

THE EFFECT OF TIME PRESSURE ON PROFESSIONAL
SKEPTICISM LEVELS EXHIBITED BY
STUDENT AUDITORS

by

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ABSTRACT

Audits provide the capital market with a foundation of financial assurance. Regulators and researchers believe that professional skepticism contributes to quality auditing (PCAOB 2012a). Therefore, in order to create high-quality audits, it is important to understand the factors that influence professional skepticism. One of those factors, time pressure, is prevalent to all auditors of public companies. Prior research suggests that time pressure can have a positive influence on audit quality (e.g., Glover 1997; Robison et al. 2013), while others suggest that it can have a negative influence on audit quality (McDaniel 1990; Coram 2004). In my experiment using student auditors, this study examines the influence that time pressure has on levels of state professional skepticism. Additionally, I offer supplemental analysis regarding the effect of time pressure on levels of trait professional skepticism. I find that time pressure has an inconclusive effect on state professional skepticism, but it has a negative effect on levels of trait professional skepticism. I also offer conclusions and implications for standards-setters and audit firms.

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INTRODUCTION

In 2002, one of the largest and seemingly most successful energy companies in the world, Enron, collapsed and subsequently declared bankruptcy. In late 2001, Enron released a Form 8-K that revealed one of the largest frauds to date – including concealment of assets and liabilities, the nondisclosure of related-party transactions, corporate governance problems, and the overstatement of assets and equity. The release led to Enron’s subsequent restatement of financial statements and declaration of bankruptcy. Consequences rippled through the economy. Thousands of employees lost their jobs and retirement money invested in the company’s shares and shareholders suffered enormous losses. The Securities and Exchange Commission’s (SEC) investigation revealed that the audit team failed to gather enough information on Enron’s more complicated transactions. Their auditor, Arthur Anderson, let the long-standing relationship with Enron cloud their judgment, which provided the opportunity for Enron to perpetrate this fraud under their watch (Catanach & Ketz, 2012). The scandal called into question the most fundamental beliefs of investors in the United States about how their interests are protected. As the ‘gatekeepers’ for the investing public, how did they allow these frauds to occur?

The key to uncovering frauds lies in auditors’ ability to maintain a skeptical attitude toward what the client’s management team tells them about their financial position and results of operations. If Anderson’s auditors had confirmed Enron’s financial information with documented evidence, they may have discovered the fraud much earlier. This crucial factor enabling auditors to catch fraud comes from their professional skepticism (Catanach & Ketz, 2012).

The importance of an audit in the capital market comes from the security it gives investors and stakeholders in the market. According to a 2011 Gallup poll, over 54% of Americans have stock market investments (Jacobe, 2011). Americans should be able to rely on the financial statements that companies release in order to assess the reliability of their investments. However if companies' management has a vested interest in maximizing their company's value, how can the investing public rely on them? The Securities and Exchange Commission (SEC) answered this question by requiring public companies to submit financial statements following a framework called Generally Accepted Accounting Principles (GAAP) ("All About Auditors"). Additionally, the SEC requires independent auditors to examine public companies' financial statements and release an opinion as to whether the financial statements are presented reliably and in accordance with the GAAP framework (PCAOB, 2012). By verifying that financial statements are not materially misstated, audits help increase investor confidence in not only the companies in which they invest, but in the market as a whole.

Professional standards instruct auditors to conduct audit procedures with an attitude of professional skepticism (PCAOB, 2012a). Professional skepticism (hereafter, PS) is an attitude that includes a questioning mind and a critical assessment of audit evidence (PCAOB, 2012). This study defines PS as trusting management's claims about financial statements only if information the auditor critically examines supports those claims. PS can help auditors identify fraud cues and contradictions in financial statements (Hurt, 2013). Despite the emphasis placed on PS, a lack of PS continues to contribute to a large number of audits failing to give the correct audit opinion. Beasley, Carcello, &

Hermanson (2001) explain that the SEC found that auditors failed to exercise proper levels of PS in 71% of enforcement cases.

PS is not just a trait within accountants' skill sets – the lack of PS is increasingly becoming the main reason that auditors issue incorrect audit opinions. Therefore, it is important to research the factors that can positively or negatively impact auditors' PS. Many internal and external factors can influence PS, including incentives, auditor traits, prior experience, and client-specific factors (Nelson, 2009). One of the most prevalent external factors prevalent in the auditing field is time pressure. The SEC requires large, public companies to file their audited financial statements within 75 days after their year-end (“Form 10-K”). Additionally, time pressure emerges in the auditing field because audit firms constantly try to complete quality audits in a quick turnaround time (Robison, 2013). In fact, McDaniel (1990) finds that auditors face increased competition and cost pressures, which they are trying to handle by decreasing the time spent on audits. Thus, individual auditors face pressure to complete audits in a somewhat unreasonable time frame motivated by the quick audit deadline from the SEC.

Current research on the impact of time pressure on general audit quality has come to two opposing conclusions. The first conclusion is that time pressure leads to *lower* audit quality. Studies have found that high time pressure can lead to a decrease in audit efficiency (McDaniel, 1990), an increase in underreporting of number of hours of audit work (Kelley & Margheim, 1990), and an increase in accepting doubtful audit evidence (Coram, Ng & Woodliff, 2004). Asare, Trompeter & Wright (2000) found that increasing time pressure reduces the extent and depth of audit testing, but not the breadth. The second conclusion is that time pressure leads to *higher* audit quality. Studies have found

that high time pressure decreases judgmental bias on relevant information (Glover, 1997) and increases state PS (Robison, 2013). Low & Tan (2011) found that auditors performed poorly under time constraints, but if they are forewarned about it, time pressure has no effect on audit quality.

This study aims to bridge the gap in the conflicting research by conducting an experiment looking at time pressure's effect on PS with student auditors. Specifically, this study's research question is: How does time pressure affect student auditors' professional skepticism?

The remainder of this paper is organized as follows: First, this study addresses two important constructs in auditing practice and research: professional skepticism and time pressure. Second, the hypothesis is developed. Third, an explanation of the methods of the experiment and analysis will be provided. Fourth, the results will be discussed. Finally, there will be concluding analysis.

I. Review of Current Literature

The early 2000s brought some of the largest frauds ever seen by the investing public. In 2001, Waste Management (WM), a waste disposal and recycling company, restated its financial statements by \$1.43 billion between the years of 1992 and 1996. The restatement caused WM to pay shareholders over \$220 million in settlement. WM's auditors, Arthur Anderson, considered WM to be their biggest client. Top auditors at Anderson knew WM inflated income by over 15% total between 1992 and 1996, but they failed to issue a qualified or adverse opinion despite its materiality. The Anderson auditors displayed little professional skepticism while conducting the audit – they merely accepted the financial statements as presented, even with the knowledge of the inflated

income (Schroeder, 2001). Displaying PS is about trusting management's claims, but verifying at the same time. However the auditors at Anderson trusted without verification, causing a large financial misstatement to perpetuate. Like the Enron scandal, the WM fraud proved the importance of auditors maintaining a doubtful attitude toward their clients and distance from becoming comfortable with particular clients. Therefore, it is vital to research PS - specifically the factors that influence it and how to keep it at the forefront of auditors' minds.

In order to investigate the factors influencing professional skepticism, this study addresses the relationship between PS and time pressure; two constructs that are important in auditing practice and research. Therefore, this study first defines and describes the importance of each construct. Second, the hypothesis is developed - outlining the null relationship between time pressure and state PS.

What is Professional Skepticism?

Professional skepticism (PS), while key to performing audits, has been defined in many different ways by standards-setters and researchers. In synthesizing these definitions of PS, this study defines PS as trusting management's claims about financial statements only if information the auditor critically examines supports those claims. After the Enron scandal of 2001, Congress felt that not enough oversight existed in the public accounting field. Thus, they established the Public Company Accounting Oversight Board (PCAOB) to create standards that guide auditors in helping protect investors ("About the PCAOB"). Through their Staff Audit Practice Alerts, the PCAOB defines PS as "an attitude that includes a questioning mind and a critical assessment of audit evidence" (PCAOB 2012, 1). Through their study of ethics and PS, Shaub and Lawrence

(1996) define PS as a “choice to fulfill the professional auditor’s duty to prevent or reduce the harmful consequences of another person’s behavior [...] this means being willing to doubt, question, or disagree with client assertions or generally accepted conclusions” (p 126) Including ethics in their study of PS emphasizes not only an auditor’s professional duty behind PS, but also the ethical responsibility to reduce harm to others.

Two recent studies have expanded knowledge of PS. Nelson (2009), in creating a model of PS, defines PS as “auditor judgments and decisions that reflect a heightened assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor” (p 1). Nelson’s definition strongly follows the PCAOB definition. Finally, while creating a scale to measure auditors’ PS, Hurtt (2010) defines six characteristics that skeptical auditors display - a questioning mind, a suspension of judgment, a search for knowledge, interpersonal understanding, self-esteem, and autonomy. These characteristics help give a more concrete picture of what a skeptical auditor looks like. Detailed definitions of PS are necessary to provide a foundation for further understanding of PS and its importance in an audit. Auditors must take each into consideration while performing a skeptical audit.

Why is professional skepticism important in an audit?

Defining PS helps form a foundation for understanding. PS’ importance in creating a superior audit is the reason standards-setters emphasize it and researchers frequently study it.

Standards-Setters

The desire to provide reliable financial statements motivates standards-setters to discover the bases behind a high-quality audit. The PCAOB has provided standards emphasizing their interpretation of qualities necessary in an effective audit. PCAOB standards explain that applying PS is critical to audit performance and helps determine whether financial statements are free of material misstatement. The value of an audit performed without PS is severely impaired and can cause incorrect opinions (PCAOB, 2012). Furthermore, Securities and Exchange Commission (SEC) Chief Accountant George Diacont identified lack of PS as a primary cause of audit failure (Nelson, 2009).

Researchers

Researchers have found similar results indicating that PS is vital to performing high quality audits. Shaub & Lawrence (1996) studied the impact that different ethical situations have on auditors' level of PS. They found that an auditor's greatest contribution to restraining a client's self-interested behavior is having high levels of PS. Since clients want their financial statements to reflect the highest company value, auditors must be able to catch and restrain self-serving behavior in an audit. Coppage and Shastri (2014) examined PCAOB and IAASB (International Auditing and Assurance Board) board members' thoughts about PS and found similar conclusions about the importance of PS in audits. IAASB Chairman Arnold Shilder said that maintaining skepticism is a professional responsibility for auditors and is part of an integral skill set that allows auditors to remain independent and conduct high-quality audits. Finally, Hurtt & Early (2013) found that PS helps auditors detect fraudulent behaviors from the client. Overall, standards-setters and researchers emphasize the benefits of maintaining a

skeptical attitude. High levels of PS help auditors accurately examine financial statements, limit clients' 'aggressive accounting', and catch instances of fraud.

Example - Pacific Waste

Standards-setters and researchers continuously emphasize the impact of PS on audit quality, yet there are many examples of companies perpetrating fraud due to auditors' lack of PS. Enron is only one example of auditors failing to maintain their PS and catch a major fraud. On a smaller scale, auditors on the engagement for Pacific Waste (PW) failed to detect related-party transactions. PW purchased an interest in another company owned by its president, which then represented 98% of PW's assets. The president improperly inflated securities in order to inflate PW's assets (Henry, Gordon, Reed, & Louwers, 2007). Related-party transactions occur when a company engages in a transaction with another entity or person that is not at 'arms-length'. If they occur, the company must disclose the transactions in their footnotes to address potential conflicts of interest. Through their investigation of Pacific Waste, the SEC found evidence of this related-party transaction, while the auditors claimed that they did not have adequate documentation to show these transactions existed. However, the SEC found documents within the auditors' file that clearly showed the company president was also an officer, director, and controlling shareholder of the investee company (Louwers, Henry, Reed & Gordon, 2008). By merely accepting management's claims that related-party transactions did not exist at Pacific Waste, the auditors overlooked the conflict of interest and inflated assets. This study defines PS as trusting management's claims about financial statements only if information the auditor critically examines supports those claims. The auditors in this case did not critically examine the documents explaining the

transaction between the President's company; thus their lack of PS allowed the fraud to occur.

Auditors' Dilemma

Through the Sarbanes-Oxley Act of 2002, Congress hoped to outweigh the temptation for managing earnings with greater costs for auditors and management. The high costs include loss of reputation, financial penalties, and even imprisonment. However this requires audit firms to play a balancing act between their integrity and their bottom line. The value of an audit comes from the audit firm's reputation for integrity and independence, yet the firm is also dependent on maintaining good relations with the client to maintain revenue streams. In the late 1990s, SEC Chair Levitt reiterated that public companies are increasingly managing their earnings, and auditors are increasingly unwilling to question management at the risk of losing an important client (Brown-Liburd, Cohen, and Trompeter, 2013). At the root of the decrease in oversight is lack of PS. In an inspection of four years of audits, the PCAOB found that accounting firms are simply not challenging management's claims by finding suitable evidence to substantiate those claims (PCAOB, 2008). In auditors' efforts to understand PS, PCAOB board member Jeanette Franzel explained that PS is a complex topic that spans disciplines including auditing literature, theory, practice, governance, business models, and ethics (Coppage and Shastri, 2014). PS is a complicated topic that needs to be further explored to understand the factors that influence it.

Time Pressure

Time pressure is a stressor many feel on a daily basis. For example, marketing researchers found that time pressure negatively affects consumer decisions. Dhar and

Nowlis (1999) conducted multiple studies testing how time pressure affected consumer choices about what products to purchase, or whether to make a purchase at all. Their studies found that time pressure forced consumers to focus on the unique and differentiating factors of a product instead of the entirety of their decision. For example, under time pressure, consumers choosing between apartments would only notice that Apartment 1 has a washer and dryer while Apartment 2 has wood floors. However, the time pressure did not allow consumers to consider the entirety of their choice including location, price, and distinguishing features. While consumers' decisions are not the focus of this study, it shows the prevalence of how time pressure can negatively affect the way someone thinks when making a decision.

One of the most prevalent factors faced by auditors is time pressure. In many industries, employees work equal workweeks throughout the year. However, the work of an auditor is primarily done in the winter months, called "busy season". The SEC requires a large public company to file audited financial statements 75 days after the fiscal year-end ("Form 10-K"). For example, if a company's fiscal year end is December 31, they must complete their audited financial statements by March 16. A tight deadline like this creates a high level of time pressure for audit firms and their employees to complete their audits by this SEC deadline. Many auditors indicate that this time pressure to complete an audit and the hours of work required during busy season creates a willingness to accept financial information as it is prepared by the company, in order to complete the audit (Hurt, 2013; Glover, 1997). To add further pressure, there is intense competition between audit firms, who must compete on price in addition to audit quality provided in order to remain competitive (Low and Tan, 2011). Thus, audit firms must

collect sufficient evidence and analyze the information effectively in a timely manner, which can be a difficult balance to find. Time pressure requires individual auditors to complete very complicated tasks quickly. The external time pressure creates performance restrictions and causes constant stress for auditors (McDaniel, 1990).

In the accounting field, stress, like time pressure, costs between \$9 and \$20 billion due to the physical and negative affects on employees (Weick, 1983). As stress increases, performance initially increases. As stress continues to increase, however, performance begins to decrease. After time pressure passes the productivity threshold, auditors will notice fewer details, look at evidence for shorter periods of time, and attribute new information to events in the past. Without the time to properly investigate management's claims, auditors lack the ability to thoroughly evaluate a company's financial statements (Weick, 1983). For example, Kelley and Margheim (1990) found that when faced with high time pressure, 31% of auditors would do less work on an audit step than would normally be considered reasonable. Researchers and standards-setters must consider how time pressure affects audit quality.

Relationship between Professional Skepticism and Time Pressure

Currently, there is a lack of research to explain the specific relationship between PS and time pressure. However, a number of studies have manipulated time pressure and observed the resulting effect on overall audit quality. The studies found conflicting results, as some found that increased time pressure decreases the quality of an audit, but despite its negative prevalence in the audit field, others found that increased time pressure increases the quality of an audit.

Time Pressure Decreases Audit Quality

Two influential studies conclusively found that time pressure negatively affects audit quality. McDaniel (1990) studied the effects of time pressure on the effectiveness and efficiency of audits. The study found that audit efficiency increases and effectiveness decreases. Auditors completed tests quickly, but were less likely to find errors in those tests with high time pressure. The study also noted that auditors tend to under-audit in general, but even more with increasing time pressure. Kelley and Margheim (1990) studied the effects that time (budget) pressure has on auditors' performance of behaviors that reduce audit quality, like prematurely signing off on audit steps. Their study found that increasing the amount of pressure resulted in a greater number of behaviors that reduce audit quality. Similar to the findings from marketing researchers Dhar and Nowlis, these two studies found that time pressure caused auditors to complete their tasks too quickly, which caused them to exhibit behaviors that lower audit quality.

Time Pressure Increases Audit Quality

Parkinson's Law states that work expands or contracts to fill the amount of time available for it, and people choose their effort levels to be appropriate for the amount of time they have available to accomplish those tasks (Peters, O'Connor, Pooyan, and Quick, 1984). If Parkinson's Law applies to time pressure in the audit field, increasing time pressure on an audit hastens auditors to complete their tasks, so the auditors remain more focused and able to properly complete their tasks.

One influential study conclusively found that this logic applies to auditing, observing that time pressure increases audit quality. Glover (1997) studied the relationship between time pressure and auditors' abilities to distinguish relevant

information among irrelevant information. The study found that time pressure helped auditors focus on relevant information since auditors were forced to synthesize information quickly. Glover's study was paramount in discovering that time pressure can create a positive effect on auditor behavior.

Time Pressure Has Mixed Effects on Audit Quality

While some studies have come to conclusive results about the effects of time pressure on audit quality, other research has come to inconclusive results. Asare et al. (2000) found that the presence of a time budget decreases both the total number of planned tests (extent) and the number of tests per hypothesis (depth), but does not change the number of hypotheses tested (breadth). The results indicate that auditors search for supporting evidence for every topic needed, but reduce the amount of evidence sought for each topic. Low and Tan (2011) studied the difference between forewarned time constraints and surprised time pressure. Their study found that when facing an unexpected increase in time pressure, auditors are more likely to rely on a previous year's audit procedures, meaning they display less PS. However, forewarning auditors of impending time constraints improves auditor performance under time pressure. Finally, Coram et al. (2004) studied auditors' propensity to perform behaviors that reduce audit quality, like accepting doubtful audit evidence or performing fewer audit tests under time pressure. Audit firms assess a client's risk of material misstatement before performing an audit, which is the risk that a company's financial statements have material misstatements before being audited. This study found that auditors are more likely to accept doubtful evidence in the high time pressure condition regardless of the risk of material misstatement, and that auditors are more likely to accept a lower number of audit tests

under high time pressure, but only when the risk of material misstatement is low. These three studies found that time pressure does not create a distinct positive or negative outcome on an audit, and the result is highly dependent on the specific situation that the researcher chose.

Time Pressure and Professional Skepticism Study

One study directly examined the effect that time pressure has on auditors' levels of PS. Robinson, Curtis, and Robertson's (2013) study found that time pressure had a positive relationship with PS. However, the study notes that the results were likely related to the specific task their subjects performed. Thus, further research is needed in order to best understand the effects of time pressure on PS and audit quality. This study aims to replicate the Robinson et al. experiment with modifications for utilizing student auditors, which are mentioned in the experimental design section.

Studies have come to conflicting results about how time pressure affects audit quality. Therefore, this study proposes that higher levels of time pressure will not affect levels of state PS. Stated formally:

Hypothesis (H0): Student auditors under high time pressure will not exhibit different levels of state PS than student auditors under low time pressure.

II. Methodology

Sample

The study's sample consists of seventy student auditors from Texas Christian University. Participation was anonymous, and no personally identifying information was collected. The participants consisted of forty-one males and twenty-nine females, with a mean age of approximately twenty-one and a half. Sixty-eight students were in their

fourth year of undergraduate studies, and the average number of accounting classes taken was seven. Utilizing student auditors was appropriate because they were only one year from performing audit work in the field. The focus of this case was auditing bad debt expense estimates, and all participants had previously taken courses within their undergraduate curriculum that gave students experience working with bad debt expense. See Table 1 below.

Table 1: Demographic Information

	Number in Sample	Percentage in Sample
Male	41	59%
Female	29	41%
Total	70	100%

Experimental Design and Procedure

The experiment was a 2 x 1 experimental design where the independent variables were high time pressure and low time pressure and the dependent variables were change in auditor's state professional skepticism and overall levels of professional skepticism. Time pressure was manipulated as follows: In the high time pressure condition, participants were told that completing the task in 15 minutes has historically proven to be an inadequate amount of time. In the low time pressure condition, participants were told that 15 minutes was an adequate amount of time to complete the task. The study decided to utilize *perception* of time as the manipulation.

Experimental Task

This case is a modified version of the instrument created Robison et al. (2013) that requires participants to evaluate bad debt expense (See Appendix A for full instrument). Bad debt expense is an accounting estimate, which is an approximation of a

financial statement element or account. Estimates are included in financial statements because measuring some amounts is difficult and depends on the outcome of future events (“AU Section 342”). Bad debt expense is an estimate because companies are unsure what portion of accounts receivable they will collect in the future. Because estimates like bad debt are based on predictions about the future, management has an opportunity to partake in aggressive earnings management or even fraud. Robison et al. originally choose a task for evaluating estimates because auditors who do not exhibit heightened PS are more likely to give into client’s preferences for estimates (Brown-Liburd et al. 2013).

Instrument

The modifications from the study by Robison et al. included a shorter version of the valuation of bad debt, and excluded the portion that related to testing of goal framing since that was not a part of this study’s constructs. The modifications were made due to the less experienced nature of the participants.

The experimental study was conducted in three phases. In Phase One, participants completed the Hurtt (2010) trait skepticism scale to provide a measure of their trait PS. Consistent with prior research, the study measured trait skepticism prior to completing the case study. This ensures the initial measure reflects traits and is not influenced by case content. The scale contains thirty questions. Additionally, participants answered basic demographic questions related to gender, age, year in university, and number of accounting courses taken.

Phase Two was the case study and the primary experimental task. Participants were asked to evaluate the reasonableness of the client’s estimate for bad debt expense.

Bad debt expense is an estimate made by a company's management of the amounts owed by customers for sales on account that will not be collected. Participants were given information about the fictitious client, Associated Industries, to use to evaluate the appropriateness of management's estimate. The information included company background, individuals involved in the case, brainstorming session information used to support management's estimate, current year audit information, and select financial information. Participants answered basic questions about the client's estimate of bad debt expense after evaluating the provided information. Phase two was the phase that included the time pressure manipulation.

Phase Three was a case reflection. Participants responded to manipulation check questions, state PS questions, contradictions caught in the case materials, and time pressure questions. Finally, participants took the Hurtt (2010) trait skepticism scale a second time.

Research Design

Auditors can display two important types of PS – state PS and trait PS. In developing a scale to measure PS, Hurtt (2010) parses the difference between the two types of PS. State PS is a temporary condition that changes based on situational variables, such as incentives or mood. On the other hand, trait PS is a relatively stable and enduring part of an auditor's personality. Studies before Hurtt (2010) have measured PS utilizing different scales, making it difficult to compare the results of the studies. Additionally, it was unclear whether the studies captured state or trait PS. The original Hurtt Professional Skepticism Scale aimed to measure trait PS. However, Robinson et al. (2013) utilized a combination of the Hurtt Professional Skepticism Scale and questions designed to

measure state PS to best capture participant's level of PS. Trait PS develops slowly over time and is difficult to change, while state PS changes with differences in the situation. By understanding the situational factors influencing PS as well as enduring aspects of auditors' personalities, audit firms can increase their auditors' PS. By utilizing the Hurtt Professional Skepticism Scale in combinations with questions from Robison et al. (2013) study, this study's results will capture state and trait PS.

An important component of this experimental design is that it captured efficiency and effectiveness necessary in a normal audit. The time pressure created the need for the participants to complete the case study efficiently. This hypothetical case contained inconsistent information about the company's bad debt expense between company personnel and the financial information. If the participants carefully reviewed the case, they should have determined that management's estimate of bad debt is not reasonable. This component of the study mimicked the need for effectiveness in an audit.

Variables

Independent Variable – Time Pressure

Matteson and Ivancevich (1987) found that a stress response “depends not so much on the inherent characteristics of the stressor but on how the individual in question perceives or evaluates the stressor” (p 79). Following this logic, this study used participant's perception of time pressure as the independent variable instead of varying the amount of time actually given to the participants of the two conditions.

To vary the perceived time pressure, participants were placed in two conditions. In both conditions, participants had fifteen minutes to complete the task. However, the difference was in the case instructions. Instructions in the low time pressure group told

participants that they had 15 minutes, which was “extremely reasonable”, citing that 95% of auditors were able to complete this type of case in the past. Additionally, the research proctor did not remind the students of how much time remained throughout the study. Instructions in the high time pressure group told participants that they had fifteen minutes, which was “extremely limited”, citing that only 35% of auditors were able to complete this type of case in the past. Additionally, the research proctor reminded this group of their time limits at ten minutes and five minutes, and every one-minute after the five-minute mark. To maintain the integrity of these two groups, the studies were conducted at different times with different participants.

Dependent Variable – Professional Skepticism

This study measured trait professional skepticism using the 30-item Hurtt (2010) scale. As previously mentioned, this study focuses on six dimensions of professional skepticism: search for knowledge, suspension of judgment, self-determining, interpersonal understanding, self-confidence, and questioning mind. Participants responded to 30 statements about how they generally feel about themselves. For example, participants indicated their level of agreement to the statement, “I do not like to decide until I’ve looked at all of the readily available information.” Responses were on a scale of 1-7, with 1 indicating “Strong Disagreement” and a 6 indicating “Strong Agreement”. Eight of the statements were ‘reverse’ questions, in which a higher numbered response indicates a lower level of trait PS. For example, participants indicated their level of agreement to the statement, “It is easy for other people to convince me.” In this statement, a higher numbered response would indicate a higher level of trait PS. In the Hurtt PS Scale, the minimum score is 30 and the maximum score is 180. For this study’s

sample, the range for trait PS was 107-175 and 101-170 for the first and second administrations of the scale, respectively. For this study's sample, the mean scores for trait PS were 121.7 and 120.5 for the first and second administrations of the scale, respectively. Hurtt (2010) reported that professional auditors' scores were 138.6 and 135.6 in two administrations of the scale.

This study also included questions related to state PS by including phrases such as "in this case" or "while working on this case". For example, a participant would indicate their agreement to the statement, "During this experiment, I did not like deciding until I had a chance to look at all of the available information."

III. Results

In this section, I discuss the results of my statistical testing. I first discuss the evaluation of my manipulation check questions, and then I discuss the results of the hypothesis testing.

Manipulation Check

To assess whether the manipulation of time pressure was effective, the study asked the participants several questions. Recall that Question 0 was asked during Phase 1 within the company information, *before* asking the participants to complete the main experimental task. The question asked participants to rate their level of agreement to the statement: "What is your perception regarding the amount of time that you will have to complete this case?" Participants responded on a 7-point Likert scale where a response of 1 indicated, "Not much time", and a response of 7 indicated, "Plenty of time". Results find lower perceived time pressure in the low time pressure group (mean (M) = 4.438) than in the high time pressure group (M = 2.947), as intended. Significance is tested at p

< 0.05 ($t=4.213$, $p=0.00$, two-tailed); thus the difference is statistically different. Exhibit 1 presents a bar graph comparing the mean responses between the high time pressure group and the low time pressure group.

The second manipulation check (Question 8) was *after* the experimental task, which asked participants to rate their level of agreement to the statement: “What is your perception regarding the amount of time that you had to complete this case?” Results find lower perceived time pressure in the low time pressure group ($M = 4.469$) than in the high time pressure condition ($M = 3.974$). Significance is tested at $p < 0.05$ ($t=1.172$, $p=0.245$, two-tailed); thus the difference is not statistically significant. Exhibit 2 depicts a bar graph of the mean responses from the high time pressure group and the low time pressure group. This could be because the task was either too complicated or simple for the student auditors, so they did not find the time pressure as difficult as originally expected. Table 2 presents the results of the t-tests used to statistically compare the means between the two manipulation checks.

Exhibit 1: Question 0 – Manipulation Check

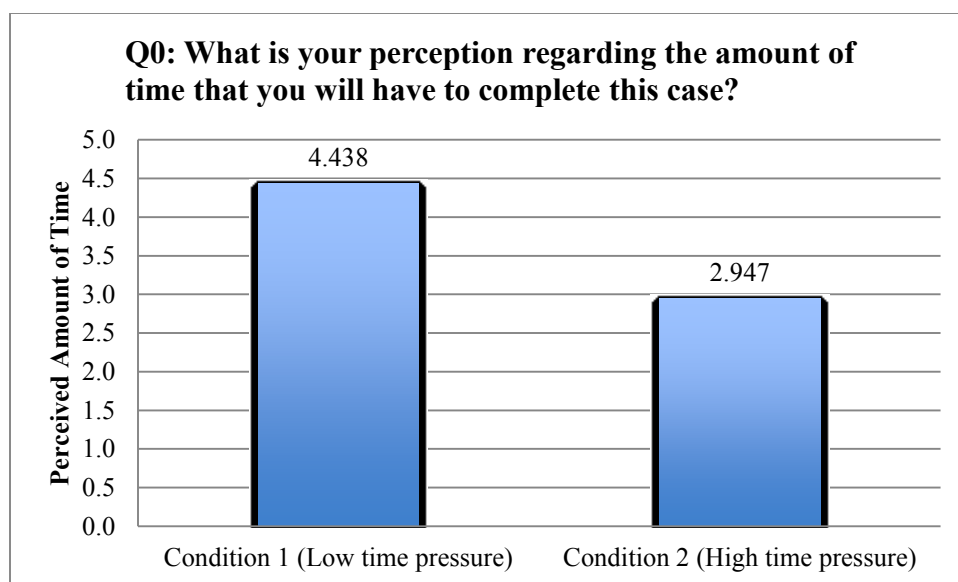


Exhibit 2: Question 8 – Manipulation Check

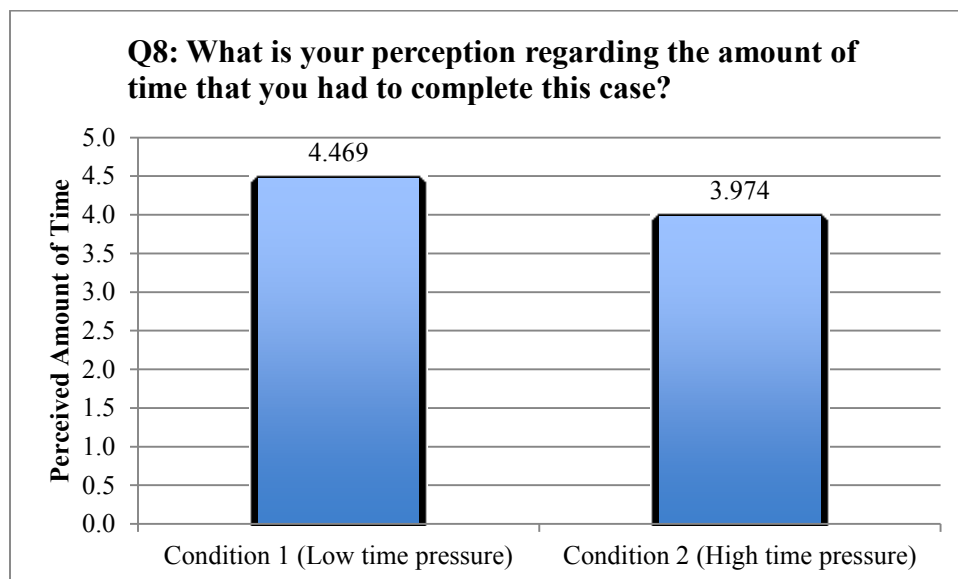


Table 2: Comparison of Manipulation Checks

	Question 0	Question 8
Mean of High Time Pressure Group	2.947	3.974
Mean of Low Time Pressure Group	4.438	4.469
t-statistic	0.000	0.245
p-value	0.050	0.050

Hypothesis Testing

Recall the null hypothesis (H0): Student auditors experiencing high time pressure will not exhibit different levels of state PS than student auditors under low time pressure. In order to test the hypothesis, the study asked participants several questions related to their level of state PS. Question 33 asked participants to rate their level of agreement to the statement: “During the case, I looked at less information that I might have, because of the time pressure that I felt.” Participants responded on a 7-point Likert scale where a response of 1 indicated, “I do not agree at all”, and a response of 7 indicated, “Fully agree”. Results of this question indicate participants in the low time pressure group felt

that the time pressure similarly affected the amount of information at which they looked ($M = 5.094$) compared to the high time pressure group ($M = 5.658$). Significance is tested at $p < 0.05$. Results of t-test, which are presented in Exhibit 3, do not indicate a significant difference between state professional skepticism from the high time pressure group and the low time pressure group ($p = .11$, two-tailed).

Question 34 asked participants to indicate their level of agreement to the statement: “During the case, I may have rushed my judgments a little in order to finish in the time allotted.” Participants responded on a 7-point Likert scale where a response of 1 indicated, “I do not agree at all”, and a response of 7 indicated, “Fully agree”. Results of this question indicate participants in the low time pressure group felt that the time pressure did not cause them to rush their judgments as strongly ($M = 4.938$) compared to the high time pressure group ($M = 5.789$). Significance is tested at $p < 0.05$. Results of t-test, which are presented in Exhibit 4, indicate a significant difference between state professional skepticism from the low time pressure group and the high time pressure group ($p = .02$, two-tailed). The two results are inconclusive – results from question 33 indicate high time pressure had no effect on state PS, supporting H_0 . However, results from question 34 indicate that high time pressure decreases state PS in student auditors.

Exhibit 3: Question 33 – Hypothesis Test

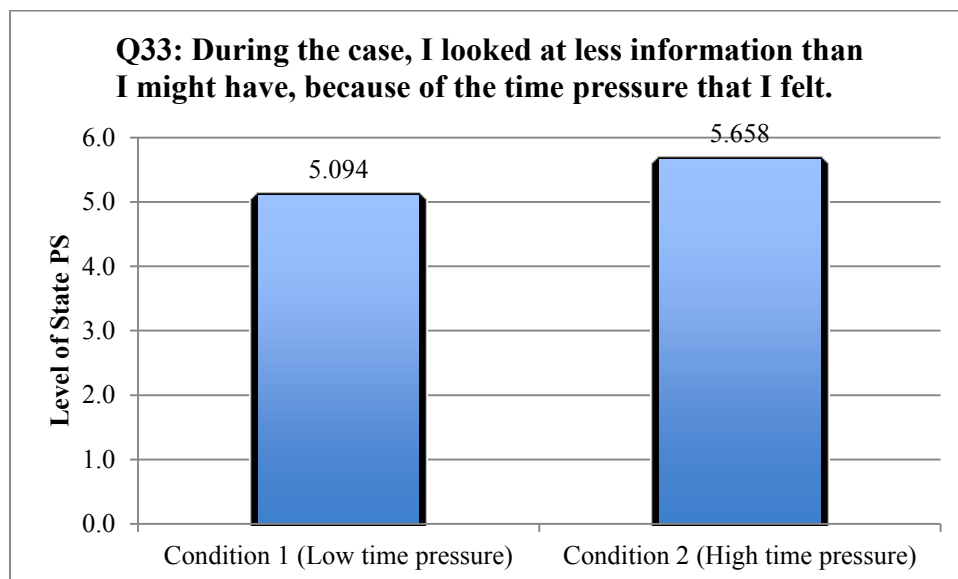
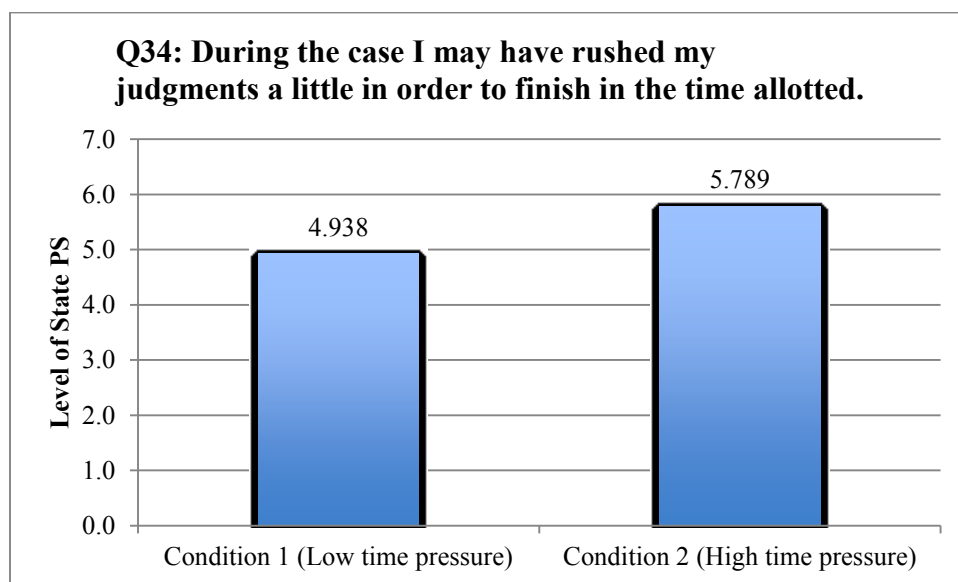


Exhibit 4: Question 34 – Hypothesis Test

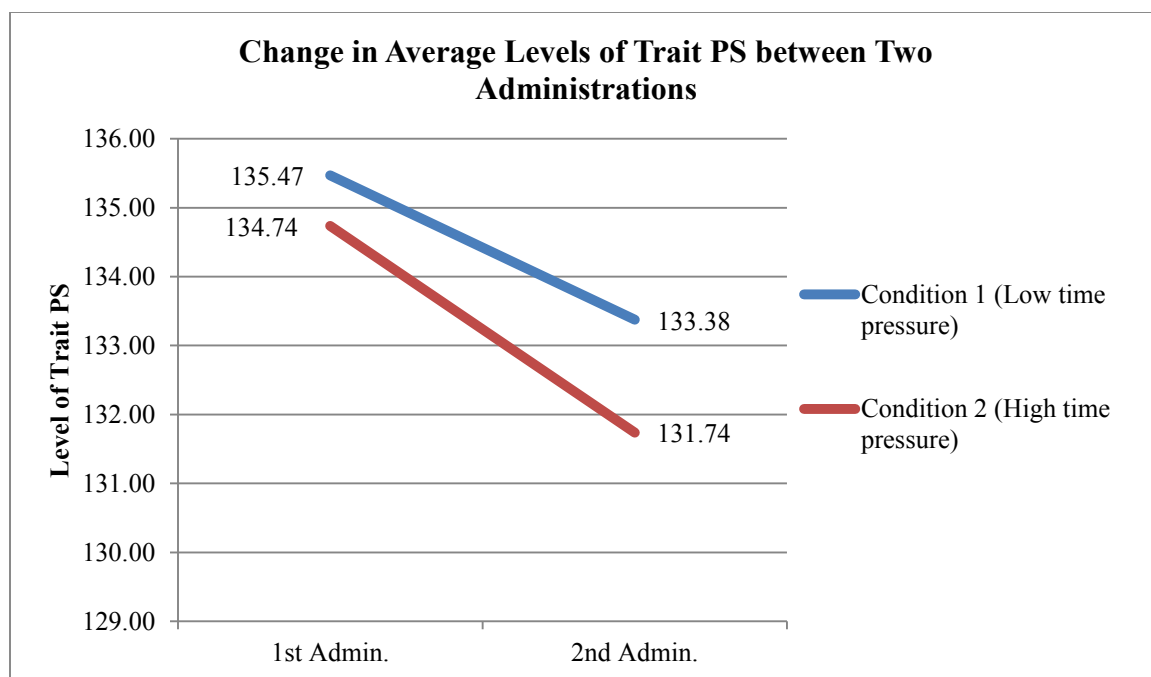


Supplemental Analysis – Trait Professional Skepticism

In addition to testing the effect of time pressure on student auditors' state PS, the study measured levels of trait PS by administering the Hurtt Professional Scale before and after the experimental task to determine the effect of time pressure. Results indicate that for all participants, trait PS decreased after experiencing time pressure associated

with the experimental task. On average, participants in the high time pressure group decreased their level of trait PS from 135.47 to 133.38, while participants in the low time pressure group decreased their level of trait PS from 134.21 to 131.74. The decrease could be caused by the complexity of the task. If the task was too complex for the participants, they could have felt more willing to accept management's presented financials instead of verifying for themselves. Exhibit 5 displays a visual depiction of the change in averages of levels of professional skepticism for the low time pressure and high time pressure group. Therefore, it appears that with time pressure, levels of trait PS decrease.

Exhibit 5: Change in Levels of State Professional Skepticism in Two Administrations



IV. Conclusion

The purpose of this study is to offer further research into the relationship between levels of professional skepticism (PS) and time pressure, two of the most important

factors for auditors. Specifically, this study aimed to answer the question: How does time pressure affect student auditors' professional skepticism?

In the financial market, audits are necessary for increasing investor reliability in individual companies and the market as a whole. Audits accomplish this by giving reasonable assurance that companies' financial statements accurately represent their financial position. In order for auditors to accomplish this goal, they must have an attitude of professional skepticism, which this study defines as trusting management's claims about financial statements only if information the auditor critically examines supports those claims. By questioning management's assertions, auditors are better able to identify contradictions in financial statements and have clear vision to catch fraud. However, despite emphasis placed on PS by the PCAOB and researchers, a PCAOB inspection found that lack of PS caused a majority of cases to issue an incorrect opinion (PCAOB 2012a; Beasley, Carcello, & Hermanson 2001). Because of its great impact in issuing correct audit opinions, it is vital to understand how prevalent factors influence PS.

Time pressure is one of the greatest factors facing auditors and audit firms. The SEC has deadlines for all public companies to file audited financial statements. For example, the SEC requires large, public companies to file audited financial statements within 75 days of year-end ("Form 10-K"). Additionally, accounting firms continually have to rival their competition by creating quality audits at the lowest cost stemming from a quick turnaround. The quick turnaround causes auditors to balance between effectiveness and extreme efficiency while completing audits. Current research has come to opposing conclusions about how time pressure affects overall audit quality. Some have found that time pressure increases audit quality (Glover 1997; Robinson et al. 2013),

while others have found that time pressure decreases audit quality (McDaniel 1990; Kelley 1990; Coram 2004). Some researchers have come to conflicting results (Low 2011; Asare 2000).

This study aimed to bridge the gap in the conflicting research by reconstructing the study completed by Robison et al. (2013). The experiment utilized student auditors and was conducted in a three-phase case study. In phase one, participants completed the Hurtt (2010) Professional Skepticism scale, measuring their level of trait PS. In phase two, participants completed a case study involving evaluating a fictitious company's bad debt expense in two different perceived time constraints. Each group was given 15 minutes to complete the task. In the low time pressure group, the research proctor told the participants that this time limit was "extremely reasonable", and only 95% of auditors have been able to complete it in the past. Additionally, they were not frequently reminded about how much time remaining. However, in the high time pressure group, the research proctor told the participants that this time limit was "extremely limited", and only 35% of auditors have been able to complete it in the past. They were reminded frequently about how much time they have remaining. In phase three, participants completed case reflection questions in which they answered questions about state PS and time pressure perceptions. To measure state PS, the study asked participants to rate their level of agreement to statements related specifically to the case. Additionally, participants completed the Hurtt Professional Skepticism Scale again.

The null hypothesis (H0) stated that high time pressure will not affect student auditors' level of state PS. Results from this experiment indicate that time pressure had inconclusive results on state PS. If state PS influences most auditor behavior, firms can

influence how their auditors behave by changing external factors. Unfortunately these results also indicate that negative externalities, like time pressure, can have inconclusive results on auditors' PS. On the other hand, trait PS seems to decrease with increased time pressure. Thus, it is unclear whether time pressure improves or hinders audit quality overall. I suggest to fully understand the implications behind this study, future researchers should continue to investigate other audit environmental factors that can influence state PS, like client-specific factors, as well as continuing study into time pressure.

From this study, I offer a few implications for standard-setters and audit firms. Standards-setters created filing deadlines for public companies in order to ensure investors have access to timely, yet accurate company financial information. However, this has created a scenario where many audits are completed efficiently, but not effectively. I suggest that standards-setters research the filing deadlines in order to determine deadlines that maximize an optimal balance between effective and efficient audits. For audit firms, the implications of time pressure having inconclusive results on PS can mean difficulties in delivering a quality audit within the SEC deadline. I suggest that audit firms continue to emphasize creating quality workpapers that allow more efficient carry-forward year-over-year. Additionally, I suggest continually hiring competent individuals that understand the technical and theoretical background of auditing, which will provide a better balance between effective and efficient audits.

This study is subject to several limitations. For example, participants were student auditors without experience in a real audit. Without real world experience, it is possible that the experimental task was too complicated for them to complete, and they skimmed

through the questions due to their lack of understanding. However, I believe that the students had adequate knowledge to attempt the task, and the focus of the study was the impact of time pressure on their levels of state PS and not their ability to complete the task. Additionally, Robison et al. originally designed the experimental task to simulate audit tasks under time pressure. Despite the apparent success indicated by the manipulation checks, it is possible that the task and time constraints did not adequately represent an actual audit construct. However, having experimental control is key in attempting to further explore the connections between professional skepticism and its influencing factors.

APPENDIX A: INSTRUMENT**Instructions**

This exercise will consist of three phases. In Phase I, you will respond to questions about yourself. When you complete this phase, you will place the completed questionnaire in the envelope. In Phase II, you will read a case that deals with an audit-related topic. You will be provided with client background information, partial financial statements, and information from an interview that you have with the client's controller. You will answer some questions about the case after completing it. It is important to read your materials carefully because you may be asked to recall some contradictory information. In Phase III, you will complete a case reflection and answer more questions about yourself.

Thank you in advance for your participation today.

Phase I: Questions

Demographics

Q1. What is your gender?

Male Female

Q2. What is your age? _____

Q3. What is your year in school?

Freshman Sophomore Junior Senior Other

Q4. How many accounting classes have you taken? _____

Instructions: Statements that people use to describe themselves are given below. Please circle the response that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement. Do not put your name on this document.

	Strongly Disagree			Strongly Agree		
I often accept other people's explanations without further thought.	1	2	3	4	5	6
I feel good about myself.	1	2	3	4	5	6
I wait to decide on issues until I can get more information.	1	2	3	4	5	6
The prospect of learning excites me.	1	2	3	4	5	6
I am interested in what causes people to behave the way that they do.	1	2	3	4	5	6
I am confident of my abilities.	1	2	3	4	5	6
I often reject statements unless I have proof that they are true.	1	2	3	4	5	6
Discovering new information is fun.	1	2	3	4	5	6
I take my time when making decisions.	1	2	3	4	5	6
I tend to immediately accept what other people tell me.	1	2	3	4	5	6

	Strongly Disagree			Strongly Agree		
Other people's behavior does not interest me.	1	2	3	4	5	6
I am self-assured.	1	2	3	4	5	6
My friends tell me that I usually question things that I see or hear.	1	2	3	4	5	6
I like to understand the reason for other people's behavior	1	2	3	4	5	6
I think that learning is exciting	1	2	3	4	5	6
I usually accept things I see, read, or hear at face value.	1	2	3	4	5	6
I do not feel sure of myself.	1	2	3	4	5	6
I usually notice inconsistencies in explanations.	1	2	3	4	5	6
Most often I agree with what what the others in my group think.	1	2	3	4	5	6
I dislike having to make decisions quickly.	1	2	3	4	5	6
I have confidence in myself.	1	2	3	4	5	6
I do not like to decide until I've looked at all of the readily available information.	1	2	3	4	5	6
I like searching for knowledge.	1	2	3	4	5	6
I frequently question things that I see or hear.	1	2	3	4	5	6
It is easy for other people to convince me.	1	2	3	4	5	6
I seldom consider why people behave in certain way.	1	2	3	4	5	6
I like to ensure that I've considered most available information before making a decision.	1	2	3	4	5	6
I enjoy trying to determine if what I read or hear is true.	1	2	3	4	5	6
I relish learning.	1	2	3	4	5	6
The actions people take and the reasons for those actions are fascinating.	1	2	3	4	5	6

Please place this questionnaire in the envelope.

Phase II: Case Study (Condition 1: Low Time Pressure)

Once we begin, you will have a **full 15 minutes** to complete part 1 of this case. The time frame of 15 minutes is extremely reasonable. Participating in this case will provide you with an experience similar to what you may be faced with in an actual audit setting, as there is not an unlimited amount of time to complete the full audit. In the past, about **95%** of auditors completing this type of case have been able to complete the case in the time provided to you today.

Phase II: Case Study (Condition 2: High Time Pressure)

Once we begin, you will have a **only 15 minutes** to complete part 1 of this case. The time frame of 15 minutes is extremely limited. Participating in this case will provide you with an experience similar to what you may be faced with in an actual audit setting, as there is not an unlimited amount of time to complete the full audit. In the past, about **35%** of auditors completing this type of case have been able to complete the case in the time provided to you today.

Case Materials

1) Client Background Information

Associated Industries is a publicly traded (NYSE) corporation founded in 1956. The firm manufactures a variety of large and small products for several industries as well as engaging in large-scale construction projects. Your audit firm has been auditing Associated Industries for several years, and they have always received a clean, unqualified opinion on both the internal controls and the audit opinion.

The audit engagement has never produced any major auditor/client disagreements and the audit team has commented that the client has great internal controls. Imagine that **you are an auditor on the engagement team** this year. The following pages introduce key members of the company and provide you with information about a specific audit issue.

2) Cast of Characters

Bill Kaiman – The CEO of Associated Industries

- He has been with the company for 10 years. Reputed to be extremely wealthy, but lives a frugal life with little or no luxury purchases.
- He mentions that the company has been collecting on its accounts quite well, with a collection period of about one month. In addition, six of the ten largest customer accounts have a strong financial record, with no signs of bankruptcy.

Phil Wilson – The Controller of Associated Industries

- He has been with the company for 5 years.
- He lives a conservative lifestyle and has not purchased a new car in the past several years.
- He conducts an interview with you to answer questions about this year's audit.

You – Staff Auditor

- You have been at the firm for 2 years.
- You are working with another staff auditor, who is assisting with auditing bad debt expense.

3) Brainstorming Session Information

Recall that you are a staff auditor working on the audit engagement. The **engagement manager** of your audit firm conducts a brainstorming meeting with your audit engagement team to emphasize, among other things, the **benefits of professional judgment and professional skepticism** that should be displayed during the audit. Specifically, your manager reminds you of several benefits that can result from exercising the appropriate degree of professional skepticism. These **benefits** are listed for you below.

- First, exercising professional skepticism can help you to detect misstatements and/or fraud, which will improve our firm's reputation. Firms with better reputations are more likely to attract more audit clients and increase the firm's revenues.
- Second, being professionally skeptical can improve your performance as an auditor, and your salary will be based on how well you perform.
- Third, appropriate professional skepticism is more likely to lead to a successful audit, in which the correct audit opinion is given.
- Last, being professionally skeptical means that you are thorough, and therefore will help you to avoid any of the negative penalties that SOX imposes on auditors who are not thorough enough. For instance, one reason that your public accounting firm has remained in business and avoided lawsuits is because auditors have followed auditing standards, such as those related to due professional care. This includes exercising professional skepticism.

Q0. What is your perception regarding the amount of time that you will have to complete this case?

1	2	3	4	5	6	7
Not much time				Plenty of time		

4) Audit Information

At this time, the audit is nearing completion. Today, **you will meet with Bill Kaiman**, the CEO of Associated Industries. The main item on the agenda is the proposed adjustment for bad debt expense. During the conduct of the audit, your fellow staff auditor proposed an adjustment to bad debt expense that is described in the next section. You are aware that Kaiman is not going to welcome any reductions in reported income. Recent performance has not been very good and **this year's (2013) increase in net income over last year is certainly welcomed by management.**

The Issue – Estimate of Bad Debt Expense

There is some disagreement about the allowance for doubtful accounts in Associated's electronics divisions where extended credit terms are granted. The client uses the "percentage of sales" method for calculating bad debt expense. This year the client has adopted a **new percentage figure** to calculate bad debt expense and the related Allowance for Doubtful Accounts.

The rate is significantly less than the rate used over the last five years. Phil insists that **the new rate is within a published average range** provided in industry association literature and that the figure is more appropriate than earlier percentage rates used by the firm because the economy and economic environment has drastically improved. Phil does not want to make the adjustment that was proposed by your staff auditor because he believes that the company's current estimate for bad debt is reasonable. Bill believes that the adjustments are not required because an estimate does not have to be perfect, only reasonable, and no items are off materially.

Phil and Bill both note that the company has changed its credit-granting policy during the year and therefore changes to bad debt estimates are reasonable.

The other staff auditor thinks that Associated Industries may need to increase their estimate for bad debt expense and recommends that the client use a percentage rate that is similar to what they have used in the last five years. The percentage rate that Associated has used in the past is 40% higher than the rate they are using this year. In prior audits, documentation has shown **no indication for management to manipulate income** by decreasing the company's expenses.

Your fellow staff auditor recommends that an adjustment be made to bad debt expense for \$3,020. This adjustment will increase bad debt expense by \$3,020 and as a result, it will decrease net income by the same amount. Partial financial statements and ratios, provided by the client, are provided below.

5) Selected Financial Information For Associated Industries

	Prior Years		Current Year
Balance Sheet:	2011	2012	2013
Cash	150,000	175,000	169,000
Accounts Receivable	47,000	50,000	60,000
- (less Allowance for Doubtful Accounts)	8,750	9,175	4,515
Net Accounts Receivable	38,250	40,825	55,485
Percentage Used for Bad Debt Expense	2.5%	2.5%	1.5%
Income Statement	2011	2012	2013
Net Sales	350,000	367,000	301,000
Cost of Goods Sold	70,000	95,000	60,100
Gross profit	280,000	272,000	240,900
Selling Expenses:			
Bad Debt Expense	8,750	9,175	4,515
Other Selling Expenses	24,000	29,000	19,000
General and Administrative Expenses	27,000	39,000	21,000
Net Income	220,250	194,825	196,385

Select ratio information for the last two years:

2011 - A/R Turnover = 9.3; # of days sales = 39

2012 - A/R Turnover = 9.2; # of days sales = 40

After reviewing the financial statements and other information provided by the client, **you make some inquiries** of Phil Wilson, the controller. During the interview, he provides you with the following information:

- The 2013 official economic report shows considerable improvement in the economy, particularly within the client's industry, manufacturing.
- Last year, the company had sales of \$367,000 and had total write-offs in the amount of \$9,000. The write-offs were less than the company had estimated, and Phil says this is just one example that shows that Associated Industries is conservative and often estimates too much for bad debt expense, rather than not enough.
- Associated Industries' sales have steadily increased since 2011, and an increase in A/R is to be expected.
- When you asked Phil how well they have collected on large, past-due accounts, he informed you that last year (2012), the company did very well in collections. He also informs you that of the 10 largest customers with past-due accounts, the credit manager examined the credit reports of those customers and all but two are financially sound (with no bankruptcies), which makes it likely that they will pay the balance due.
- The new credit manager hired last year is an outstanding employee and has made some great changes within the credit granting area. The company believes these changes will improve its collections.
- The accounts receivable turnover improved from 2011 to 2012, and the company collected on most accounts within 29 days last year. The closest competitor took an average of 45 days to collect on accounts.

6) Your Task

At this point, you should now start to consider the reasonableness of management's estimate of bad debt expense based on the information that is available to you. As previously mentioned, you will have a **full 15 minutes to complete part 1** of this case. You may choose to do one or more of the steps below during analytical procedures:

1. Develop an expectation of what a reasonable range should be for bad debt expense and accounts receivable. These ranges were developed by your manager and are provided to you below. Ask yourself "what percentage (or dollar amount) difference between the client's number and your expectation can still be considered reasonable?" For example, a difference of \$100 would probably not be material enough to create a significant difference.
 - a. The expected range for Accounts Receivable is \$49,000 - \$65,000
 - b. The expected range for Bad Debt Expense is \$4,500 - \$9,500
2. Compare the current year account balances to balances from one or more prior years.
3. Consider financial ratios related to bad debts and accounts receivable.
 - a. A/R turnover \rightarrow Net Sales / Average Accounts Receivable
 - b. Number of days sales \rightarrow 365 / Accounts Receivable Turnover
4. Consider any similar information for the industry.
5. Consider any non-financial information about the company that might be useful for assessing the motivations of management.
6. Make inquiries of the client to investigate any issues. (Note – You have already made inquiries with the controller, Phil, and may refer to that information.)

Before proceeding with this case, please list two benefits of professional skepticism in the space below:

7) Case Questions

Please answer the following questions as completely as possible. No identifying information will be collected, thus your responses are entirely confidential. Assume that your answers to this case will weight heavily on this year's performance evaluation.

Q1. How reasonable is management's current estimate of bad debt expense?

1 2 3 4 5 6 7

Not reasonable at all

Extremely Reasonable

Q2. Would you force management to accept the staff auditor's proposed adjustment?

Yes No

Q3. To what extent do you believe that the estimates adopted by the client are "good faith" best efforts to give a true and fair representation of net income and financial performance?

1 2 3 4 5 6 7

Not at all

Very much so

Q4. To what extent do you believe that the estimates adopted by the client were motivated by the desire to improve net income artificially?

1 2 3 4 5 6 7

Not at all

Very much so

Phase II is now over. Please place *all* materials in the envelope.

Phase III: Case Reflection

Please do **NOT** refer to **ANY** other information while completing this section.

Q5. In your opinion, how likely is it that management's estimate of bad debt expense is reasonable?

1 2 3 4 5 6 7

Very Unlikely

Very Likely

Q6. After reading this case and reviewing the client information, do you feel that management's estimate of bad debt expense is reasonable and in conformance with GAAP?

Yes No

Q7. Looking at answer choices A through F below, please circle which contradictions were present in this case. Some of the contradictions listed below **were** present in this case and some of them **were not**. Circle only the contradictions that you believe were actually in the case.

- A. Phil stated that the economy improved; however, other audit evidence indicated that economic conditions had declined.
- B. Phil stated that Sales had steadily increased since 2011; however financial statements showed a decrease in sales for 2013.
- C. Phil says that company write-offs last year were less than the company estimated, but the financial statements show that the 2012 estimate of bad debt expense was lower than the amount that Phil says was written off.
- D. Bill mentions that 6 out of 10 large customer accounts have no signs of bankruptcy, but Phil states that 8 out of 10 have strong financial records with no signs of bankruptcy.
- E. The financial statements presented the 2012 ratio for # of days' sales as 39 days; however, Phil stated that the ratio was 29 days for 2009.
- F. Phil states that the company has changed its credit-granting policy during the year, but Bill states that the credit-granting policy has not changed.

Q12. What is your opinion about how professional skepticism was described to you? Specifically, do you feel that professional skepticism was discussed in a positive or negative manner?

1	2	3	4	5	6	7
Extremely Negative	Fairly Negative	Only Slightly Negative	Neutral	Slightly Positive	Fairly Positive	Extremely Positive

Please answer the following questions as accurately as possible. Mark an “X” on the line below somewhere between 1 and 100, to indicate how much you agree with the following statements.

Q13. Overall, I tended to question the statements that I read from Phil, the controller.

0-----20-----40-----60-----80-----100
 I don't agree at all Fully Agree

Q14. While working on this case, I frequently questioned things that I saw or read.

0-----20-----40-----60-----80-----100
 I don't agree at all Fully Agree

Q15. While working on this case, I had a tendency to reject statements unless I had proof that they were true.

0-----20-----40-----60-----80-----100
 I don't agree at all Fully Agree

Q16. While working on this case, I took my time when making decisions.

0-----20-----40-----60-----80-----100
 I don't agree at all Fully Agree

Q17. During this experiment, I did not like deciding until I had a chance to look at all of the available information.

0-----20-----40-----60-----80-----100
 I don't agree at all Fully Agree

Q18. I did not like having to make decisions quickly while working on this case.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q19. While working on this case, I tried to ensure that I had considered most available information before making a decision.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q20. While completing this case, I waited to make decisions until I could get more information.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q21. I tended to search for more evidence in order to improve my chances of getting the correct answer to the case.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q22. I actively sought out all of the information that I could while completing this case.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q23. I used all resources available to me to get all of the information that I could in the case.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q24. During the case, I felt rushed to complete it as quickly as possible.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q25. During the case, I looked at less information than I might have, because of the time pressure that I felt.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q26. During the case, I may have rushed my judgments a little in order to finish in the time allotted.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q27. The skill of reasonable risk-taking is one of the most important skills that an auditor can have.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q28. To achieve something in life, one must take risks.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Q29. I willingly take on new responsibilities and new projects in my career.

0-----20-----40-----60-----80-----100
 I don't agree Fully
 at all Agree

Please answer the following questions as accurately as possible.

Q30. What is your perception regarding the amount of time that you had to complete this case?

1 2 3 4 5 6 7

Not much time

Plenty of time

Q31. During the case, did you feel that you might not have enough time to answer all of the questions?

1 2 3 4 5 6 7

Did not have time

I had plenty of time

Q32. During the case, I felt rushed to complete it as quickly as possible.

1 2 3 4 5 6 7

I do not agree at all

Fully Agree

Q33. During the case, I looked at less information that I might have, because of the time pressure that I felt.

1 2 3 4 5 6 7

I do not agree at all

Fully Agree

Q34. During the case I may have rushed my judgments a little in order to finish in the time allotted.

1 2 3 4 5 6 7

I do not agree at all

Fully Agree

Questionnaire

Instructions: Statements that people use to describe themselves are given below. Please circle the response that indicates how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement. You have previously responded to these questions. Do NOT reference your previous responses.

	Strongly Disagree			Strongly Agree		
I often accept other people's explanations without further thought.	1	2	3	4	5	6
I feel good about myself.	1	2	3	4	5	6
I wait to decide on issues until I can get more information.	1	2	3	4	5	6
The prospect of learning excites me.	1	2	3	4	5	6
I am interested in what causes people to behave the way that they do.	1	2	3	4	5	6
I am confident of my abilities.	1	2	3	4	5	6
I often reject statements unless I have proof that they are true.	1	2	3	4	5	6
Discovering new information is fun.	1	2	3	4	5	6
I take my time when making decisions.	1	2	3	4	5	6
I tend to immediately accept what other people tell me.	1	2	3	4	5	6
Other people's behavior does not interest me.	1	2	3	4	5	6
I am self-assured.	1	2	3	4	5	6
My friends tell me that I usually question things that I see or hear.	1	2	3	4	5	6
I like to understand the reason for other people's behavior	1	2	3	4	5	6
I think that learning is exciting	1	2	3	4	5	6
I usually accept things I see, read, or hear at face value.	1	2	3	4	5	6

	Strongly Disagree			Strongly Agree		
I do not feel sure of myself.	1	2	3	4	5	6
I usually notice inconsistencies in explanations.	1	2	3	4	5	6
Most often I agree with what what the others in my group think.	1	2	3	4	5	6
I dislike having to make decisions quickly.	1	2	3	4	5	6
I have confidence in myself.	1	2	3	4	5	6
I do not like to decide until I've looked at all of the readily available information.	1	2	3	4	5	6
I like searching for knowledge.	1	2	3	4	5	6
I frequently question things that I see or hear.	1	2	3	4	5	6
It is easy for other people to convince me.	1	2	3	4	5	6
I seldom consider why people behave in certain way.	1	2	3	4	5	6
I like to ensure that I've considered most available information before making a decision.	1	2	3	4	5	6
I enjoy trying to determine if what I read or hear is true.	1	2	3	4	5	6
I relish learning.	1	2	3	4	5	6
The actions people take and the reasons for those actions are fascinating.	1	2	3	4	5	6

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