research indicates that an overconfident person tends to look highly competent to others (Anderson, Brion, Moore, and Kennedy 2012), and that auditors' judgments can anchor on the initial client position (McDaniel and Kinney 1995). Therefore, auditors may be convinced that managerial overconfidence is indicative of managerial competence and conclude that the management's plans are sufficient to overcome the substantial doubt about the client firm's ability to continue as a going concern for a reasonable period of time.<sup>4</sup>

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<sup>3</sup> See AU Section 341, "The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern" (<http://pcaobus.org/Standards/Auditing/Pages/AU341.aspx>)

<sup>4</sup> AU Section 341 indicates that a reasonable period of time is "not to exceed one year beyond the date of the

Using a sample of financially distressed companies that reported negative net income or negative operating cash flows, and an option-based measure of managerial overconfidence (Malmendier and Tate 2005, 2008; Ahmed and Duellman 2013) I examine if managerial overconfidence affects the companies' likelihood of receiving a going concern opinion. My empirical results show that companies with overconfident management are 2.5 times more likely to receive a going concern opinion compared to other financially distressed companies. This result suggests that managerial attributes, as well as the client's financial conditions, affect audit opinions on the likelihood of the company continuing as a going concern.

However, managers who seem overconfident do not always possess the same level of abilities. Benoît and Dubra (2009) discuss how individuals who are seemingly overconfident can be separated into two groups. The first are rational Bayesian updaters who, using the information available to them, draw a correct conclusion about their abilities. The second are those who have an overly optimistic bias when assessing their abilities. External auditors spend substantial time evaluating their clients and develop a close working relationship with senior management. In addition, as auditors are sensitive to the reliability of audit evidence and client management is one of the major sources of evidence, auditors take a manager's competence into consideration when evaluating information provided by the client (Hirst 1994). Krishnan and Wang (2014) document that managerial ability is negatively associated with the likelihood of a going concern report, indicating that auditors incorporate managerial ability in their audit decisions. Based on these studies, I hypothesize that auditors are in a position that enables them to distinguish between the

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financial statements being audited.” (AU 341.02)

high-ability and overconfident (“HAOC”) managers, and low-ability and overconfident (“LAOC”) managers.<sup>5</sup> Using managerial ability scores created by Demerjian, Lev, and McVay (2012), I differentiate high-performing managers, in terms of managerial ability to contribute to firm performance, versus low-performing managers. My results suggest that, while the presence of overconfident management is positively associated with a higher likelihood of a going concern report, high managerial ability mitigates the association. That is, while managerial overconfidence has a significant effect on the likelihood of a going concern report when a company has low-ability management, the effect is not significant for high-ability management.

I next investigate whether managerial attributes affect the likelihood that a company terminates the relationship with its auditor. Schwartz and Menon (1985) document that failing firms are more likely to change their auditors for numerous reasons, including increasing disputes about reporting decisions. Further, research documents that companies that have received a modified opinion, including going-concern opinions, are more likely to switch auditors (Citron and Taffler 1992; Carcello and Neal 2003). I expect that conflicts are especially severe between overconfident management and auditors as overconfident management tend to be more optimistic and report less conservatively (Ahmed and Duellman, 2013). Therefore, I predict that an auditor is more likely to be dismissed after obtaining a going concern opinion in the presence of overconfident management. In addition, I expect that auditors have fewer conflicts with high-

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<sup>5</sup> Benoît and Dubra (2009) and Merkel and Weber (2011), a theoretical and experimental study, respectively, classify overconfidence into ‘true’ overconfidence and ‘apparent’ overconfidence. While my paper is motivated by these studies, the empirical design I use does not perfectly distinguish true overconfidence from apparent overconfidence. Therefore, I do not adopt the terms used by prior studies and instead use HAOC and LAOC.

ability overconfident managers compared to low-ability overconfident managers. As discussed above, a highly capable individual who is overconfident is less optimistically biased than an overconfident individual who is not capable. Therefore, I predict that managerial ability mitigates the association between managerial overconfidence and auditor termination. Consistent with prediction, I find that auditors are more likely to be dismissed by overconfident management subsequent to issuing a going concern opinion compared to non-overconfident management who received a going concern opinion. Additionally, partitioning the sample into subsets of high-ability and low-ability management, I find that the positive association exists only among the low-ability group.

Finally, I examine whether the relative power dynamic between management and an audit committee can influence the effect of managerial attributes on auditor termination decisions. Auditors are less likely to be influenced by management in the presence of a strong audit committee. For example, Cohen, Gaynor, Krishnamoorthy, and Wright (2011) conduct experiments with audit partners and document that auditors are less likely to waive audit adjustments when the audit committee is not strongly influenced by management. Similarly, Carcello and Neal (2003) find that the association between going concern reports and auditor dismissal is mitigated when there is an effective audit committee in place. I predict that managerial attributes play a larger role in companies where management is more powerful than the audit committee and therefore has more discretion. My results provide evidence that, for relatively powerful management,<sup>6</sup> the

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<sup>6</sup> I measure relative power by comparing the length of tenure between management and the average tenure of the company's audit committee (Beck and Mauldin 2014).

relation between managerial overconfidence and an auditor termination is positive, and managerial ability mitigates the relation. In contrast, this relation is statistically insignificant for weaker management. This suggests that a powerful audit committee is able to act as a buffer between overconfident management and an auditor when a company makes auditor retention decisions.

My study provides three main contribution to the literature. First, I contribute to the audit research by providing evidence on the effect of managerial overconfidence on auditors' judgments and audit-client relationships. While a stream of literature explores how managerial characteristics can influence a company's investment and financial reporting decisions (Bertrand and Schoar 2003; Ge, Matsumoto and Zhang 2011), there is limited evidence on whether external auditors incorporate these characteristics in their audit reports or how these characteristics affect the auditor-client relationships. Due to data limitations, archival literature rarely explores how the audit process affects audit outcomes (DeFond and Zhang 2014) and tends to focus more on the client companies and audit firms than people. However, as an audit consists of a series of interactions between auditors and client management, it is important to examine how management can influence audit. I provide evidence that managerial characteristics can influence the auditors' view on the future performance of the company and also increase conflicts between auditors and client management.

Second, I extend the research on managerial overconfidence. While Malmendier and Tate (2008) have shown that the market reacts negatively to overconfident managers' investment decisions, investors can only evaluate the final decisions made (e.g. M&A announcements) and cannot directly observe the managers. In contrast, auditors can obtain more accurate information

about client management with whom they interact on a daily basis. My results indicate that auditors are able to evaluate both managerial ability and overconfidence and incorporate these attributes in their audit opinions.

Finally, I introduce a more precise measure of overconfidence that also takes into account management's ability level. The option-based measure is the most widely-used measure of managerial overconfidence in finance literature because it reflects risk diversification choices of individual managers. However, it does not distinguish between high-performing and low-performing overconfident management. I use the managerial ability scores devised by Demerjian et al. (2012) to identify two different types of overconfident managers based on their ability relative to their peers. My evidence suggests that only low-ability overconfident management is related to a higher likelihood of going-concern modifications as well as auditor dismissals. This result supports the argument that the overconfidence measure as currently implemented is improved by refining it to distinguish between high-ability and low-ability management.

The remainder of the paper is organized as follows. The next section provides a literature review and hypothesis development. Section 3 describes the research design, sample selection and descriptive statistics, and section 4 presents the main empirical results, and section 5 concludes the paper.

## **2. Background and Hypothesis Development**

### **2.1. Managerial Overconfidence and Corporate Decision Making**

Ben-David et al. (2013) introduce three forms of overconfidence identified in psychology literature: miscalibration, above-average effect, and the illusion of control. The miscalibration indicates overestimating the precision of one's own prediction. The above-average effect is overestimation of one's superiority to their peers, while the illusion of control is overestimation of their ability to control the outcomes of certain events. In accounting and finance literature, the definition of managerial overconfidence is usually a combination of all three forms. The above-average effects and illusion of control lead to over-optimism about future outcomes, and miscalibration results in underestimating uncertainty (Hribar and Yang 2015). Further, while being overconfident is not equivalent to being more risk-tolerant, overconfident managers make less-conservative decisions due to their tendency to overact to positive information (Gervais, Heaton, and Odean 2011).

Numerous studies in finance examine how management overconfidence influences corporate investment decisions. Goel and Thakor (2008) and Gervais et al. (2011) develop analytical models to estimate the impact of CEO overconfidence on a company, and document that companies on average prefer overconfident CEO as it is less costly for a company to motivate a manager to take risky projects. However, as overconfident CEOs overestimate their ability and underinvest in information production, overconfidence that exceeds an optimal point can bring negative impacts to firm performance. Malmendier and Tate (2005, 2008) find that overconfident CEOs are more likely to make acquisitions and tend to overpay for target companies. They also provide evidence that overconfident managers prefer internal funding for investments because they find external funding costly based on the perception that their firm value is understated. Hirshleifer, Low, and Teoh (2012) find that aggressive investment activities of overconfident CEOs can lead

to increased firm value for companies in highly innovative industries, whereas other companies do not seem to benefit from having overconfident managers.

A number of studies investigate the impact of executive overconfidence on financial reporting and disclosure quality. For example, Schrand and Zechman (2012) analyze 49 firms that were subject to U.S. Securities and Exchange Commission's ("SEC") Accounting and Auditing Enforcement Releases ("AAER") for intentionally misstated financial statements, and find that executives of those firms tend to be more overconfident than matched non-AAER firm executives. Ahmed and Duellman (2013) support this finding by providing evidence that overconfident CEOs report earnings less conservatively. Hribar and Yang (2015) show that overconfident managers are more likely to issue an earnings forecast and to issue an overly optimistic forecast. A concurrent working paper by Chen, Lai, Liu, and McVay (2014) document that overconfident managers are less likely to maintain effective internal controls.

To summarize, existing research documents that managerial overconfidence affects a company's investing, financing, and reporting decisions. However, the question remains as to whether this relationship is recognized by the external parties that are affected by these corporate decisions.

## **2.2. Managerial Overconfidence and Reaction of Investors and Other Monitoring bodies**

Malmendier and Tate (2008) document that the stock market reacts more negatively to merger announcements made by companies with an overconfident CEO, while Sunder et al. (2013) show that bondholders demand more covenant restrictions when the company has an overconfident CEO. Further, Hribar, Kim, Wilson, and Yang (2012) document that managerial

overconfidence is associated with lower credit ratings. Taken together, these studies suggest that investors and monitoring bodies view managerial overconfidence as a risk factor incremental to firm risk characteristics.

With regard to auditors, Hribar et al. (2012) show that auditors charge higher audit fees to the companies with overconfident management, indicating that auditors recognize that their audit risk and/or efforts increase in the presence of overconfident management. Focusing on managerial optimism, measured with management earnings forecasts, Feng and Li (2014) find that auditors put a lower weight on management earnings forecasts in their audit decisions when management has historically issued optimistic forecasts. These recent studies provide evidence that auditors take managerial overconfidence into consideration during the risk assessment process, and that auditors are adequately skeptical of management's optimistic outlook on the future. However, it is still unclear if managerial overconfidence is associated with a higher likelihood of a going concern opinion or has a negative impact on auditor-client relationships.

### **2.3. Going Concern Opinions**

Building on these recent studies, I examine whether the auditor's perception of overconfident managers affect going concern report decisions. A going concern report directly represents auditors' view about future firm performance. Thus, the association between managerial overconfidence and the likelihood of a going concern modification shows whether auditors incorporate this managerial attribute, in addition to other firm characteristics, when evaluating the company's ability to continue as a going concern.

Auditing (AU) Section 341.03b, "The Auditor's Consideration of an Entity's Ability to

Continue as a Going Concern”, provides guidance on the auditor’s responsibility as follows:

“If the auditor believes there is substantial doubt about the entity's ability to continue as a going concern for a reasonable period of time, he should (1) obtain information about management's plans that are intended to mitigate the effect of such conditions or events, and (2) assess the likelihood that such plans can be effectively implemented.”

There are two ways that managerial overconfidence can affect an auditor’s decision to issue a going concern opinion. First, managerial overconfidence can affect management’s plans to mitigate the situation. As prior literature documents that overconfident individuals are inherently optimistic about the future and underestimate uncertainty, I assume overconfident managers maintain the overly positive outlook even during the period of financial distress. If management’s plan to remedy the distressed condition reflects their perception, auditors are more likely to conclude management’s plans to overcome the crisis to be inadequate, and decide to issue a going concern opinion. Second, regardless of the plans presented, the presence of overconfident management can affect the auditor’s assessment of the company’s ability to continue as a going concern if the auditor views overconfidence as a factor that increases the client’s business risk. While it is not possible for outsiders to obtain management’s plan and observe how managerial overconfidence manifests itself, I expect overconfidence is associated with a high likelihood of a going concern report either way.

On the other hand, there are a number of reasons why managerial overconfidence may not have a positive effect on the likelihood of going concern opinions. First, as firm characteristics reflect the decisions made by management, it is possible that the impact of personal attributes is

not large enough or is already subsumed in firm characteristics. In addition, an auditor's response to an overconfident manager depends on whether the auditor is susceptible to the overconfident personality or able to detect the individuals' bias and evaluate its influence on firm performance. McDaniel and Kinney (1995) argue that auditors are influenced by the client as auditors' judgments can anchor on the initial client position. Anderson et al. (2012) find that people in general perceive an overconfident person as highly competent. Taken together, it is possible that the presence of overconfident management can influence auditors to conclude that the company can continue as a going concern for a reasonable period of time.

However, following the findings of prior literature that the parties transacting with a company react negatively (or skeptically) to managerial overconfidence (or optimism), I state the first hypothesis in an alternative form.

***H1:*** The presence of overconfident management is *positively* associated with a likelihood of receiving a going concern report

#### **2.4. Managerial Ability**

A number of recent studies on overconfidence (e.g., Benoît and Dubra 2011; Merkle and Weber 2011) suggest that the extant overconfidence literature does not consider the actual ability of individuals. That is, individuals who demonstrate overconfident behaviors can be separated into two groups: (1) confident individuals who are also highly capable and (2) individuals who falsely believe they are highly capable but actually fall into the low-ability group. While both groups are 'seemingly' overconfident, we can conclude that only the latter group has a misplaced belief about their ability. As overconfidence represents a mismatch between perception and reality, the former

group is not ‘truly’ overconfident (Merkle and Weber 2011).

If a seemingly overconfident manager is also highly capable, and therefore there is less difference between their perceived ability and actual ability, I expect this manager is less likely to be overly optimistic about the future or underestimate its inherent uncertainty. As discussed earlier, there are two ways in which managerial overconfidence can affect auditors’ going concern report decisions: (1) management does not provide adequate plans to overcome the crisis, or (2) auditors find overconfident management less credible independently of the plan. With regard to (1), I expect that overconfident but highly capable management is likely to offer more credible plans to mitigate the negative condition compared to managers who are overconfident but less capable. Further, related to (2) above, I expect that auditors can distinguish between a high-ability manager and a low-ability manager, but both of whom exhibit overconfidence. Considering the close relationship between auditors and client management, auditors possess opportunities to observe managers’ actions and evaluate their ability. In addition, auditors have incentives to evaluate managers’ ability as client management is one of the main sources of audit evidence (Hirst 1994), and auditors tend to rely on evidence more when the individual providing the information is highly competent (Anderson et al. 1994). A recent study, Krishnan and Wang (2015), finds that the likelihood of a going concern opinion decreases with managerial ability, indicating that an auditor considers the presence of a highly capable management team when assessing a company’s ability to continue as a going concern for a reasonable time. However, while Krishnan and Wang (2015) focus on the role of managerial ability that mitigates uncertainty of firm performance, I use managerial ability to develop a more precise measure of managerial overconfidence.

Based on these arguments, I predict that managerial ability can mitigate the association between managerial overconfidence and the likelihood of a going concern opinion as high-ability overconfident management is likely to grasp the seriousness of the situation than low-ability overconfident management, and auditors are likely able to differentiate these two groups of overconfident managers.

*H2: Managerial ability mitigates the association between managerial overconfidence and issuance of going concern reports*

## **2.5. Auditor Termination**

Prior research indicates that a company is more likely to terminate their relationship with an auditor when the auditor does not support the company's accounting treatments (DeFond and Subramanyam 1998) or issues an unfavorable audit opinion (Lennox 2000). Schwartz and Menon (1985) focus on failing firms and find that these companies are more likely to switch their auditors than healthier companies. One of the reasons for this association is an increase of disputes about financial reporting and audit qualifications among management of the failing firms and their auditors. Citron and Taffler (1992), and Carcello and Neal (2003) specifically examine companies to which their auditors issued going concern reports, and find that the companies are more likely to dismiss their auditors subsequent to receiving a going concern opinion. An auditor switch after a going concern opinion implies there were conflicts between management and the auditor in regard to the audit opinion.

As discussed above, overconfident managers tend to have an optimistic bias about the future. Chen, Crossland, and Luo (2014) observe that overconfident managers are less likely to

change their optimistic earnings forecast behaviors subsequent to facing forecast errors attributable to their optimism. It indicates that overconfident managers tend to maintain their optimistic bias even after receiving corrective feedback. Therefore, I posit that conflicts between management and auditors are heightened after issuance of a going concern opinion when there is overconfident management in place, and therefore the auditor is more likely to be dismissed by the client. Further, consistent with the discussion that high-ability overconfident management is less optimistically biased than low-ability overconfident management, I predict that managerial ability can mitigate the relationship between managerial overconfidence and the likelihood of an auditor termination.

*H3A:* The presence of overconfident client management is *positively* associated with the likelihood of an auditor termination in the year after issuing a going concern opinion.

*H3B:* The positive association between managerial overconfidence and the likelihood of an auditor termination in the year after issuing a going concern opinion is *mitigated* by managerial ability.

## **2.6. Audit Committee versus Management Power**

Carcello and Neal (2003) find that auditors are less likely to be dismissed after issuing a going concern opinion when the company has a more independent audit committee or an audit committee with greater expertise. This indicates that management possesses less discretion over corporate decisions when there is a strong audit committee in place. Beck and Mauldin (2014) use audit fee reduction during the 2007-2009 economic recession to show that relative power between a CFO and an audit committee can influence audit fee negotiations. A company can choose to negotiate down its audit fees to cut expenses and improve net income (which the CFO would prefer)

or not to reduce the audit fees and maintain audit quality (which serves the objective of the audit committee). Their findings provide evidence that there is more audit fee reduction when a CFO dominates an audit committee. An experiment by Cohen et al. (2011) provides evidence that auditors are aware that the power dynamic between client management and the audit committee can influence their relationship with the client. The result of the experiment shows that auditors are less likely to waive their audit adjustments when there is an effective audit committee in place to support the auditors' decisions.

Based on these prior studies, I predict that there is a stronger association between managerial attributes – overconfidence and ability – and the likelihood of an auditor termination when the manager is relatively more powerful than the company's audit committee, as more powerful management has more room to use their discretion on the company. In addition, if an auditor realizes that the likelihood of dismissal after issuing a going concern opinion varies with the power dynamic between management and the audit committee, I predict that the auditor's decision to issue a going concern opinion is also affected by the relative power. That is, an auditor is more likely to issue a going concern opinion in the presence of overconfident management when there is a stronger audit committee in place, as the strong audit committee is likely to protect the auditor from being dismissed in the subsequent year.

**H4A:** The association between managerial attributes (overconfidence and ability) and the likelihood of an auditor termination is *stronger* when management is more powerful than the audit committee.

**H4B:** The association between managerial attributes (overconfidence and ability) and the

likelihood of a going concern opinion is *stronger* when the audit committee is more powerful than management.

### **3. Research Design**

#### **3.1. Measures of Managerial Attributes**

##### *Overconfidence*

I follow existing finance and accounting literature in managerial overconfidence and use the option-based method for my proxy for managerial overconfidence. As this option-based approach assumes that the option exercise behaviors reflect the managers' belief about their company's future performance, an individual is considered overconfident if he/she delayed the option exercise even though the option was in-the-money at that time. Managers have incentives to diversify their investment portfolios as the nature of their position makes them highly exposed to the specific risk of their own firm (Malmendier and Tate 2008). Therefore, if an executive habitually does not exercise his/her vested options that are 'in the money', it not only indicates that the person believes that the firm value will increase in the future but also implies managerial overconfidence.

The option-based measure of managerial overconfidence, *Holder67*, is calculated using executive compensation data from ExecuComp database (Ahmed and Duellman 2013). The measure is based on the ratio of vested and unexercised options that are 'in the money'. The measure has a value of one when there have been two instances that an option ratio of an executive

for the year exceeds .67.<sup>7</sup> Once an executive is classified overconfident, the individual continues to be assigned to the overconfident group for the all subsequent years. Overconfident managers are classified to the non-overconfident group until they exhibit the overconfident behavior twice during their career. A company has a value of one for the overconfidence variable when the company has either an overconfident CEO or an overconfident CFO as they are two top executives who are most likely to influence auditors' going concern opinions and the company's decision to terminate the relationship with its auditor.<sup>8</sup>

### ***Managerial Ability***

I use the managerial ability score developed by Demerjian et al. (2012). Their ability score reflects the portion of the firm efficiency that cannot be explained by the firm characteristics, assuming that the portion is achieved by the managers. First, they estimate the firm efficiency, which is defined as the amount of revenue generated given the firm input. The following equation is used to estimate the firm efficiency by data envelopment analysis (DEA)<sup>9</sup>.

$$\text{Max}_v \theta = (\text{Sales}) \times (v_1 \text{CoGS} + v_2 \text{SG\&A} + v_3 \text{PPE} + v_4 \text{OpsLease} + v_5 \text{R\&D} + v_6 \text{Goodwill} + v_7 \text{OtherIntan})^{-1}. \quad (1)$$

DEA analyzes the efficiency of a firm's input choices in generating revenues with other industry peer firms' choices and produces  $\theta$ , whose value ranges from zero, the least efficient, to

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<sup>7</sup> Ahmed and Duellman (2013) document the precise instructions to compute the ratio of the vested and unexercised options that are 'in the money' (p.7-8).

<sup>8</sup> Additionally, the current working paper by Malmendier and Zheng (2012) documents that both CEO and CFO overconfidence affects corporate policies. They find that CEO overconfidence is more associated with investing decisions while CFO overconfidence is more closely related to financing decisions.

<sup>9</sup> Demerjian et al. (2012) define DEA as "optimization procedure used to evaluate the relative efficiency of decision-making units (p.1230)".

one, the most efficient among all the possible input combinations.

As the firm efficiency is attributable to both the firm characteristics and the manager effort, they regress the efficiency scores on the firm characteristics with the below Tobit regression (by industry) and obtain the residual of the regression. The residual of the below regression is the managerial ability score.

$$\begin{aligned} \text{Firm Efficiency} = & \alpha_0 + \alpha_1 \text{Ln}(\text{Total Assets}) + \alpha_2 \text{Market Share} + \alpha_3 \text{Positive Free Cash Flow} \\ & + \alpha_4 \text{Ln}(\text{Age}) + \alpha_5 \text{Business Segment Concentration} + \alpha_6 \text{Foreign Currency Indicator} + \text{Year} \\ & \text{Indicators} + \varepsilon \end{aligned} \quad (2)$$

While the residual can potentially reflect firm characteristics that are not captured by the variables included in the regression (2), several validation tests have been performed on this measure. It was shown that, compared to traditional measures of managerial ability (e.g. cash compensation and executive tenure), the measure developed by Demerjian et al. is more significantly (and positively) associated with manager fixed effects and more significantly (and negatively) associated with the announcement returns to CEO turnover. Finally, appointments of more or less able managers according to the new measure is more positively related to the subsequent firm performance than other ability measures.<sup>10</sup>

One limitation is that the managerial ability measure captures the ability of the entire management team rather than individual managers. In this study, I make an assumption that the

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<sup>10</sup> The correlation between the measure by Demerjian et al. and other traditional measures (historical return, historical return on assets, compensation, tenure, and media citations) are not high (0.039, 0.032, -0.017, 0.020, and -0.048 with the two-dimensional regression approach, and 0.169, 0.065, 0.042, 0.060, and -0.100 with the multidimensional approach).

ability of the management team is positively and significantly correlated with ability of CEO and CFO.

### *Other Measures*

Auditor termination is defined as an auditor switch that is not an auditor resignation (Carcello and Neal 2003). Relative power between management and an audit committee is measured by comparing CEO and CFO tenure with the average tenure of audit committee members (adopted from Beck and Mauldin 2014). If CEO or CFO has served the company longer than the audit committee on average, I assume the management is more powerful than the audit committee.

## **3.2. Models**

### *Going Concern Models*

I test the first hypothesis (H1), the relationship between the managerial overconfidence and the likelihood of a going concern opinion, with the following logistic model:

$$Pr(GC_{i,t}) = F(\beta_0 + \beta_1 OVER_{i,t} + CONTROLS_{i,t} + \varepsilon) \quad (3)$$

*GC* is an indicator variable that is set to 1 if the auditor of company *i* issues a going concern opinion for the first time in year *t*. Following previous going-concern literature, I also use the first-time going concern opinions (DeFond, Raghunandan, and Subramanyam 2002; Li 2009; Blay and Geiger 2013)<sup>11</sup>. *OVER* is an indicator variable equal to one when the Holder67 variable indicates

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<sup>11</sup> Prior research documents that issuing a going concern opinion for the first time is a riskier decision for auditors than going concern opinions issued thereafter, and therefore the issuance of going concern decisions subsequent to the initial issuance involves a different decision model (Blay and Geiger 2013).

company  $i$ 's CEO or CFO is overconfident. H1 predicts  $\beta_1$  to be significantly positive. *CONTROLS* is a vector of variables that control for the company's financial situations that can influence the auditor's decision to issue a going concern opinion, adopted from DeFond et al. (2002). In addition, I control for the amount of stock ownership and option holdings of CEOs and CFOs in the beginning of the fiscal year following Malmendier and Tate (2005).

To examine the mitigation effect of managerial ability (H2), I add the *HI\_ABILITY* variable and an interaction variable of *OVER* and *HI\_ABILITY* to the Model (3), as below. *HI\_ABILITY* equals one if the manager's ability score is above the median and zero otherwise. I expect  $\beta_1$  to be still significantly negative, and  $\beta_3$  to be significantly negative, mitigating the positive association between overconfidence and the likelihood of issuing a going concern opinion.

$$Pr(GC_{i,t}) = F(\beta_0 + \beta_1 OVER_{i,t} + \beta_2 HI\_ABILITY_{i,t} + \beta_3 OVER \times HI\_ABILITY_{i,t} + CONTROLS_{i,t} + \varepsilon) \quad (4)$$

### ***Auditor Termination***

I conduct auditor termination tests (H3A and H3B) using the below logistic models:

$$Pr(TERMINATED_{i,t+1}) = F(\beta_0 + \beta_1 OVER_{i,t} + \beta_2 GC_{i,t} + \beta_3 OVER \times GC_{i,t} + CONTROLS_{i,t} + \varepsilon) \quad (5)$$

The model tests whether the presence of overconfident management in the year that the company received a going concern opinion is associated with an auditor termination decision in the subsequent year. I predict that overconfident management is more likely to terminate the relationship with the auditor in a year subsequent to issuing a going concern opinion. Therefore, I

expect  $\beta_3$  to be significantly positive. *CONTROLS* are adopted from the auditor switch model by Landsman, Nelson, and Rountree (2009)

H3B is tested by estimating the model (5) above separately for companies with high- and low-ability management. If managerial ability mitigates the association between overconfidence and the likelihood of an auditor termination, I expect  $\beta_3$  to be statistically and economically significant only for the low-ability management group.

#### ***Relative Power of Management and Audit Committee***

H4A examines whether relative power between management and an audit committee influences the effect of managerial attributes on auditor termination decisions. I test the hypothesis by estimating the model (6) below separately for the ‘Powerful Management’ group (CEO tenure > average audit committee tenure) and the ‘Powerful Audit Committee’ group (CEO tenure < average audit committee tenure).

$$Pr(TERMINATED_{i,t+1}) = F(\beta_0 + \beta_1 OVER_{i,t} + \beta_2 HI\_ABILITY_{i,t} + \beta_3 OVER \times HI\_ABILITY_{i,t} + CONTROLS_{i,t} + \varepsilon) \quad (6)$$

I predict that the coefficient estimate for *OVER* and *OVER* $\times$ *HI\_ABILITY* is stronger for the powerful management group because it is likely that powerful managers can use their discretion on the decision to hire/dismiss an auditor more than those who face a relatively more powerful audit committee. H4B is tested by running the model (4) separately for the ‘Powerful Management’ group and the ‘Powerful Audit Committee’ group. I expect that the coefficient estimate for *OVER* is stronger for the powerful audit committee group as auditors are less concerned about the

consequences of issuing a going concern opinion when there is a stronger audit committee in place.

### 3.3. Data

Panel A of Table 1 reports the sample selection process. This study uses firm-level panel data to investigate the effect of managerial attributes on the likelihood of the company receiving a going concern opinion. I first obtain CEO and CFO data from ExecuComp and identify firm-years that with both CEO and CFO information available. As I need the amount of the total vested stock options and the unexercised amount to compute *OVER*, I delete the observations with option data missing. I also delete observations for which the managerial ability score is not available.<sup>12</sup>

As I limit my investigation to only financially distressed companies, I merged the dataset to Compustat to obtain financial data for each company, and only retain firm-years that reported a loss or negative cash flows, which leads to eliminating 77% of the observations I had. After deleting observations that are missing information regarding my dependent variables or control variables, my final sample consists of 2,293 firm-years for the going concern tests and 2,164 observations for auditor termination tests. I obtain data on going concern opinions and auditor switches from Audit Analytics database. As the coverage of Audit Analytics starts from 2000, the final sample period for the study is from 2000 to 2013.

[Refer to Table 1]

Panel B reports the number (and percentage) of observations that are classified as high-

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<sup>12</sup> I thank Demerjian, Lev, Lewis and McVay for sharing the data. The Managerial Ability Score data covering from 1980 to 2013 are available at <https://community.bus.emory.edu/personal/PDEMERJ/Pages/Home.aspx>

ability and overconfident (HAOC), low-ability and overconfident (LAOC), high ability and non-overconfident (HANOC), and low-ability and non-overconfident (LANOC) managers in the going concern sample. 41% of my sample has overconfident management, which is a little higher than 35% of Ahmed and Duellman (2013). The difference is likely attributable to the fact that I use both CEO and CFO overconfidence while Ahmed and Duellman (2013) only examines CEO overconfidence. Among the companies that have overconfident management, only 40% of them has above-median ability. Comparing the means of *HI\_ABILITY* and *OVER* across four groups, it appears that highly capable management is more likely to be overconfident (44% overconfident) than the low-ability group (40% overconfident).

## 4. Results

### 4.1. Going Concern Opinions (H1 and H2)

Table 2 presents descriptive statistics of each variable used in the regression model for going concern tests. Panel A reports the statistical difference of the variables between the overconfidence group and non-overconfident group. The result shows that overconfident managers tend to have a higher stock ownership and hold more options.<sup>13</sup> There is no significant difference in the average of companies receiving a first-time going concern opinion (*GC*) between the overconfidence group and non-overconfident group. Companies with overconfident management

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<sup>13</sup> As Malmendier and Tate (2005) discuss, the relationship can be mechanical as the overconfidence measure reflects a manager's tendency less likely to reduce his personal risk by diversifying his portfolio, which leads to higher stock and option holdings.

are bigger, less volatile, less likely to have reported a loss in the previous year, have lower bankruptcy score and invest more. However, these companies also have higher beta coefficients and experience more negative returns. These results provide evidence against the possibility that overconfident managers self-select into more risky companies, and that self-selection drives the positive association between managerial overconfidence and a likelihood of going concern reports. It also highlights the importance of multivariate tests that examine the effect of overconfidence on the likelihood of issuing a going concern opinion after controlling for these firm characteristics.

Further, Panel B shows that the percentage of receiving a going concern opinion is significantly different between the LAOC group and the HAOC group. The likelihood of a LAOC manager receiving a going concern is significantly higher than the likelihood of a HAOC manager. This result highlights the importance of considering managerial ability in overconfidence research. In addition, comparing the overconfident and non-overconfident management within the high-ability management group, it appears that managerial overconfidence can influence an auditor to conclude that the company can continue as a going concern as long as overconfidence is supported by high ability.

[Refer to Table 2]

Table 3 reports a Pearson and Spearman correlation matrix for all of the variables used in the multivariate regressions for going concern tests. *OVER* and *HI\_ABILITY* are weakly positively associated ( $P < 0.10$ ). Issuance of a going concern opinion (*GC*) is significantly associated with most of control variables. Finally, as there is a highly significant correlation among the amount of stock and option holdings of CEOs and CFOs, I compared the multivariate model results with and

without the stock ownership variables, and saw no significant difference in the results. Therefore, I conclude that high correlations between stock and option holdings are not a significant threat of multicollinearity.

[Refer to Table 3]

Table 4 presents the model estimations of 1) the first hypothesis (H1), the association between managerial overconfidence and the likelihood of a company receiving a going concern opinion, and 2) the second hypothesis (H2) regarding the mitigation effect of managerial ability. Column (1) and (3) show that the coefficient estimate of *OVER* is significantly positive, indicating managerial overconfidence affects auditors' first-time going concern decisions. Consistent with the prediction on H1, the auditor is more likely to issue a going concern opinion in the presence of overconfident management. On the other hand, a negative but insignificant coefficient estimate of *HI\_ABILITY* in Column (2) indicates that the likelihood of a going concern is not different between the high-ability and low-ability groups.<sup>14</sup> Column (3) presents the result for H2, the mitigating effect of managerial ability on the association between managerial overconfidence and the likelihood of a going concern. The positive and significant coefficient estimate of *OVER* shows that managerial overconfidence is positively associated with the likelihood of receiving a going concern opinion within the low-ability management group. However, the joint test of *OVER+OVERXHI\_ABILITY* is not significant, indicating that

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<sup>14</sup> The result seems inconsistent with Krishnan and Wang (2015) that document a significantly negative association between managerial ability and the going concern probability. However, Krishnan and Wang (2015) use continuous variables of managerial ability scores and ranks obtained from Demerjian et al. (2012), while I use a dichotomous variable that distinguishes managers with above-median ability from others. I also find the correlation between the continuous managerial ability scores and the likelihood of going concern to be significantly positive for my sample.

managerial overconfidence is not a significant factor to the likelihood of a going concern when the company has high-ability management. The negative and significant interaction term, as well as the significantly high F-statistic of the joint test of *HI\_ABILITY+OVERXHI\_ABILITY*, provides evidence that auditors see the difference between the HAOC managers and the LAOC managers and reflect it on their audit opinions.

[Refer to Table 4]

#### **4.2. Auditor Termination (H3)**

Table 5 presents descriptive statistics of each variable used in the regression model for the auditor termination tests. Although the tests mainly focus on auditor termination, I also examine all auditor switches and auditor resignations of each overconfidence and ability groups in these univariate tests. Comparing the percentage of auditor switches, it appears managerial ability, rather than overconfidence, influences the auditor switch decisions. A company with high-ability management is less likely to switch its auditor than a company with low-ability management. While there is some evidence that a company with HAOC management is less likely to switch its auditor than a company with HANOC management, the difference is not significant for auditor terminations as well as auditor resignations. Finally, the correlation matrix (Table 6) shows that there are no two variables with an unusually high association.

[Refer to Table 5]

[Refer to Table 6]

Table 7 reports the estimation results for the influence of managerial overconfidence,

ability, and going concern opinions on the likelihood of an auditor termination. The Column (1) of Table 7 reports an association consistent with H3A. The positive and significant coefficient estimate of *OVERXGC* indicates that a company is more likely to dismiss an auditor in a year subsequent to receiving a going concern opinion when the company has overconfident management in place. The insignificant coefficient of *GC* indicates that going concern opinions do not influence the decisions to terminate the relationship with the auditor among the non-overconfident group of management. Further, when the sample is partitioned into high- and low-ability subsets, I find the high likelihood of auditor termination subsequent to the going concern only among the companies with low-ability overconfident management. Therefore, similarly to the H2 results for going concern results, the results show that managerial ability is an important factor to consider when examining the influence of managerial overconfidence on auditor-related decisions.

[Refer to Table 7]

#### **4.3. Powerful Management vs. Powerful Audit Committee (H4)**

In accordance with H4A and H4B, Table 8 presents the estimation results of Model (6) and (4) for the subsample of ‘Powerful Management’ and ‘Powerful Audit Committee’. The observations are classified to ‘Powerful Management’ when the company management (CEO or CFO) has been with the company longer than the average tenure of the audit committee. The ‘Powerful Audit Committee’ subsample consists of observations that the average tenure of the audit committee is longer than tenure of CEO and CFO.

As reported in Column (1) and (3) on Table 8, managerial overconfidence and the

mitigating role of managerial ability are associated with a company's decision to retain or terminate the auditor in the subsequent year only for the 'Powerful Management' subsample. The result is consistent with the H4A that managerial attributes influence corporate decisions more when the managers have power to exercise their discretion.

H4B is tested by comparing Column (2) and (4). The coefficient estimates for *OVER* are not significantly different between the 'Powerful Management' and 'Powerful Audit Committee' group. As DeFond et al. (2002) document, it appears that auditors value market-based incentives such as litigation costs more and do not compromise their independence for the benefits of retaining clients.

[Refer to Table 8]

#### **4.4. Additional Tests**

##### **4.4.1. Auditor Resignations**

The study provides evidence that auditors recognize managerial overconfidence as an additional risk factor that can negatively impact the company's future performance. Then can managerial overconfidence also motivate auditors to resign? As poor performance is positively associated with the company's litigation risk (Kim and Skinner 2012), an auditor may decide to withdraw from a high-risk client with overconfident management in order to avoid a potential lawsuit against the auditor. In untabulated analysis, I find that managerial overconfidence is not significantly associated with auditor resignation decisions. The result is consistent with Shu (2000) that documents auditor resignation decisions are more likely to be driven by the changes

in auditor characteristics rather than client characteristics. As issuance of a going concern opinion reduces lawsuits against auditors (Kaplan and Williams 2013), it is possible that auditors do not consider resignation based on the judgment that issuance of a going concern opinion sufficiently mitigates increased litigation risk.

#### **4.4.2. Impact of Management Earnings Forecast**

In untabulated analysis, I examine whether management earnings forecasts issued in the previous periods drive my findings on the relation between managerial overconfidence and the likelihood of a going concern opinion (H1). Feng and Li (2014) document that while auditors take into consideration managerial earnings forecasts when making a decision to issue a going concern opinion, they are skeptical of forecasts made by management who has made overly optimistic forecasts in the recent past. I rerun the going concern model after including in the model a dichotomous variable indicating whether the company made a positive forecast error within two years prior to the year of financial distress. As there is a limited number of companies that issue management earnings forecasts, only 12% of the sample (267) has information on earnings forecasts issued for the past two years. Using both the full sample and the subsample that only consists of observations for which management earnings forecasts are available, I find no evidence that management forecasts issued in the past explain the findings for H1. The result is consistent with my discussion on the definition of overconfidence. While optimism is one of manifestations of overconfidence, two attributes are not interchangeable with each other.

#### **4.4.3. Accuracy of Going Concern Opinions**

Results for H1 and H2 show that a company with LAOC management is more likely to

receive a going concern opinion than other companies. As an additional analysis, I examine the accuracy of these auditors' going concern decisions. If auditors overreact to managerial overconfidence, the percentage of companies that do not file bankruptcy among the companies that received a going concern opinion in the prior year (i.e. type I errors) will be higher for LAOC management than the percentage for other groups of managers. However, if type I error rates are not higher for the LAOC group compared to others, it indicates that auditors correctly incorporate managerial overconfidence and ability in their audit decisions. Untabulated results show that the type I error rate for the LAOC group is lower than the type I error rate for the HAOC group (t-stat = -3.16), while there is no significant difference in type I error rates between the LAOC and LANOC group. Based on these results, I conclude there is no evidence that the higher likelihood of a going concern opinion for the LAOC management is driven by auditors' overreaction to managerial overconfidence.<sup>15</sup>

## 5. Conclusion

The study examines the effect of managerial overconfidence and ability on the auditor's decision to issue a going concern opinion and the auditor-client relationship. While existing literature extensively investigates how managerial overconfidence affects the firm policies and performance, there is limited evidence as to how it affects external monitors of the company. I

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<sup>15</sup> I do not investigate Type II errors (i.e., auditors not issuing going concern opinions to companies that file bankruptcy in the subsequent year) because there are very few occurrences of Type II errors in the sample (n = 24).

focus on audit opinions and auditor-client relationships in this study as the auditors are in a unique position that can closely monitor the actions of management even though they are outsiders. I find that overconfident management increases the likelihood that the company receives a going concern opinion. However, further analyses provide evidence that overconfidence is associated with a higher likelihood of a going concern opinion only when overconfidence is not supported by ability. That is, the HAOC management is not any more likely to receive a going concern opinion than the HANOC management, while the LAOC management is more likely to receive a going concern opinion than the LANOC management.

Further, building on prior evidence that auditors are more likely to be dismissed after issuing a going concern opinion (Carcello and Neal 2003), I examine whether the auditor termination rate is higher for the companies with overconfident management. Consistent with prediction, I find that overconfidence increases the likelihood of an auditor dismissal in a year subsequent to receiving a going concern opinion, while managerial ability mitigates the association. In addition, I show that managerial overconfidence and the mitigating effect of managerial ability have an impact on the auditor termination decision only when the company management is more powerful than its audit committee.

I extend research on managers' personality characteristics by examining the influence of managerial overconfidence and ability on the audit-related decisions. I believe these findings are of interest to members of corporations in charge of appointing executives to top management positions. I also introduce a refined measure of managerial overconfidence by separating seemingly overconfident managers into a group whose overconfidence is supported by ability

and another group with overconfidence not supported by ability. The limitation of this measure is that it does not directly compare each individual's estimation of one's own ability and the actual ability to determine whether there is a mismatch between perception and reality. I expect future research can explore new measures that can more effectively distinguish between 'apparent' overconfidence and 'true' overconfidence.

APPENDIX A:  
VARIABLE DEFINITIONS

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<i>OVER</i> =	indicator variable equal to one if the value of <i>Holder67</i> is one for the CEO or CFO of the company; zero otherwise
<i>HI_ABILITY</i> =	indicator variable equal to one if the rank of Demerjian et al.'s managerial ability score is above 0.5 (median); zero otherwise
<i>BEGIN_STOCK</i> =	CEO's stock ownership percentage (number of stocks owned / total number of shares outstanding)
<i>BEGIN_OPTION</i> =	CEO's vested and unexercised option ownership percentage (number of options held / total number of shares outstanding)
<i>BEGIN_STOCK_CFO</i> =	CFO's stock ownership percentage (number of stocks owned / total number of shares outstanding)
<i>BEGIN_OPTION_CFO</i> =	CFO's vested and unexercised option ownership percentage (number of options held / total number of shares outstanding)
<b>Going Concern Model</b>	
<i>GC</i> =	indicator variable equal to one if the company received a going concern opinion this year and an unqualified opinion in the prior year; zero otherwise
<i>ACC_ABS</i> =	absolute value of discretionary total accruals
<i>ALTMAN Z</i> =	Altman's Z score prediction of bankruptcy following DeFond and Hung (2003), defined as follows: $0.012 * (\text{working capital}/\text{assets}) + 0.014 * (\text{retained earnings}/\text{assets}) + 0.033 * (\text{EBIT}/\text{assets}) + 0.006 * (\text{market value equity}/\text{liabilities}) + 0.009 * (\text{sale}/\text{assets})$
<i>SIZE</i> =	natural logarithm of total assets
<i>LN_FIRMAGE</i> =	1 + the natural log of the number of years a company has been listed in the COMPUSTAT database
<i>BETA</i> =	the firm's beta estimated using a market model over the fiscal year
<i>RETURN</i> =	accumulated annual return over the fiscal year
<i>VOLATIL</i> =	the variance of the residual from the market model over the fiscal year
<i>CLEV</i> =	change in leverage during the year

<i>PY_LOSS</i> =	indicator variable equal to one if the company has negative income in the prior year; zero otherwise
<i>INVEST</i> =	short- and long-term investment securities (including cash and cash equivalents) deflated by total assets at year-end
<i>FUTURE_FIN</i> =	indicator variable equal to one when the firm issues equity or debt in the subsequent year; zero otherwise
<i>BIGN</i> =	indicator variable equal to one if the company is audited by a big N audit firm; zero otherwise
<i>CF</i> =	operating cash flow, scaled by average assets

**Additional variables used in the auditor termination model**

<i>AUDITOR_SWITCH</i> =	indicator variable equal to one if the auditor changed during the current year; zero otherwise
<i>TERMINATED</i>	indicator variable equal to one if the auditor is dismissed during the current year; zero otherwise
<i>RESIGNED</i>	indicator variable equal to one if the auditor resigned during the current year; zero otherwise
<i>RESTATE</i>	indicator variable equal to one if the company filed a restated financial statement during the current year; zero otherwise
<i>CEO_TURNOVER</i>	indicator variable equal to one if the company appointed a new CEO this year; zero otherwise
<i>CFO_TURNOVER</i>	indicator variable equal to one if the company appointed a new CFO this year; zero otherwise
<i>AUDIT_TENURE</i> =	the number of consecutive years that an audit firm audits a company
<i>MODOP</i> =	indicator variable equal to one for a modified audit opinion, and zero otherwise
<i>GROWTH</i> =	change in year-to-year sales, over prior year sales
<i>CASH</i> =	cash divided by total assets
<i>LEVERAGE</i> =	ratio of the sum of year-end long-term liabilities (DLTT in Compustat) and long-term debt due in one year (DD1 in Compustat) divided by total assets
<i>ROA</i> =	return on assets (net income before extraordinary items divided by assets)
<i>LOSS</i> =	indicator variable equal to one if the company has negative income; zero otherwise

<i>INVREC</i> =	the sum of inventories and receivables divided by total assets
<i>ICWEAK</i> =	indicator variable equal to one if the audit opinion on internal control over financial reporting identifies a material weakness; zero otherwise
<i>SPECIALIST</i> =	indicator variable equal to one if the auditor is the industry specialist, defined as the auditor in a two-digit SIC code with the largest portfolio of clients, based on total assets audited; zero otherwise
<i>MISMATCH</i> =	indicator variable equal to one if the Shu (2000) methodology identifies a client/auditor mismatch; zero otherwise.

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**TABLE 1****Sample Selection and Summary Statistics**

## Panel A: Sample Selection

	# of Obs
ExecuComp Firm-years that have non-missing CEO and CFO information	27,367
Less: Executives' vested options and option exercise information missing in ExecuCon	(5,377)
Less: Demerjian et al.'s managerial ability information missing	(1,913)
Less: Firm-years that reported positive net income or positive cash flow	(15,529)
Less: going concern opinion information missing	(1,158)
Less: observations missing control-variable data	(1,097)
<b>Total Observation for going concern tests</b>	<b>2,293</b>
Less: observations missing auditor information or control-variable data	(129)
<b>Total Observation for auditor termination tests</b>	<b>2,164</b>

## Panel B: The summary statistics of managerial overconfidence and ability measures

<i>OVERCON</i>	<i>HI_ABILITY</i>			<i>HI_ABILITY</i> Mean
	<b>0</b>	<b>1</b>	<b>Total</b>	
<b>0</b>	854	493	1347	0.37
	37.24	21.5	58.74	
<b>1</b>	565	381	946	0.40
	24.64	16.62	41.26	
<b>Total</b>	1419	874	2293	<b>Diff (Pr &gt;  t )</b>
	61.88	38.12	100	0.07
	<b>OVERCON Mean</b>		<b>Diff (Pr &gt;  t )</b>	
	0.40	0.44	0.07	

**TABLE 2**  
Descriptive Statistics of Variables in Going Concern Tests

Panel A: Descriptive statistics partitioned by managerial overconfidence

	OVERCON = 0 (N=1347)			OVERCON = 1 (N=946)			Diff (Pr >  t )
	Mean	Median	Std Dev	Mean	Median	Std Dev	
<b>GC</b>	0.026	0.000	0.159	0.023	0.000	0.151	<b>0.677</b>
<b>HI_ABILITY</b>	0.366	0.000	0.482	0.403	0.000	0.491	<b>0.075</b>
<b>BEGIN_STOCK</b>	0.004	0.000	0.026	0.013	0.001	0.045	<b>&lt;.0001</b>
<b>BEGIN_OP</b>	0.003	0.000	0.009	0.007	0.002	0.011	<b>&lt;.0001</b>
<b>BEGIN_STOCK_CFO</b>	0.000	0.000	0.005	0.001	0.000	0.003	<b>0.025</b>
<b>BEGIN_OP_CFO</b>	0.001	0.000	0.002	0.001	0.000	0.003	<b>&lt;.0001</b>
<b>ABS_ACC</b>	0.405	0.101	1.749	0.498	0.112	2.485	<b>0.321</b>
<b>ALTMAN_Z</b>	0.015	0.019	0.066	0.033	0.023	0.059	<b>&lt;.0001</b>
<b>SIZE</b>	6.379	6.349	1.567	6.682	6.567	1.484	<b>&lt;.0001</b>
<b>LN_FIRMAGE</b>	2.612	2.639	0.355	2.597	2.639	0.371	<b>0.320</b>
<b>BETA</b>	1.235	1.203	0.644	1.418	1.337	0.635	<b>&lt;.0001</b>
<b>RETURN</b>	-2.236	-1.040	10.605	-3.863	-1.675	15.655	<b>0.006</b>
<b>VOLATIL</b>	0.039	0.033	0.020	0.037	0.033	0.017	<b>0.005</b>
<b>LEVERAGE</b>	0.226	0.185	0.236	0.211	0.180	0.216	<b>0.119</b>
<b>CLEV</b>	0.017	0.000	0.102	0.019	0.000	0.097	<b>0.648</b>
<b>PY_LOSS</b>	0.580	1.000	0.494	0.505	1.000	0.500	<b>0.000</b>
<b>INVEST</b>	0.239	0.166	0.224	0.273	0.193	0.245	<b>0.001</b>
<b>FUTURE_FIN</b>	0.918	1.000	0.275	0.932	1.000	0.251	<b>0.184</b>
<b>BIGN</b>	0.897	1.000	0.304	0.913	1.000	0.282	<b>0.181</b>
<b>CF</b>	0.004	0.028	0.135	0.010	0.031	0.125	<b>0.285</b>

**TABLE 2**  
Descriptive Statistics of Variables in Going Concern Tests (Continued)

Panel B: Descriptive statistics partitioned by managerial overconfidence and managerial ability

	OVERCON = 0 (N=1347)							OVERCON = 1 (N=946)							Low Ability	High Ability	
	HI_ABILITY = 0 (N=854)			HI_ABILITY = 1 (N=493)				HI_ABILITY = 0 (N=565)			HI_ABILITY = 1 (N=381)				Overcon vs. Non-Overcon		
	Mean	Median	Std Dev	Mean	Median	Std Dev	Diff (Pr >  t )	Mean	Median	Std Dev	Mean	Median	Std Dev	Diff (Pr >  t )	Diff (Pr >  t )	Diff (Pr >  t )	
<b>GC</b>	0.026	0.000	0.159	0.026	0.000	0.160	<b>0.946</b>	0.034	0.000	0.180	0.008	0.000	0.089	<b>0.004</b>	<b>0.399</b>	<b>0.030</b>	
<b>BEGIN_STOCK</b>	0.004	0.000	0.025	0.006	0.000	0.029	<b>0.234</b>	0.015	0.001	0.051	0.010	0.001	0.035	<b>0.056</b>	<b>&lt;.0001</b>	<b>0.052</b>	
<b>BEGIN_OP</b>	0.003	0.000	0.009	0.003	0.000	0.007	<b>0.782</b>	0.007	0.001	0.011	0.006	0.002	0.010	<b>0.327</b>	<b>&lt;.0001</b>	<b>&lt;.0001</b>	
<b>BEGIN_STOCK_CFO</b>	0.000	0.000	0.007	0.000	0.000	0.001	<b>0.537</b>	0.001	0.000	0.003	0.001	0.000	0.003	<b>0.695</b>	<b>0.165</b>	<b>0.002</b>	
<b>BEGIN_OP_CFO</b>	0.001	0.000	0.002	0.001	0.000	0.003	<b>0.038</b>	0.001	0.000	0.003	0.001	0.000	0.003	<b>1.000</b>	<b>&lt;.0001</b>	<b>0.001</b>	
<b>ABS_ACC</b>	0.387	0.097	1.695	0.437	0.105	1.840	<b>0.621</b>	0.482	0.104	2.537	0.522	0.123	2.408	<b>0.811</b>	<b>0.432</b>	<b>0.568</b>	
<b>ALTMAN_Z</b>	0.012	0.019	0.061	0.020	0.022	0.074	<b>0.055</b>	0.028	0.018	0.055	0.041	0.027	0.065	<b>0.001</b>	<b>&lt;.0001</b>	<b>&lt;.0001</b>	
<b>SIZE</b>	6.352	6.319	1.538	6.426	6.401	1.617	<b>0.402</b>	6.575	6.360	1.506	6.841	6.668	1.438	<b>0.007</b>	<b>0.007</b>	<b>&lt;.0001</b>	
<b>LN_FIRMAGE</b>	2.602	2.639	0.354	2.630	2.639	0.356	<b>0.172</b>	2.602	2.639	0.363	2.590	2.639	0.382	<b>0.640</b>	<b>0.977</b>	<b>0.115</b>	
<b>BETA</b>	1.271	1.247	0.664	1.173	1.140	0.604	<b>0.006</b>	1.452	1.404	0.640	1.368	1.297	0.623	<b>0.047</b>	<b>&lt;.0001</b>	<b>&lt;.0001</b>	
<b>RETURN</b>	-2.111	-1.185	7.955	-2.453	-0.725	14.067	<b>0.620</b>	-4.602	-2.050	14.910	-2.766	-1.375	16.657	<b>0.083</b>	<b>0.000</b>	<b>0.768</b>	
<b>VOLATIL</b>	0.040	0.034	0.021	0.037	0.031	0.019	<b>0.016</b>	0.038	0.035	0.017	0.034	0.031	0.017	<b>0.002</b>	<b>0.081</b>	<b>0.031</b>	
<b>LEVERAGE</b>	0.231	0.192	0.232	0.218	0.156	0.241	<b>0.356</b>	0.215	0.190	0.214	0.207	0.168	0.219	<b>0.583</b>	<b>0.178</b>	<b>0.452</b>	
<b>CLEV</b>	0.018	0.000	0.105	0.016	0.000	0.098	<b>0.676</b>	0.022	0.000	0.099	0.015	0.000	0.095	<b>0.267</b>	<b>0.478</b>	<b>0.899</b>	
<b>PY_LOSS</b>	0.619	1.000	0.486	0.511	1.000	0.500	<b>0.000</b>	0.565	1.000	0.496	0.417	0.000	0.494	<b>&lt;.0001</b>	<b>0.039</b>	<b>0.006</b>	
<b>INVEST</b>	0.254	0.177	0.232	0.214	0.146	0.209	<b>0.001</b>	0.288	0.194	0.258	0.249	0.191	0.223	<b>0.013</b>	<b>0.010</b>	<b>0.016</b>	
<b>FUTURE_FIN</b>	0.922	1.000	0.269	0.911	1.000	0.285	<b>0.488</b>	0.919	1.000	0.274	0.953	1.000	0.212	<b>0.031</b>	<b>0.840</b>	<b>0.013</b>	
<b>BIGN</b>	0.903	1.000	0.296	0.886	1.000	0.318	<b>0.350</b>	0.899	1.000	0.301	0.934	1.000	0.248	<b>0.050</b>	<b>0.819</b>	<b>0.012</b>	
<b>CF</b>	-0.003	0.026	0.150	0.017	0.032	0.102	<b>0.003</b>	0.004	0.030	0.133	0.019	0.031	0.111	<b>0.064</b>	<b>0.327</b>	<b>0.829</b>	

Note: All variables are as defined in Appendix A. All continuous variables are winsorized at the 1th and 99th percentile.

**TABLE 3**  
Correlation Matrix for Going Concern Tests

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) GC	1	-0.01	-0.03	-0.02	<b>-0.04</b>	-0.01	-0.04	-0.02	<b>-0.09</b>	<b>-0.04</b>	-0.03	<b>-0.05</b>	<b>-0.05</b>	<b>0.25</b>	<b>0.09</b>	<b>0.05</b>	<b>0.08</b>	<b>-0.05</b>	<b>-0.11</b>	0.01	<b>-0.13</b>
(2) OVER	-0.01	1	0.04	<b>0.12</b>	<b>0.19</b>	<b>0.04</b>	<b>0.15</b>	0.02	<b>0.14</b>	<b>0.10</b>	-0.02	<b>0.14</b>	<b>-0.06</b>	<b>-0.06</b>	-0.03	0.01	<b>-0.07</b>	<b>0.07</b>	0.03	0.03	0.02
(3) HI_ABILITY	-0.03	0.04	1	-0.01	-0.01	-0.01	0.04	0.01	<b>0.08</b>	<b>0.05</b>	0.01	<b>-0.06</b>	0.02	<b>-0.08</b>	-0.02	-0.02	<b>-0.12</b>	<b>-0.08</b>	0.02	0.01	<b>0.07</b>
(4) BEGIN_STOCK	<b>-0.06</b>	<b>0.33</b>	<b>0.05</b>	1	<b>0.18</b>	<b>0.15</b>	<b>0.10</b>	0.00	0.03	<b>-0.07</b>	<b>0.07</b>	0.01	-0.01	-0.02	<b>-0.09</b>	-0.02	<b>-0.06</b>	<b>0.05</b>	0.03	<b>-0.13</b>	-0.01
(5) BEGIN_OP	<b>-0.06</b>	<b>0.32</b>	0.04	<b>0.91</b>	1	<b>0.08</b>	<b>0.32</b>	-0.02	0.04	<b>-0.06</b>	<b>0.07</b>	-0.02	-0.02	<b>-0.04</b>	-0.02	-0.01	<b>-0.08</b>	-0.01	<b>0.05</b>	-0.04	0.04
(6) BEGIN_STOCK_CFO	<b>-0.06</b>	<b>0.21</b>	<b>0.04</b>	<b>0.43</b>	<b>0.40</b>	1	<b>0.26</b>	0.01	<b>0.07</b>	<b>-0.05</b>	0.04	0.04	-0.01	-0.02	<b>-0.04</b>	-0.01	-0.03	0.02	0.00	0.01	0.00
(7) BEGIN_OP_CFO	<b>-0.07</b>	<b>0.22</b>	<b>0.04</b>	<b>0.40</b>	<b>0.41</b>	<b>0.92</b>	1	-0.01	<b>0.09</b>	<b>-0.10</b>	<b>0.07</b>	0.00	0.01	<b>-0.07</b>	<b>-0.05</b>	-0.03	-0.04	0.03	0.03	0.00	0.01
(8) ABS_ACC	-0.03	0.01	0.02	<b>-0.04</b>	<b>-0.05</b>	-0.03	-0.02	1	-0.02	<b>-0.07</b>	<b>0.06</b>	0.01	<b>0.05</b>	-0.02	-0.03	-0.01	<b>0.06</b>	<b>0.14</b>	0.02	<b>-0.06</b>	<b>-0.06</b>
(9) ALTMAN_Z	<b>-0.17</b>	<b>0.12</b>	<b>0.14</b>	<b>0.13</b>	<b>0.11</b>	<b>0.12</b>	<b>0.14</b>	0.01	1	0.03	<b>-0.14</b>	<b>0.09</b>	<b>0.05</b>	<b>-0.09</b>	<b>-0.25</b>	<b>-0.12</b>	<b>-0.17</b>	0.04	0.04	<b>0.11</b>	<b>0.22</b>
(10) SIZE	-0.04	<b>0.09</b>	<b>0.06</b>	<b>0.07</b>	<b>0.07</b>	<b>0.10</b>	<b>0.08</b>	<b>-0.18</b>	<b>-0.09</b>	1	<b>0.13</b>	<b>0.19</b>	<b>-0.09</b>	<b>-0.30</b>	<b>0.34</b>	<b>0.06</b>	<b>-0.18</b>	<b>-0.36</b>	0.04	<b>0.36</b>	<b>0.38</b>
(11) LN_FIRMAGE	<b>-0.04</b>	-0.02	0.02	<b>0.13</b>	<b>0.11</b>	<b>0.09</b>	<b>0.06</b>	0.01	<b>-0.07</b>	<b>0.14</b>	1	-0.04	<b>0.14</b>	<b>-0.25</b>	<b>0.09</b>	0.01	0.00	<b>-0.11</b>	<b>-0.11</b>	<b>-0.13</b>	<b>0.05</b>
(12) BETA	<b>-0.05</b>	<b>0.13</b>	<b>-0.07</b>	<b>0.05</b>	0.04	<b>0.07</b>	<b>0.05</b>	0.02	0.02	<b>0.19</b>	<b>0.04</b>	1	<b>-0.12</b>	<b>0.08</b>	-0.01	0.03	<b>0.09</b>	<b>0.13</b>	0.04	<b>0.15</b>	-0.02
(13) RETURN	<b>-0.10</b>	<b>-0.04</b>	0.03	-0.04	<b>-0.05</b>	<b>-0.05</b>	<b>-0.05</b>	<b>0.10</b>	<b>0.08</b>	<b>-0.08</b>	<b>0.11</b>	-0.02	1	<b>-0.17</b>	0.03	<b>-0.10</b>	<b>0.14</b>	0.04	<b>-0.06</b>	<b>-0.05</b>	0.01
(14) VOLATIL	<b>0.18</b>	-0.03	<b>-0.08</b>	<b>-0.10</b>	<b>-0.10</b>	<b>-0.10</b>	<b>-0.11</b>	0.00	<b>-0.22</b>	<b>-0.34</b>	<b>-0.27</b>	<b>0.10</b>	<b>-0.18</b>	1	0.04	0.02	<b>0.22</b>	<b>0.06</b>	-0.01	-0.03	<b>-0.24</b>
(15) LEVERAGE	<b>0.06</b>	-0.02	-0.03	0.00	0.03	0.01	0.00	<b>-0.13</b>	<b>-0.45</b>	<b>0.47</b>	<b>0.07</b>	0.01	-0.01	-0.04	1	<b>0.42</b>	<b>0.08</b>	<b>-0.26</b>	-0.04	<b>0.17</b>	0.01
(16) CLEV	<b>0.05</b>	-0.02	<b>-0.04</b>	0.00	0.02	0.01	0.00	-0.03	<b>-0.24</b>	<b>0.14</b>	0.02	0.04	<b>-0.17</b>	0.03	<b>0.38</b>	1	-0.01	-0.03	<b>-0.06</b>	0.04	<b>-0.08</b>
(17) PY_LOSS	<b>0.08</b>	<b>-0.07</b>	<b>-0.12</b>	<b>-0.13</b>	<b>-0.12</b>	<b>-0.10</b>	<b>-0.10</b>	<b>0.08</b>	<b>-0.30</b>	<b>-0.17</b>	0.01	<b>0.09</b>	<b>0.18</b>	<b>0.21</b>	0.04	0.00	1	<b>0.20</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.25</b>
(18) INVEST	<b>-0.05</b>	<b>0.06</b>	<b>-0.07</b>	<b>-0.06</b>	<b>-0.05</b>	<b>-0.04</b>	-0.02	<b>0.19</b>	<b>0.06</b>	<b>-0.33</b>	<b>-0.10</b>	<b>0.16</b>	<b>0.06</b>	<b>0.10</b>	<b>-0.41</b>	<b>-0.08</b>	<b>0.20</b>	1	0.02	<b>-0.13</b>	<b>-0.38</b>
(19) FUTURE_FIN	<b>-0.11</b>	0.03	0.02	<b>0.09</b>	<b>0.10</b>	<b>0.07</b>	<b>0.08</b>	-0.02	<b>0.07</b>	<b>0.04</b>	<b>-0.11</b>	0.03	<b>-0.08</b>	0.01	-0.02	<b>-0.05</b>	<b>-0.05</b>	0.02	1	<b>0.07</b>	<b>0.05</b>
(20) BIGN	0.01	0.03	0.01	0.00	0.01	<b>0.07</b>	<b>0.07</b>	<b>-0.08</b>	<b>0.05</b>	<b>0.35</b>	<b>-0.14</b>	<b>0.14</b>	<b>-0.06</b>	<b>-0.06</b>	<b>0.21</b>	<b>0.05</b>	<b>-0.05</b>	<b>-0.12</b>	<b>0.07</b>	1	<b>0.18</b>
(21) CF	<b>-0.12</b>	0.02	0.04	<b>0.06</b>	<b>0.06</b>	<b>0.05</b>	0.04	<b>-0.11</b>	<b>0.16</b>	<b>0.32</b>	<b>0.05</b>	-0.04	0.00	<b>-0.23</b>	<b>0.12</b>	<b>-0.06</b>	<b>-0.25</b>	<b>-0.27</b>	<b>0.06</b>	<b>0.12</b>	1

Note: The table presents Pearson (above the main diagonal) and Spearman (below the main diagonal) correlations among our variables of interest and control variables. All variables are as defined in Appendix A. All continuous variables are winsorized at the 1th and 99th percentiles. Correlations in bold are statistically significant at the 5% level or better.

**TABLE 4**  
Multivariate Regression for Managerial Attributes and Going Concern Opinions

VARIABLES	(1) GC	(2) GC	(3) GC
Constant	-17.355 (-0.01)	-17.010 (-0.01)	-17.427 (-0.01)
OVER	0.923** (2.52)	0.920** (2.51)	1.400*** (3.30)
HI_ABILITY		-0.309 (-0.85)	0.331 (0.74)
OVERXHI_ABILITY			-1.825** (-2.13)
BEGIN_STOCK	-1.621 (-0.18)	-1.626 (-0.18)	-2.541 (-0.25)
BEGIN_OP	-51.204* (-1.83)	-50.537* (-1.80)	-56.337* (-1.94)
BEGIN_STOCK_CFO	8.254 (0.09)	8.795 (0.10)	10.191 (0.11)
BEGIN_OP_CFO	-72.336 (-0.61)	-75.582 (-0.63)	-80.489 (-0.67)
ABS_ACC	-0.393 (-0.75)	-0.397 (-0.76)	-0.335 (-0.66)
ALTMAN_Z	-4.135 (-1.20)	-4.297 (-1.25)	-3.853 (-1.07)
SIZE	0.007 (0.05)	-0.006 (-0.04)	-0.012 (-0.08)
LN_FIRMAGE	0.408 (0.58)	0.373 (0.53)	0.424 (0.59)
BETA	-0.580** (-2.17)	-0.573** (-2.14)	-0.613** (-2.25)
RETURN	-0.014 (-1.30)	-0.013 (-1.24)	-0.012 (-1.13)
VOLATIL	42.248*** (5.78)	41.921*** (5.72)	43.132*** (5.82)
LEVERAGE	0.795 (1.01)	0.786 (0.99)	0.696 (0.87)
CLEV	-1.572 (-1.24)	-1.607 (-1.26)	-1.390 (-1.07)
PY_LOSS	0.620 (1.51)	0.593 (1.44)	0.553 (1.34)
INVEST	-1.826* (-1.826)	-1.884* (-1.884)	-1.950** (-1.950)

	(-1.90)	(-1.95)	(-2.01)
FUTURE_FIN	-1.849***	-1.842***	-1.743***
	(-4.18)	(-4.16)	(-3.90)
BIGN	1.293*	1.310*	1.352*
	(1.69)	(1.71)	(1.76)
CF	-2.707**	-2.628**	-2.879**
	(-2.15)	(-2.09)	(-2.27)
F-Test (F-Stat)			
OVER+OVERXHI_ABILITY			(0.31)
HI_ABILITY+OVERXHI_ABILITY			( 4.25)**
Fixed Effects	Year, Industry	Year, Industry	Year, Industry
Observations	2,293	2,293	2,293
Area under ROC Curve	0.907	0.907	0.911
Pseudo R-squared	0.344	0.345	0.355

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Note: Two-tailed p-values are reported for hypothesized variables. The continuous variables are winsorized at the 1th and 99th percentiles. The symbols \*, \*\* and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**TABLE 5**  
Descriptive Statistics of Variables in Auditor Termination Tests

	OVERCON = 0 (N=1270)							OVERCON = 1 (N=894)							Low Ability	High Ability
	HI_ABILITY = 0 (N=810)			HI_ABILITY = 1 (N=460)				HI_ABILITY = 0 (N=543)			HI_ABILITY = 1 (N=351)				Overcon vs. Non-Overcon	
	Mean	Median	Std Dev	Mean	Median	Std Dev	Diff (Pr >  t )	Mean	Median	Std Dev	Mean	Median	Std Dev	Diff (Pr >  t )	Diff (Pr >  t )	Diff (Pr >  t )
AU_SWITCH	0.098	0.000	0.297	0.070	0.000	0.255	<b>0.077</b>	0.088	0.000	0.284	0.043	0.000	0.203	<b>0.005</b>	<b>0.573</b>	<b>0.095</b>
TERMINATED	0.080	0.000	0.272	0.052	0.000	0.223	<b>0.047</b>	0.083	0.000	0.276	0.034	0.000	0.182	<b>0.002</b>	<b>0.863</b>	<b>0.206</b>
RESIGNED	0.017	0.000	0.130	0.017	0.000	0.131	<b>0.989</b>	0.006	0.000	0.074	0.009	0.000	0.092	<b>0.606</b>	<b>0.035</b>	<b>0.260</b>
MGT_POWER	0.462	0.000	0.499	0.426	0.000	0.495	<b>0.220</b>	0.573	1.000	0.495	0.587	1.000	0.493	<b>0.676</b>	<b>&lt;.0001</b>	<b>&lt;.0001</b>
RESTATE	0.102	0.000	0.303	0.052	0.000	0.223	<b>0.001</b>	0.077	0.000	0.267	0.105	0.000	0.308	<b>0.162</b>	<b>0.109</b>	<b>0.006</b>
CFO_TURNOVER	0.200	0.000	0.400	0.189	0.000	0.392	<b>0.639</b>	0.101	0.000	0.302	0.131	0.000	0.338	<b>0.181</b>	<b>&lt;.0001</b>	<b>0.024</b>
CEO_TURNOVER	0.194	0.000	0.396	0.187	0.000	0.390	<b>0.765</b>	0.052	0.000	0.221	0.063	0.000	0.243	<b>0.489</b>	<b>&lt;.0001</b>	<b>&lt;.0001</b>
ABS_ACC	0.339	0.096	1.305	0.339	0.105	1.084	<b>0.999</b>	0.480	0.103	2.559	0.556	0.130	2.505	<b>0.664</b>	<b>0.238</b>	<b>0.131</b>
ICWEAK	0.075	0.000	0.264	0.039	0.000	0.194	<b>0.005</b>	0.064	0.000	0.246	0.057	0.000	0.232	<b>0.650</b>	<b>0.440</b>	<b>0.245</b>
GROWTH	-0.223	-0.048	1.920	-0.011	0.003	0.279	<b>0.002</b>	-0.151	-0.029	0.496	0.027	0.037	0.305	<b>&lt;.0001</b>	<b>0.310</b>	<b>0.064</b>
INVREC	0.250	0.237	0.157	0.294	0.259	0.196	<b>&lt;.0001</b>	0.215	0.188	0.164	0.252	0.197	0.193	<b>0.004</b>	<b>&lt;.0001</b>	<b>0.003</b>
MODOP	0.493	0.000	0.500	0.430	0.000	0.496	<b>0.033</b>	0.451	0.000	0.498	0.425	0.000	0.495	<b>0.433</b>	<b>0.135</b>	<b>0.866</b>
AUDIT_TENURE	11.236	9.000	8.495	11.093	8.000	9.069	<b>0.780</b>	11.046	9.000	8.101	12.217	9.000	9.163	<b>0.052</b>	<b>0.682</b>	<b>0.082</b>
ROA	-0.186	-0.067	0.380	-0.104	-0.040	0.197	<b>&lt;.0001</b>	-0.161	-0.069	0.289	-0.104	-0.032	0.281	<b>0.004</b>	<b>0.158</b>	<b>0.980</b>
LOSS	0.956	1.000	0.206	0.885	1.000	0.320	<b>&lt;.0001</b>	0.948	1.000	0.221	0.829	1.000	0.377	<b>&lt;.0001</b>	<b>0.551</b>	<b>0.026</b>
LEVERAGE	0.229	0.191	0.232	0.210	0.136	0.236	<b>0.159</b>	0.214	0.186	0.215	0.206	0.168	0.218	<b>0.559</b>	<b>0.228</b>	<b>0.792</b>
CASH	0.149	0.110	0.145	0.137	0.087	0.143	<b>0.145</b>	0.147	0.104	0.153	0.140	0.104	0.135	<b>0.431</b>	<b>0.839</b>	<b>0.767</b>
SPECIALIST	0.285	0.000	0.452	0.243	0.000	0.430	<b>0.108</b>	0.306	0.000	0.461	0.305	0.000	0.461	<b>0.978</b>	<b>0.417</b>	<b>0.051</b>
SIZE	6.295	6.293	1.511	6.349	6.348	1.605	<b>0.552</b>	6.557	6.360	1.498	6.853	6.679	1.447	<b>0.004</b>	<b>0.002</b>	<b>&lt;.0001</b>
MISMATCH	0.116	0.000	0.320	0.143	0.000	0.351	<b>0.168</b>	0.103	0.000	0.304	0.088	0.000	0.284	<b>0.466</b>	<b>0.459</b>	<b>0.014</b>

Note: All variables are as defined in Appendix A. All continuous variables are winsorized at the 1th and 99th percentiles.

**TABLE 6**  
Correlation Matrix for Auditor Termination Tests

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
(1) <b>TERMINATED</b>	1	-0.01	<b>-0.07</b>	<b>0.06</b>	<b>-0.07</b>	0.03	-0.01	0.02	0.03	<b>0.05</b>	0.01	0.00	0.01	0.01	<b>-0.05</b>	0.03	0.01	0.00	-0.03	<b>-0.08</b>	0.02
(2) <b>OVER</b>	-0.01	1	0.03	-0.04	<b>0.13</b>	0.01	<b>-0.11</b>	<b>-0.19</b>	0.04	0.00	0.03	<b>-0.10</b>	-0.03	0.02	0.03	<b>-0.05</b>	-0.02	0.00	0.04	<b>0.12</b>	<b>-0.04</b>
(3) <b>HI_ABILITY</b>	<b>-0.07</b>	0.03	1	-0.04	-0.01	-0.03	0.00	-0.01	0.01	<b>-0.05</b>	<b>0.08</b>	<b>0.11</b>	<b>-0.05</b>	0.02	<b>0.11</b>	<b>-0.16</b>	-0.03	-0.03	-0.03	<b>0.05</b>	0.01
(4) <b>GC</b>	<b>0.06</b>	-0.04	-0.04	1	<b>-0.08</b>	0.03	<b>0.06</b>	<b>0.06</b>	-0.02	<b>0.04</b>	-0.02	0.03	<b>0.20</b>	<b>-0.06</b>	<b>-0.19</b>	<b>0.05</b>	<b>0.09</b>	-0.01	0.02	<b>-0.09</b>	0.02
(5) <b>MGT_POWER</b>	<b>-0.07</b>	<b>0.13</b>	-0.01	<b>-0.08</b>	1	0.01	<b>-0.07</b>	<b>-0.09</b>	0.01	0.03	0.03	0.00	0.02	0.03	<b>0.08</b>	0.01	0.01	-0.02	0.01	<b>0.17</b>	-0.04
(6) <b>RESTATE</b>	0.03	0.01	-0.03	0.03	0.01	1	0.02	-0.01	-0.01	<b>0.19</b>	0.01	0.02	<b>0.05</b>	-0.01	-0.03	0.01	0.01	-0.03	0.01	0.03	-0.02
(7) <b>CFO_TURNOVER</b>	-0.01	<b>-0.11</b>	0.00	<b>0.06</b>	<b>-0.07</b>	0.02	1	<b>0.12</b>	-0.03	<b>0.04</b>	-0.03	-0.03	0.04	-0.03	<b>-0.06</b>	<b>0.04</b>	<b>0.04</b>	0.02	-0.02	-0.03	0.00
(8) <b>CEO_TURNOVER</b>	0.02	<b>-0.19</b>	-0.01	<b>0.06</b>	<b>-0.09</b>	-0.01	<b>0.12</b>	1	-0.01	0.02	-0.01	0.02	0.00	0.00	<b>-0.09</b>	0.04	-0.02	<b>0.07</b>	0.01	-0.02	-0.03
(9) <b>ABS_ACC</b>	0.03	0.02	0.03	-0.04	-0.03	0.02	-0.01	0.00	1	-0.01	0.02	<b>-0.07</b>	<b>-0.07</b>	-0.03	0.00	-0.04	-0.03	<b>0.12</b>	-0.02	<b>-0.08</b>	<b>0.08</b>
(10) <b>ICWEAK</b>	0.05	0.00	<b>-0.05</b>	0.04	0.03	<b>0.19</b>	<b>0.04</b>	0.02	0.04	1	0.02	<b>0.05</b>	<b>0.12</b>	-0.04	0.01	0.00	0.01	-0.01	0.02	-0.03	0.00
(11) <b>GROWTH</b>	0.01	<b>0.05</b>	<b>0.17</b>	<b>-0.07</b>	0.00	0.00	-0.03	<b>-0.09</b>	<b>0.06</b>	<b>0.06</b>	1	<b>0.05</b>	0.01	0.01	<b>0.06</b>	<b>-0.06</b>	<b>0.04</b>	<b>-0.07</b>	0.03	<b>0.05</b>	0.02
(12) <b>INVREC</b>	0.00	<b>-0.12</b>	<b>0.08</b>	0.02	0.01	0.02	-0.03	0.03	-0.03	<b>0.05</b>	-0.03	1	-0.03	<b>0.14</b>	<b>0.11</b>	<b>-0.29</b>	<b>-0.12</b>	<b>-0.25</b>	<b>-0.07</b>	<b>-0.11</b>	0.03
(13) <b>MODOP</b>	0.01	-0.03	<b>-0.05</b>	<b>0.20</b>	0.02	<b>0.05</b>	0.04	0.00	-0.02	<b>0.12</b>	<b>-0.04</b>	-0.02	1	0.01	0.00	<b>0.04</b>	<b>0.06</b>	<b>-0.05</b>	<b>0.06</b>	<b>0.13</b>	<b>-0.06</b>
(14) <b>AUDIT_TENURE</b>	0.01	0.03	0.00	<b>-0.06</b>	0.04	-0.02	-0.03	-0.01	-0.03	<b>-0.05</b>	<b>-0.05</b>	<b>0.12</b>	0.01	1	<b>0.11</b>	0.00	0.03	<b>-0.13</b>	-0.01	<b>0.20</b>	<b>-0.06</b>
(15) <b>ROA</b>	<b>-0.06</b>	0.02	<b>0.17</b>	<b>-0.20</b>	0.03	<b>-0.04</b>	<b>-0.05</b>	<b>-0.07</b>	<b>-0.05</b>	-0.01	<b>0.22</b>	<b>0.16</b>	-0.03	<b>0.09</b>	1	<b>-0.18</b>	-0.02	<b>-0.21</b>	0.00	<b>0.25</b>	<b>-0.10</b>
(16) <b>LOSS</b>	0.03	<b>-0.05</b>	<b>-0.16</b>	<b>0.05</b>	0.01	0.01	<b>0.04</b>	0.04	<b>-0.08</b>	0.00	<b>-0.23</b>	<b>-0.24</b>	<b>0.04</b>	0.00	<b>-0.45</b>	1	<b>0.06</b>	<b>0.06</b>	0.04	0.01	<b>-0.04</b>
(17) <b>LEVERAGE</b>	0.02	-0.01	-0.04	<b>0.05</b>	0.04	0.02	0.04	-0.03	<b>-0.13</b>	0.01	<b>0.05</b>	<b>-0.07</b>	<b>0.08</b>	<b>0.07</b>	<b>0.05</b>	0.04	1	<b>-0.24</b>	-0.01	<b>0.35</b>	<b>-0.17</b>
(18) <b>CASH</b>	0.01	0.00	-0.03	-0.04	-0.01	-0.03	0.01	<b>0.08</b>	<b>0.20</b>	-0.01	<b>-0.08</b>	<b>-0.20</b>	<b>-0.05</b>	<b>-0.10</b>	<b>-0.26</b>	<b>0.08</b>	<b>-0.40</b>	1	0.00	<b>-0.39</b>	<b>0.15</b>
(19) <b>SPECIALIST</b>	-0.03	<b>0.04</b>	-0.03	0.02	0.01	0.01	-0.02	0.01	<b>-0.04</b>	0.02	0.02	<b>-0.07</b>	<b>0.06</b>	0.00	0.01	0.04	-0.01	0.02	1	<b>0.10</b>	<b>-0.09</b>
(20) <b>SIZE</b>	<b>-0.08</b>	<b>0.11</b>	<b>0.06</b>	<b>-0.08</b>	<b>0.17</b>	0.04	-0.02	-0.01	<b>-0.19</b>	-0.03	<b>0.04</b>	<b>-0.12</b>	<b>0.12</b>	<b>0.20</b>	<b>0.26</b>	0.01	<b>0.48</b>	<b>-0.35</b>	<b>0.10</b>	1	<b>-0.36</b>
(21) <b>MISMATCH</b>	0.02	<b>-0.04</b>	0.01	0.02	-0.04	-0.02	0.00	-0.03	<b>0.08</b>	0.00	0.03	0.02	<b>-0.06</b>	<b>-0.07</b>	<b>-0.09</b>	-0.04	<b>-0.22</b>	<b>0.13</b>	<b>-0.09</b>	<b>-0.38</b>	1

Note: The table presents Pearson (above the main diagonal) and Spearman (below the main diagonal) correlations among our variables of interest and control variables. All variables are as defined in Appendix A. All continuous variables are winsorized at the 1th and 99th percentiles. Correlations in bold are statistically significant at the 5% level or better.

**TABLE 7**  
Multivariate Regression for Managerial Attributes and Auditor Termination

	Full Sample	High Ability	Low Ability
VARIABLES	(1) TERMINATED	(2) TERMINATED	(3) TERMINATED
OVER	-0.122 (-0.60)	-0.659 (-1.43)	0.095 (0.40)
GC	-0.774 (-1.33)	-1.882 (-1.31)	-0.621 (-0.92)
OVERXGC	2.268*** (2.88)	2.991 (0.81)	2.012** (2.29)
RESTATE	0.452 (1.49)	0.664 (0.86)	0.472 (1.37)
CFO_TURNOVER	-0.336 (-1.30)	-0.016 (-0.03)	-0.379 (-1.21)
CEO_TURNOVER	0.231 (0.88)	-0.362 (-0.56)	0.556* (1.82)
ABS_ACC	0.139*** (2.85)	0.733* (1.95)	0.126** (2.38)
ICWEAK	0.716** (2.11)	0.565 (0.58)	0.802** (2.14)
GROWTH	0.193 (0.79)	0.993 (1.01)	0.265 (1.00)
INVREC	-0.066 (-0.10)	-1.195 (-0.86)	0.614 (0.78)
MODOP	0.319 (1.43)	1.704*** (3.00)	0.050 (0.19)
ROA	0.056 (0.22)	-0.124 (-0.14)	0.169 (0.59)
LOSS	0.572 (1.33)	1.695 (1.62)	0.365 (0.69)
LEVERAGE	0.425 (1.02)	-0.285 (-0.30)	0.503 (1.01)
CASH	-0.461 (-0.60)	-2.264 (-1.21)	-0.031 (-0.03)
SPECIALIST	-0.152 (-0.70)	-0.570 (-1.08)	0.000 (0.00)
SIZE	-0.305*** (-3.59)	-0.402** (-2.20)	-0.300*** (-2.87)
MISMATCH	0.110 (0.37)	0.070 (0.10)	0.205 (0.58)

OVER+OVERXGC	(7.70)***	(0.40)	(5.96)**
GC+OVERXGC	(6.80)***	(0.10)	(4.96)**
Fixed Effects	Year, Industry	Year, Industry	Year, Industry
Cluster	Firm	Firm	Firm
Observations	2,164	811	1,353
Area under ROC Curve	0.782	0.869	0.773
Pseudo R-squared	0.144	0.283	0.140

Note: Two-tailed p-values are reported for hypothesized variables. The continuous variables are winsorized at the 1th and 99th percentiles. The symbols \*, \*\* and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively

**TABLE 8**  
**Multivariate Regression between Powerful Management and Powerful Audit Committee**

VARIABLES	Powerful Management		Powerful Audit Committee	
	(3) TERMINATED	(4) FIRST_GC	(1) TERMINATED	(2) FIRST_GC
Constant	-1.374 (-0.61)	-10.095 (2.49)	-1.643 (-0.96)	-12.470 (-0.01)
OVER	0.858** (2.25)	1.263* (1.84)	-0.227 (-0.71)	1.036** (2.04)
HI_ABILITY	0.312 (0.66)	0.524 (0.72)	-0.777** (-2.20)	0.301 (0.59)
OVERXHI_ABILITY	-1.729** (-2.30)	-7.496* (-4.37)	-0.072 (-0.12)	-1.085 (-1.13)
Fixed Effects	Year, Industry	Year, Industry	Year, Industry	Year, Industry
Observations	1,087	1,149	1,077	1,144
Area under ROC Curve	0.8138	0.924	0.805	0.920
Pseudo R-squared	0.189	0.242	0.181	0.348

Note: Two-tailed p-values are reported for hypothesized variables. The continuous variables are winsorized at the 1th and 99th percentiles. The symbols \*, \*\* and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

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