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THE EFFECTS OF TIME PRESSURE AND ACCOUNTABILITY ON HYPOTHESIS GENERATION AND INFORMATION SEARCH STRATEGIES: AN EXPERIMENTAL STUDY OF INTERNAL REVENUE AGENTS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Memphis

Thomas Yancy Proctor

December 2000

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To the Graduate Council:

I am submitting herewith a dissertation written by Thomas Yancy Proctor entitled, "The Effects of Time Pressure and Accountability on Hypothesis Generation and Information Search Strategies: An Experimental Study of Internal Revenue Agents". I recommend that it be accepted for eighteen hours of credit in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Accounting.

John M. Malloy, Ph.D.
Major Professor

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ABSTRACT

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The purpose of this research is to examine the effects of time pressure and accountability on IRS agents in the Pre-Examination Analysis phase of a tax audit. The Pre-Examination Analysis phase consists of two tasks: (1) the issue-selection task and; (2) the audit-technique-selection task. In the issue-selection task, the effects of time pressure and accountability were examined on two aspects of performance—effectiveness and efficiency.

In the audit-technique-selection task, the effects of time pressure and accountability were examined within the framework of Klayman and Ha's (1987, 1989) model of hypothesis-testing, where audit techniques were identified as being associated with positive, negative, or combined testing strategies. The effects of time pressure and accountability were examined for each of these different testing strategies.

In the issue-selection task, the revenue agent-subjects exhibited significant effects from time pressure and accountability on effective performance. Specifically, time pressure was found to have a negative effect on effectiveness. Accountability was found to a positive effect on effectiveness in the presence of time pressure and a negative effect in the absence of time pressure. However, no significant main effects or interactions were found for efficiency.

In the audit-technique-selection task, no significant main effects or interactions were found for time pressure or accountability for any of the three different testing strategies. These results were attributed to the lack of sensitivity in the data collected.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

Introduction

Introduction

Over the past two decades, there has been extensive behavioral research in the domain of financial-statement auditing (Ashton & Ashton, 1995). Recent behavioral research in tax has only begun to emerge; however, this research has limited itself to taxpayers (e.g., Jackson & Milliron, 1986; Fischer et al., 1992) or tax preparers (Shields, Solomon, & Jackson, 1995). A potentially rich area of research is the study of Internal Revenue Service (IRS) Agents.

Davis (1995) noted that IRS agents are clearly under-represented in tax judgment research. This lack of research is probably due to three reasons. The first is the newness of behavioral tax research as a whole; second, the general unfamiliarity with the tax auditing task; and third, the difficulty of obtaining data from the IRS. At this time, there are only two studies examining the IRS tax auditing task. Roberts (1995) examined the influence of taxpayer-specific factors (i.e., taxpayer's education level, type of representation, size of adjustment, and number of years adjusted) on a revenue agent's judgment in assessing a taxpayer negligence penalty. Pentland and Carlile (1995) conducted a field study that described the tax auditing process and outlined research opportunities within the context of game theory. Neither of these studies attempted to examine any cognitive or task factors that might influence judgments made by revenue agents.

Research Objectives

The primary objective of this dissertation is to examine the effects of time pressure and accountability on the performance of revenue agents in an issue-selection task and on the subsequent selection of audit techniques. As described subsequently, time pressure and accountability are both important factors in tax auditing.

In the issue-selection task, revenue agent subjects select issues to be examined on a corporate tax return. This task is a hypothesis-generation task in which the agent forms an initial hypothesis about the likelihood of adjustments to the taxpayer's return. Two aspects of performance are examined in the issue-selection task: (1) effectiveness and (2) efficiency. For effectiveness, three hypotheses will be tested. It is predicted that time pressure will have a negative effect on effectiveness. It is predicted that accountability will have a negative effect on effectiveness in the absence of time pressure and a positive effect in the presence of time pressure. For efficiency, it is predicted that accountability will have a positive effect on efficiency, more so in the presence of time pressure.

In the audit-technique-selection task, revenue agent subjects choose the audit techniques that they would use in auditing the taxpayer whose return was inspected in the issue-selection task. The selection of audit techniques identifies the type of testing strategy that the agent plans to use during the audit. As described subsequently, the testing strategy selected by the agent can be identified as positive or negative within the framework of Klayman and Ha's (1987, 1989) model of hypothesis-testing. It is predicted that higher (lower) accountability will lead to the selection of audit techniques less (more) associated with a positive (negative) test strategy. Further, this effect will be more pronounced in the presence of time pressure.

This dissertation is expected to make four contributions:

(1) This is the first study to look at the effect of cognitive and task factors on judgments made by IRS Agents in a tax auditing task. The study of agent judgments made by agents is important for many reasons. First, Roberts (1995) noted that information from such research is of interest to both taxpayers and tax accountants. Second, Roberts (1995) also noted such information would be important to the IRS for the purpose of training agents and improving the "fairness (consistency), efficiency, and effectiveness of tax auditing" (p. 63). Third, the use of inadequate or inappropriate audit techniques by agents may lead to the loss of tax dollars to the government. Therefore, evidence provided by this dissertation could be utilized in the design of training programs and performance evaluation instruments.

(2) This is the first study to examine the *interactive* effect of time pressure and accountability on hypothesis-generation. Past research on time pressure and accountability, in both accounting and psychology, has limited itself to examining the independent effects of these variables [e.g., Choo & Firth, 1992; Brown & Solomon, 1990; Kruglanski & Freund, 1983; Tetlock, 1985].

(3) This is only the second study to examine the interactive effect of time pressure and accountability in a hypothesis-testing task. Asare, Trompeter, and Wright (1996) examined the effects of time pressure and accountability in a hypothesis-testing task. Auditor-subjects were given an inherited set of explanations for a fluctuation in a client's gross margin. The subjects were told that the correct explanation was one of the five inherited hypotheses. Interactive effects of time pressure and accountability were hypothesized; however, only main effects for time pressure and accountability were

found with accountability improving performance and time pressure hurting performance. This dissertation also predicts interactive effects of time pressure and accountability in the hypothesis-testing task. The task used in this dissertation is more realistic than Asare et al. (1996) since agents will be testing hypotheses they generate themselves in the hypothesis-generation task. The self-generation of hypotheses is more realistic since individuals are not normally given a hypothesis set and told that one of the hypotheses is correct as in Asare et al. The self-generation of hypotheses may, therefore, yield different results than Asare et al. (1996).

(4) This study extends the application of Klayman and Ha's (1987, 1989) model of positive testing strategies. Past research in accounting and psychology has limited itself to testing the positive (negative) nature of evidence gathered to test a hypothesis [e.g., Snyder & Swann,1978; Johnson, 1993]. This dissertation will examine the *intended use* of the evidence gathered to identify whether a positive (negative) testing strategy is being utilized.

Summary

The audits conducted by IRS agents are the primary enforcement tools of the federal tax system. Despite this important role, little research exists on the factors that influence how an agent conducts an audit. This dissertation will examine two of these factors—time pressure and accountability in two tasks. In the issue-selection task, the effects of time pressure and accountability will be tested on performance effectiveness and

efficiency. In the audit-technique-selection task, the effects of time pressure and accountability will be tested on the hypothesis-testing strategy selected by the agents.

CHAPTER 2

Literature Review and Hypotheses

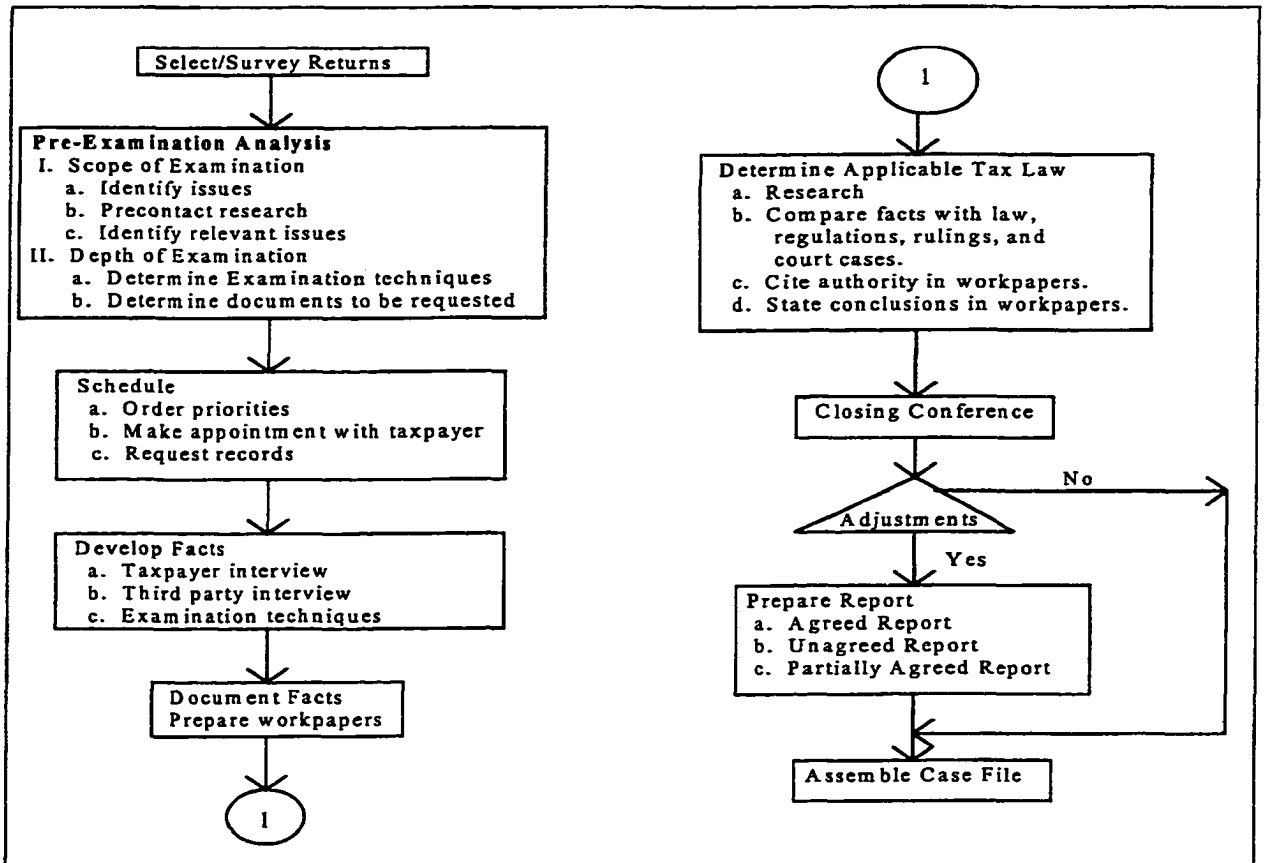
Introduction

This dissertation examines the effects of time pressure and accountability in the issue-selection task and the audit-technique-selection task. This chapter will describe both of these tasks which are part of the Pre-Examination Analysis phase of a tax audit. It will also review the relevant literature concerning time pressure and accountability and describe the impact of both in the issue-selection task and audit-technique-selection task. Finally, testable hypotheses will be developed.

Pre-Examination Analysis Phase of a Tax Audit

A model of the typical tax audit process appears in the Phase I revenue agent training materials (IRS, 1989). A reproduction of this model is shown in Figure 1. This model is very general in nature, but does cover all of the basic components of a tax audit. Appendix A contains a detailed description of each component of this model. Each component within the model represents a different stage of a tax audit and describes the tasks that are conducted within that stage. As the model indicates, the agent possesses a large degree of autonomy over an audit. Due to this autonomy, the agent must make numerous judgments during an audit. These judgments include: (1) identifying the issues to be examined; (2) determining the audit techniques to be used; (3) determining the documents to be requested from the taxpayer; (4) deciding the questions to ask during

the interview of the taxpayer or his/her representative; and (5) determining the appropriate tax law to apply to the issues being examined.



*See Appendix A for a detailed description of the model.

Figure 1. Tax Audit Task Model*

Source: Internal Revenue Service (1989)

This proposal will focus on two judgments made during the Pre-Examination Analysis phase of the tax audit: (1) the selection of issues to be examined; and, (2) the selection of audit techniques used to examine the issues selected. The Pre-Examination Analysis phase is the first phase of a tax audit after the agent has determined that the

return should be audited.[1] This phase is important because it leads to the agent's initial plan for the scope of the tax audit (i.e., the selection of issues to be examined) and the depth of the audit (i.e., the selection of audit techniques to be utilized).

Issue-Selection Task

During the issue-selection task, the agent selects the specific issues on the tax return to be investigated. This judgment is made almost entirely by the agent. Tax returns to be audited occasionally have issues pre-selected by an IRS classifier at the IRS service center. However, the pre-selection of issues is not a common occurrence. The Internal Revenue Manual (hereafter, IRM) notes that the scope of an examination ordinarily is set by the agent. It further states that the agent should exercise judgment in determining what issues should be pursued and that an agent should identify "unusual or questionable" (IRM 4231-70, §226) items for audit. Normally, the agent receives a tax return to be examined from his or her manager. The agent then reviews the tax return and "pre-plans" the audit, which involves selecting the issues on the tax return to be examined for potential adjustment. The issue-selection task used in this dissertation will provide agents with a tax return and ask them to select the issues that they would examine just as they would any tax return that they received for examination during the course of their job.

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[1]When a tax return is assigned to an agent, the agent may inspect the return and determine that an audit does not need to be conducted. If this determination is made, the case is then returned to the IRS Service Center. This is referred to as "surveying" the tax return. Most tax returns assigned to an agent are subsequently audited. As stated earlier, the agent may choose to survey the return. However, this occurs infrequently since the return has been through numerous checks for audit potential prior to receipt by the agent.

The issue-selection task is a hypothesis-generation task in which the agent forms an initial hypothesis about the likelihood of adjustments to the taxpayer's return. Research in accounting and psychology finds that the hypothesis-generation stage of a task can have a significant impact on performance within that task. For example, Bedard and Biggs (1991) found that auditors exhibit process errors more frequently in the hypothesis-generation stage of an analytical-procedures task than in other stages. It has also been found that the initial-generated hypothesis can interfere with an auditor's ability to later switch to a different hypothesis (Heiman-Hoffman, Moser, & Joseph, 1995). Further, performance in hypothesis-generation tasks improves with task-related knowledge (Libby & Frederick, 1990).

Psychology research also has found that knowledge and general problem-solving ability are important determinants of performance in hypothesis-generation tasks [e.g., Manning et al., 1980; Kruglanski, 1990]. Mehle (1982) found that both experts and novices have difficulty generating complete sets of hypotheses and tend to exhibit overconfidence in estimating probabilities of the generated hypotheses. Conversely, Koehler (1994) found that subjects exhibited less confidence in generated hypotheses than subjects asked to evaluate the same hypotheses. It has also been found that exposure to a given hypothesis leads to the generation of that hypothesis earlier and more frequently in subsequent hypothesis-generation tasks (Weber et al., 1993).

In summary, hypothesis-generation tasks, like the issue-selection task in this study, have been found to require sufficient levels of knowledge and ability for successful performance and are affected by numerous outside influences. In a tax audit, the generation of an initial hypothesis is important for two reasons. First, issues selected for

examination that do not have potential for adjustment represent a decreased level of *efficiency* in performance. A decreased level of efficiency means that the agent has wasted time on unproductive issues. Second, issues not selected for examination that do have potential for adjustment represent a decreased level of *effectiveness* in performance. A decrease in effectiveness means the government potentially has lost revenue through issues that should have been selected for examination.

Audit-Technique-Selection Task and Hypothesis-Testing

The audit-technique-selection task follows the issue-selection task in the Pre-Examination Analysis phase. In selecting audit techniques, an agent identifies the audit tests and documentation that will be used to examine the issues selected in the issue-selection task. The selection of audit techniques by an agent indicates the extent to which the agent's testing strategy is positive or negative. Klayman and Ha (1987, 1989) define a positive (negative) testing strategy as a tendency to conduct tests that confirm (disconfirm) an initial hypothesis. In a tax audit, the initial hypothesis can be represented by the issues selected for examination by an agent during the Pre-Examination Analysis phase. As will be discussed, the use of a positive testing strategy by an agent would be indicated by the selection of audit techniques that are intended to determine whether any adjustments should be made for the issues selected for examination. These techniques would include the inspection of documents from the taxpayer or from other outside sources. The key is that the intended use of these documents is to examine the issues selected. Conversely, the use of a negative testing strategy would be indicated by the selection of audit techniques that are intended to go beyond an examination of the

selected issues (i.e., the initial hypothesis) and verify the entire taxable income of the taxpayer.

Early psychological models of hypothesis-testing have identified individuals have a "confirmation bias," preferring positive testing strategies. One of the earliest models was Snyder and Swann (1978), which identified three strategies that could be used in testing hypotheses. The first is a preferential search for evidence that confirms a maintained hypothesis. The second is a preferential search for evidence that disconfirms a maintained hypothesis. The third strategy is a search for hypothesis-confirming and hypothesis-disconfirming evidence with equal amounts of effort. Through a series of experiments, they found that individuals tend to exhibit a confirmatory search strategy. This preference for a confirmatory search strategy was described as "confirmation bias." This bias is considered to be a less effective search strategy for individuals than more normative/correct search methods which call for a disconfirmatory search strategy [e.g., Wason, 1960, 1968; Lakatos, 1970; Platt, 1964; Popper, 1959, 1972].

Subsequent research has found that financial statement auditors do not exhibit a "confirmation bias." These findings have been attributed to conservatism believed to arise out of the characteristics of the audit environment, in particular, the risks and consequences connected to audit judgments (i.e., legal liability) (Smith & Kida, 1991).

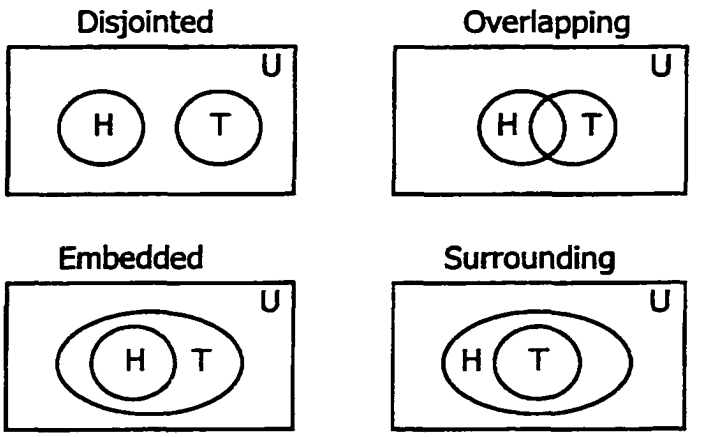
In contrast to financial statement auditors, tax-preparation professionals have been found to exhibit a "confirmation bias." Johnson (1993) found confirmation bias in tax professionals' ratings of court cases, when tax professional subjects were presented with taxpayer facts concerning an unreasonable compensation issue. Subjects assessed an initial probability of the deduction being upheld. They were then given four court cases.

Two were said to be favorable for the taxpayer. The other two were unfavorable. The outcomes of these cases were reversed for half of the subjects. The subjects then revised their probabilities and ranked the relevance of the court cases. It was found that the tax professionals rated the cases favoring the taxpayer as being more relevant than those cases that did not, indicating a preference for cases that would confirm/support the taxpayer's position. These results were believed to be driven by the degree of taxpayer advocacy possessed by the tax professional. It was also found that confirmation bias tended to occur more often in open transaction settings rather than in closed transaction situations. An open transaction in tax refers to a transaction decision that has not yet been made and filed on a taxpayer's return. An open transaction can be examined and altered to yield better tax benefits to the taxpayer. A closed transaction is a transaction decision that has already been made and filed on a taxpayer's return. A closed transaction is not open to alteration.

In all of these studies, confirmation bias was viewed as an inferior search strategy that should be avoided. Klayman and Ha (1987, 1989) reject this view by interpreting confirmation bias as evidence of a positive testing strategy. They agree with Snyder and Swann (1978) that a positive testing strategy is not always the best search strategy to test a hypothesis. However, a positive testing strategy can provide useful information about a hypothesis, even though it may not be complete information.

To demonstrate the effect of a positive testing strategy, Klayman and Ha outline four possible settings wherein an individual can test a hypothesis: (1) disjointed; (2) overlapping; (3) embedded; and (4) surrounding (Figure 2). In their model, positive tests (i.e., tests intended to confirm an initial hypothesis) are referred to as +H tests, and

negative tests (i.e., tests intended to disconfirm an initial hypothesis) are referred to as -H tests. Klayman and Ha's purpose for using these four situational setting is to show that +H tests can provide useful information depending on the setting. This interpretation of positive tests is in contrast to Snyder and Swann (1978) who view positive tests as always indicative of a poor testing strategy.



H = Initial hypothesis formed by an individual.
T = Actual state targeted by the initial hypothesis.
U = Universe of potential hypotheses.

For complete information about the Target:

Disjointed:	-H tests
Overlapping:	+H and -H tests
Embedded:	+H and -H tests
Surrounding	+H tests

Figure 2. Hypothesis-Testing Settings*

*Klayman and Ha (1987, 1989)

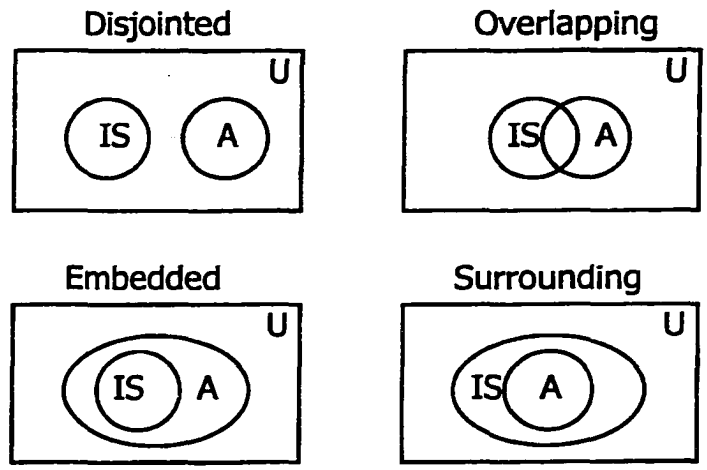
The hypothesis (H) represents the initial hypothesis formed by an individual about a given situation. The target (T) represents the actual state of the situation that is targeted by the initial hypothesis, or in other words, the "truth" about the situation. The universe (U) represents the totality of hypotheses that could be formed by an individual.

In a disjointed setting, the initial hypothesis formed provides no information about the actual state of a given situation. In an overlapping setting, the initial hypothesis provides some information about the actual state, but includes nonessential information. In an embedded setting, the initial hypothesis provides only information about the actual state; however, that information is incomplete. In a surrounding setting, the initial hypothesis provides all of the information about the actual state; however, it also provides nonessential information.

For a disjointed situation, positive tests will lead to none of the target information being identified. The positive tests will provide only information about the initial hypothesis which is incorrect. For an overlapping or embedded setting, only a portion of the target information will be obtained. In the surrounding hypothesis setting, positive tests will lead to all of the target information being obtained.

Conversely, negative tests are the only tests that can provide any information about the target in the disjointed situation. In the overlapping and embedded settings, only a portion of the target information is obtained. In the surrounding hypothesis setting, negative tests provide no useful information about the target.

Each of these hypothesis-testing situations can be encountered in the tax audit setting (Figure 3). The hypothesis (H) would represent the issues selected (IS) for examination by the agent when pre-planning the case. The target is all of the issues on the taxpayer's return that *should be adjusted* (A). The target can be fully known only if a 100% audit of the taxpayer's return was conducted, or if the agent correctly identified and tested all issues that needed adjusting. The universe (U) would represent the total possible issues on the return that *could be examined* by the agent.



IS = Issues selected for examination.
A = Issues that would result in an adjustment if examined.
U = Universe of potential issues on a tax return.

Figure 3. Hypothesis-Testing Settings for Revenue Agents*

*Adapted from Klayman and Ha (1987, 1989)

A disjointed condition would be one in which the agent has selected issues for examination that would result in no adjustment to the taxpayer's return (i.e., they did not need to be examined). In this situation, positive tests would provide no information about the adjustments that should be made to the taxpayer's return (A); negative tests, which utilize information beyond the issues selected, can provide information about (A). In overlapping and embedded conditions, both negative and positive tests are required to provide complete information about the taxpayer's return. In the surrounding condition, only positive tests would be necessary to provide information about (A).

Klayman and Ha demonstrate that for three of the settings (i.e., disjointed, overlapping, and embedded), the use of positive tests, exclusively, does not lead to complete information about the target. However, the information provided by positive

tests may provide some information about a target and should not be ignored. In the case of the surrounding setting, positive tests provide complete information about the target.

Klayman and Ha (1989) conducted an experiment to test the theory outlined in Klayman and Ha (1987). Their experiment used the rule discovery paradigm introduced in Wason (1960). Subjects were given an initial set of three numbers (triple) that was generated by some rule (e.g., 2-4-6, where the rule is increasing the prior number by 2). Subjects were then assigned a problem that had been previously classified as embedded, overlapping, or surrounding on the basis of the relation between the rule used to generate the triple, and the subjects' likely initial hypotheses. Subjects then generated new triples to test the rule that they had made as their initial guess. The experimenter would then respond with a "yes" or "no" to their generated triple depending on whether the triple matched the target rule or not. Triples that conformed to the subject's hypothesis were positive tests since they were being used to confirm the hypothesis. Triples that did not conform to the subject's hypothesis were negative tests since they were being used to disconfirm the hypothesis.

The results showed that subjects did exhibit a use of a positive test strategy in each of the tested conditions. Subjects all relied more on positive tests and less on negative tests. Across each of the three tested conditions (i.e., embedded, overlapping, and surrounding), the process appears to start with a fairly broad hypothesis and narrows to the target information contained in the hypothesis being tested.

Klayman and Ha (1989) cautioned that an individual's preference for positive testing strategies should be interpreted not as a lack of hypothesis-testing ability or an unwillingness to seek or accept falsification of an hypothesis. They noted that there was

a tendency to overrely on positive tests as compared to negative tests. In a tax audit, such overreliance by an agent could result in incomplete information about a taxpayer's return being obtained, thereby potentially leading to missed adjustments.

As stated earlier, the issues selected for examination by an agent represent the initial hypothesis formed during a tax audit. The usual application of Klayman and Ha (1987, 1989) used in past psychology and accounting research would test the hypothesis, "The issues selected for examination will result in adjustments to the taxpayer's return." For example, assume that an agent selects one issue to be examined on a taxpayer's return. To test this issue, the agent would inspect documentation (e.g., taxpayer's records, court cases, tax law, etc.) concerning that issue. Some of the information would support an adjustment; however, some would not. A positive (negative) testing strategy would be indicated by a preference for documentation that supports (does not support) an adjustment.

However, if the hypothesis being tested is changed to, "The issues selected are *all* of the adjustments to the taxpayer's return," then the identification of the hypothesis-testing strategy is very different. Rather than looking to the confirming (disconfirming) nature of the documentation itself, it is the use of these documents that indicates whether a positive (negative) testing strategy is being used.

For example, if an agent selects just one issue on a taxpayer's return to be examined, this one issue would form the agent's initial hypothesis about the adjustments to the taxpayer's return. The agent would then select a number of audit techniques to test the initial hypothesis. Some of these techniques would be used to determine whether an adjustment should be made to the one issue selected. These techniques would indicate

the use of a positive testing strategy. Some of these techniques would be used to go beyond the examination of the one issue selected and search for other issues to examine, or verify the entire taxable income of the taxpayer. These techniques would indicate a negative testing strategy.

Only through the use of negative testing techniques can the question, "The issues selected are *all* of the adjustments to the taxpayer's return," be adequately tested. In most cases, positive tests alone would not be adequate to test this hypothesis since only information about the issues selected for examination would be obtained. This is a question that IRS agents must address for every taxpayer's return that is audited. This application of Klayman and Ha's (1987, 1989) model does not represent a departure from their model, but rather an extension of its application to address a different question that has not been previously examined.

Based on Klayman and Ha (1987, 1989), it appears that the use of negative testing strategies is necessary for the effective examination of a taxpayer. An effective examination would identify all of the issues on a taxpayer's return that should be adjusted. Positive tests will provide some information about the taxpayer in most situations; however, except for a surrounding setting (i.e., all of the issues requiring adjustment, plus other issues were selected by the agent), this information about the target will be incomplete without the use of negative testing.

There are three categories of audit techniques available to an agent which can now be classified as predominantly positive or negative tests: (1) issue-directed techniques; (2) additional-record-inspection techniques; and (3) indirect-method techniques. An agent may utilize any or all of these techniques during a tax audit.

Issue-directed techniques focus on the issues selected for examination. For example, if an agent selects travel expenses as an issue, an issue-directed technique would include requesting the taxpayer's travel receipts used to support the deduction. Since the issues selected for examination form the initial hypothesis of the agent, the use of techniques aimed at testing these issues indicates a positive testing strategy.

Additional-record-inspection techniques include those that involve direct inspection of the taxpayer's books and records in search of additional issues (e.g., skimming corporate minutes for other potential issues). These techniques can be used for either positive or negative testing. With the use of these techniques, while an attempt is made to go beyond the initial hypothesis, the agent is still limiting his or her search to the taxpayer's books and records from which the tax return was most likely prepared and which the taxpayer may have "sanitized" in the event of an audit.

Indirect-method techniques are audit techniques that utilize information provided by outside sources to verify the income of the taxpayer (e.g., contacting major corporate customers to verify the dollar amount of sales made by the customer). Such techniques are most closely associated with a negative testing strategy since they require the agent to go beyond the initial hypothesis formed and essentially verify the taxable income of the taxpayer. This differs from an issue-by-issue approach often limited to taxpayer-supplied documents. The use of such techniques is expensive, particularly in terms of the amount of time invested by the agent; therefore, agents often avoid such techniques unless a large adjustment is likely due to the high expected cost, even though the IRS indicates that they want agents to use negative testing strategies.

The IRS has recognized the importance of using negative testing strategies. Recently agents nationwide received "economic reality" training. This training involved teaching agents the use of indirect-method techniques. Agents in some districts already were trained in the use of such methods; however, the IRS felt that this training was important enough to promote a nationwide effort. Assistant Commissioner of Examination John Monaco, in a recent interview, stated that "...agents will no longer confine their reviews to the four corners of a tax return..." (RIA, 1995, p. 419).

Summary

In the Pre-Examination Analysis phase, agents must identify from the many issues that appear on the tax return those that have the potential for an adjustment to the taxpayer's liability. In addition, the agent must select the audit techniques to be used to examine the selected issues. Both of these require the agent to choose from many alternatives and conduct a cost/benefit analysis to ensure that the examination of a particular issue and the audit techniques utilized have sufficient potential tax yield to warrant the time invested (Beach & Mitchell, 1978).

Both the issue-selection task and the audit-technique-selection task are expected to have a significant impact on the results of a tax audit. The selection of issues is a hypothesis-generation task in which the agent forms an initial hypothesis about the adjustments to a taxpayer's return. Inadequate performance of this task will lead to decreases in the effectiveness and efficiency of an audit. The selection of audit techniques following the formation of this hypothesis represents the strategy selected by the agent to test the hypothesis. The selection of inappropriate audit techniques leads to

an inadequate testing strategy for the audit. This poor testing strategy could result in adjustments being missed and the agent's time being wasted.

Performance Factors

This dissertation will examine two factors which impact performance of the issue-selection task and the audit-technique selection task: (1) time pressure; and (2) accountability. The remaining two subsections discuss the role each has in both the issue-selection task and the audit-technique-selection task. The first subsection discusses the effects of time pressure on the two tasks. The second discusses the effects of accountability as a motivator for performance in the two tasks.

Time Pressure in an IRS Tax Audit

Time pressure permeates the entire tax audit process and takes two forms: (1) the actual hours charged to the case; and (2) the number of days-in-process on the case. These two forms of time pressure occur simultaneously during a tax audit and will be manipulated simultaneously in this dissertation. Agents normally carry up to ten cases in their inventory at any one point in time. Each of the cases in an agent's inventory frequently are in various stages of process. The effect of this multiple case inventory is that if there are significant delays that prevent the agent from working on a given case for some time, there may be pressure to close that particular case due to the number of days-in-process, even though the hours actually charged to the case are low.

A case is placed in process when the first hour is charged to it. The first hours charged to a case occur usually during the Pre-Examination Analysis stage. If there are

delays in the case due to either the lack of information from the taxpayer or tactical delays on the part of the taxpayer, the days-in-process will increase. Such delays can occur at almost any point during the tax audit. Delays can occur at the beginning of the tax audit if a case is placed in process by one agent and subsequently is transferred to another agent. There may have been little or no work conducted by the prior agent, yet the days-in-process may be high. Such a situation is not uncommon. Delays can also occur at any point during the scheduling or developmental stages of the tax audit. If the days-in-process exceed 180, the case is classified as "over-age" and there is high pressure from the agent's group manager to close the case. Therefore, an emphasis on case-turnover in the form of days-in-process is one form of time pressure.

The hours charged to a case represent the more typical form of time pressure. When encountering an issue, the agent must make a determination of the size of the potential adjustment relative to the amount of time that will be required to examine the issue. From this perspective, time pressure originates from the size of the adjustment and the issue complexity. The degree to which issue complexity affects agents can be expected to vary from agent to agent relative to the sophistication of his or her knowledge.

Additionally, this form of time pressure can increase depending on the quality of documentation provided by the taxpayer. If the documentation provided requires a significant time investment for the agent to analyze and organize, the agent may face increased time pressure. However, this increased time pressure due to poor documentation quality occurs only with issues concerning income (as opposed to deductions) since the burden of proof is on the government to prove unreported income

exists. In the case of a deduction issue, the agent can merely disallow the deduction until the taxpayer presents sufficient documentation.

Inherent in this second form of time pressure is the unofficial performance measure of "dollars per hour charged." According to IRS evaluation criteria, agents are not to be evaluated on the basis of "dollars per hour"; however, these statistics are kept by the district branch chief at the group level. When agents perceive their evaluations are loosely or indirectly based on "dollars per hour," then the effects of time pressure can be expected to increase. It should also be noted that there is no budget for a given case; therefore, there is no benchmark against which the time charged to the case can be measured. Thus, the agent has to determine whether pursuing an issue is worth the time investment based solely on the number of hours charged to the case.

Both of these forms of time pressure can occur at any stage during the tax audit process. It is more commonly thought to occur during the later stages of an audit; however, cases are often received by agents that have significant days-in-process and hours charged to them, thus impacting the planning stage of the tax audit including the selection of issues to be examined and the audit techniques to be used.

Time Pressure—Accounting Research

In general, research in accounting has found that time pressure has conflicting effects on performance. These conflicting effects can be attributed to how successful performance was measured. Choo and Firth (1992) examined the effects of time pressure on auditor-subjects' judgments concerning the assessment of risk that the year-end balance of accounts receivable would be misstated. Subjects were placed in one of three

levels of time pressure—low, medium, or high. It was found that as time pressure increased, auditor-subjects had more difficulty processing the more complex audit procedures and showed more judgment instability in their risk assessments. The measures of performance used in Choo and Firth (1992) focused on *effective* performance—did subjects achieve the right answer.

Brown and Solomon (1990) found similar results. They conducted an experiment in which auditor-subjects made an assessment of inter-related internal controls in a client's information and business control system, and found that those subjects placed under time pressure showed decreased complex processing and an increase in less complex processing resulting in increased judgment instability. As in Choo and Firth (1992), *effective* performance was the focus of this study.

In contrast to these two studies, others have found that time pressure has positive effects on performance. Spilker (1995) found that a subject's performance under time pressure was dependent upon the type of knowledge the subject possessed. Subjects were assigned to two levels of time pressure: low or high. The subjects were also classified into one of three knowledge levels depending on their level of experience: naïve, declarative, and procedural. Subjects with naïve knowledge possessed little or no task-related knowledge. Subjects with declarative knowledge possessed "book" knowledge, but had little experience using the knowledge. Subjects with procedural knowledge possessed high levels of task-related knowledge through prior training and experience. It was found that while subjects in the declarative and procedural groups performed better than subjects in the naïve group, only subjects in the procedural group performed better in the task when under time pressure.

Spilker and Prawitt (1995) followed up on the findings of Spilker (1995) and also documented performance-increasing effects of time pressure. This study examined differences in performance between tax professionals and graduate tax students using the same task as Spilker (1995). However, in this study, the researchers were able to monitor subjects as they moved from one screen of the information and measure the amount of time spent on each screen. They found the same effects as Spilker (1995) in terms of performance; however, they identified some reasons to explain why experienced subjects (i.e., the tax professionals) performed better under time pressure. First, the more experienced subjects spent less time assimilating the problem statement before entering the database. Second, the experienced subjects referred back to the factual case information less often. Finally, the experienced subjects tended to search the more relevant areas of the database per unit of search time. Both Spilker (1995) and Spilker and Prawitt (1995) included not only measures of *effective* performance but also *efficient* performance—did subjects achieve the right answers in a timely manner. The inclusion of *efficient* performance may explain the conflicting findings between these studies and Choo and Firth (1992) and Brown and Solomon (1990).

McDaniel (1990) reconciled the conflicting results of these four accounting studies by directly addressing effective and efficient performance. McDaniel examined the effects of time pressure on audit effectiveness and efficiency. Auditor-subjects were assigned to one of four levels of time pressure and placed in either a well-defined or a less-defined audit program condition. The subjects were asked to examine the client-prepared inventory and inventory reserve records for errors related to two audit assertions: valuation and completeness. The auditor was to obtain sufficient evidence to

achieve a 90% confidence that the true error rate did not exceed the specified tolerable error rate. Audit effectiveness was defined as examining the total amount of information necessary to make the correct decision. Audit efficiency was defined as minimizing the amount of non-relevant information.

It was found that for both types of audit programs, as time pressure increases, audit efficiency increased and audit effectiveness decreased. Thus, time pressure had positive effects on the efficiency measure of performance, but negative effects on the effective measure of performance. The results of McDaniel (1990) emphasize the importance of identifying the aspect of performance that is being measured. The expected influence of time pressure will be dependent on the aspect of performance being measured. This dissertation will include separate measures of effectiveness and efficiency and make specific predictions concerning the impact of time pressure on each.

Time Pressure—Psychology Research

Psychology research generally has found time pressure to have negative effects on performance. Time pressure has been found to cause more erratic usage of judgment policies by decision makers (Rothstein, 1986) and increased rates of cognitive biases [Kruglanski & Freund, 1983; Freund, Kruglanski, & Shpitzajzen, 1985; Heaton & Kruglanski, 1991]. Time pressure also has been found to inhibit an individual's search for diagnostic information (Kruglanski & Mayseless, 1988). As in the accounting studies, *effective* performance was examined in the psychology studies and yielded the negative effects of time pressure.

Theory of Lay Epistemology

The findings in both accounting and psychology can be explained by the theory of lay epistemology [Kruglanski & Freund,1983; Kruglanski, 1989]. In this theory, Kruglanski and Freund identified three motivations which can lead individuals to shut down the hypothesis-testing process—referred to as "freezing," or hold open the hypothesis-testing process—referred to as "unfreezing": (1) the need for structure; (2) the fear of invalidity; and (3) the need for specific conclusion.

The need for structure refers to the need to have some knowledge of a given topic that reduces confusion or ambiguity (Kruglanski & Freund, 1983). When this motivation is present, there is an inhibition to examine information that endangers an existing hypothesis. This need for structure is heightened any time a person is under pressure to make a decision or reach a conclusion. Most often, this pressure to make a decision takes the form of time pressure. The result of excessive time pressure can be a shutting-down of the decision process.

The second motivation is the fear of invalidity, which refers to the dangers of committing to a potentially incorrect hypothesis. The fear of invalidity operates in the opposite direction of the need for structure and leads to a delay in shutting-down the decision process. This motivation implies that "...where considerable costs hinge upon commission of an error, the individual will be more sensitive to evidence and ideas inconsistent with current beliefs..." (Kruglanski & Freund, 1983, p.450). The fear of invalidity is most often operationalized as some form of accountability. The third

motivation deals with an individual's preference for a pre-determined conclusion and will not be addressed in this dissertation.[2]

Following the description of the theory of lay epistemology, Kruglanski & Freund (1983) conducted two experiments to test their theory. In both experiments, the need for structure and the fear of invalidity were examined. For both experiments, subjects were placed in either a high fear of invalidity (operationalized as high time pressure) or low fear of invalidity condition. The need for structure variable was operationalized as a justification requirement. Half of the subjects were told that their responses would be anonymous, while the other half were told that they would have to explain their decisions to the experimenters.

The two experiments were examining the effects of time pressure and a justification requirement on primacy effects and ethnic stereotyping, respectively. Primacy effects refer to the tendency of individuals to overly weight the importance of information that they are exposed to early in a decision-making process. Ethnic stereotyping refers to the tendency of individuals to rely on ethnic stereotypes in the absence of other information. The results found that primacy effects and ethnic stereotyping were more pronounced when time pressure was high and most pronounced in the presence of the justification requirement. This indicated a significant interaction

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[2]The need for specific conclusion is a factor in the tax audit setting. An example of where the need for specific conclusion would be a factor would be a situation where an agent has selected an issue that he or she suspects would result in an adjustment if audited. If the agent has a preference for finding an adjustment for this issue, he or she would show a preference for information that supports an adjustment rather than information that does not support an adjustment. This example is similar to accounting research on confirmation bias which uses taxpayer advocacy as an explanation for this phenomenon (e.g., Johnson, 1993). In the case of an agent, this advocacy would be in favor of the government rather than the taxpayer. As described earlier, the question being addressed in this proposal does not concern the evaluation of evidence gathered, but rather the overall information-gathering strategy; therefore, this factor is not pertinent in this proposal. Future research on government advocacy in agent's evaluation of tax audit

between the need for structure and the fear of invalidity and supported the theory of lay epistemology.

Three other studies furthered the work of Kruglanski and Freund (1983), provided further support for the theory of lay epistemology, and highlighted the importance of careful operationalization of variables. Freund, Kruglanski, and Shpitzajzen (1985) furthered the work of Kruglanski and Freund (1983) by examining different forms of the need for structure and the fear of invalidity through a series of three experiments. The task used in these experiments was the personnel selection task used to examine primacy effects in Kruglanski and Freund (1983). In the first experiment, the need for structure was operationalized as the need to form a unidimensional vs. a multidimensional evaluation of the individual. The fear of invalidity was operationalized by telling the subject that the information he/she provided would be used/not used in making a final decision. The results found main effects for the variables, as opposed to the interaction found in Kruglanksi and Freund (1983).

The second experiment was the same as the first experiment except the need for structure was operationalized as time pressure (high/low). Again, only main effects were found for the variables. The third experiment operationalized the need for structure as in the first experiment, but the fear of invalidity was operationalized by telling the subjects that their ability to predict the individual's success at the job would be evaluated. The results showed an interaction between the two variables consistent with Kruglanski and Freund (1983). It was believed that the operationalization for the fear of invalidity was more salient in this experiment than in the other two.

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information would be appropriate and would represent an excellent complement to taxpayer advocacy research.

The results of Freund, Kruglanski, and Shpitzajzen (1985) demonstrate that differing operationalizations of the need for structure can have differing effects (i.e., significant interactions vs. main effects). Main effects were found in the first two experiments; however, when the need for structure was changed to a more salient operationalization in the third experiment, a significant interaction was found.

Kruglanksi and Mayseless (1988) and Heaton and Kruglanski (1991) demonstrated the importance of operationalization of the need for structure. Kruglanski and Mayseless (1988) tested the effects of the need for structure and fear of invalidity in a task involving identifying an individual's profession based upon a list of interview questions. The need for structure was operationalized by stressing the importance of making quick decisions to half of the subjects. The fear of invalidity was operationalized by telling half of the subjects they would get an extra hour of experimental course credit if they were able to predict correctly. As in the first two experiments of Freund, Kruglanski, and Shpitzajzen (1985), the results showed main effects for these variables. Subjects in either the high fear of invalidity condition or the low need for structure condition picked more highly diagnostic questions than those in the other conditions.

Heaton and Kruglanksi (1991) pre-tested and classified subjects as either introverts or extroverts. The subjects then participated in a primacy effects task similar to Kruglanski and Freund (1983). The need for structure was operationalized as time pressure and was manipulated between subjects as high/low. Overall, primacy effects were found but more so in the presence of time pressure and more so by introverts indicating an interaction between time pressure and the introvert/extrovert classification.

These results are similar to the findings in the third experiment in Freund, Kruglanski, and Shpitzajzen (1985).

The overall findings of all these studies support the theory of lay epistemology as described in Kruglanski and Freund (1983). Beyond that, these studies demonstrate that careful operationalization of variables must be made, because the operationalization may impact the effect of the variable. Therefore, it is important to use task-specific operationalizations in experiments. If operationalizations of these variables are not designed specifically for the task being examined, results may not be obtained. Throughout these studies, the need for structure was most often operationalized as some form of time pressure.

Accountability

The second motivation that Kruglanski and Freund (1983) identified in the theory of lay epistemology is the fear of invalidity. In most of the experiments that examined this theory, the fear of invalidity was operationalized as a justification requirement or some other form of accountability. This section will discuss the accountability literature and how it relates to the fear of invalidity.

The IRS considers the review function to be an important part of ensuring a high level of quality in audits (IRM, 4413.1, MT 4400-269). Quality Measurement Staff (hereafter, QMS) conduct random reviews of cases worked by agents to ensure that appropriate and sufficient audit work is being performed. QMS accomplishes this by an independent review of the return to determine which issues should have been examined and which audit techniques should have been utilized. If QMS finds problems in either

of these areas, they send the case back to the agent for correction, which entails further audit work. Agents dislike having cases returned from QMS for two reasons. First, the review may reflect unfavorably on the agent with the group manager, who receives the case file before it is returned to the agent. Second, further audit work often entails re-contacting the taxpayer for further information. This is an uncomfortable situation for the agent, since the agent usually has already told the taxpayer that the audit has concluded.

The review process in financial statement auditing has been found to have numerous effects. It has been found to improve the level of consensus in decision-making (Trotman & Yetton, 1985), as well as the accuracy of those decisions (Trotman, 1985). The review process also produces an increase in the generation of plausible hypotheses by auditors in an analytical review task (Ismail & Trotman, 1995). Libby and Trotman (1993) found the review process to be an effective control by increasing the likelihood that judgment-inconsistent information is considered, since auditors tended to recall judgment-inconsistent information. Each of these studies provides valuable insights into the effects of an ongoing review process. However, this dissertation examines the effect of the *anticipation* of the review process, rather than the review process as it is occurring.

The review function of the IRS meets the definition of a probabilistic review, which is the presence of a non-zero probability that one's work will be subject to review (Tan, 1995). A probabilistic review essentially means the presence of a potential to be held accountable. Accountability is defined as the presence of social pressure to justify one's decision (Tetlock, 1983, 1985). In the psychology literature, accountability has been found to lead to more accurate behavioral predictions (Tetlock & Kim, 1987), and to

more complex, multidimensional information processing when the views of the audience are unknown [Tetlock, 1983; Tetlock, Skitka, & Boettger, 1989].

Accountability has been found to have numerous effects on auditors. Accountability leads to greater consensus and self-insight among auditors (Johnson & Kaplan, 1992). It also affects the type of opinion issued (Buchman, Tetlock, & Reed, 1996) and reduces the likelihood of qualified opinions being issued (Lord, 1992). It also has been found that accountability leads to an increase in an auditor's level of cognitive processing (Messier & Quilliam, 1992). Tan (1995) found that probabilistic review (i.e., accountability) reduced the likelihood that auditors, who had been involved in a client's prior year audit, would issue the same opinion as the prior year.

In the managerial accounting literature, there has been considerable empirical evidence indicating that the presence of a probabilistic management audit can increase employees' compliance with policies, procedures, and rules [Churchill, 1966; Churchill & Cooper, 1965]. Chow, Hirst, and Shields (1995) found that the use of probabilistic management audits interacted with the type of compensation scheme to affect the rate of subordinate misrepresentations.

Probabilistic management audit as used in the above studies is the same as a probabilistic review, which is a probability that one's work will be audited or reviewed by a superior. Given this, Churchill et al. (1982) predict that management audits (e.g., reviews) will lead to conformance with expected behavior if (1) a set of criteria are introduced (i.e., selection of issues with adjustment potential and the use of negative testing strategies); (2) a pending review against these criteria is announced; and (3)

penalties for non-conformance are established (i.e., unfavorable evaluations that could hurt promotion possibilities).

Probabilistic review, as is accountability, is consistent with the fear of invalidity in lay epistemology. It represents a form of accountability that can be expected to affect the decision process. However, the effects of probabilistic review on the selection of issues and audit techniques are not as clear as they might appear. Tetlock (1985) agrees that accountability leads to increased effort and cognitive processing; however, he states that the result of this increased cognitive processing depends on the direction of the processing.

Tetlock (1985) views individuals as politicians who are "...generally motivated to maintain the approval and respect of those to whom they are accountable" (p. 309). He further states that individuals are cognitive misers who utilize an "acceptability" heuristic to derive "least effort" solutions. When faced with demands for accountability, individuals are motivated to increase cognitive processing in order to identify the most defensible solution. This defensible solution may not always be more effective, efficient, or appropriate than the solution that would have been derived in the absence of accountability. Also, given that time pressure is expected to affect different aspects of performance in the issue-selection task and performance in the audit-technique-selection task, it is appropriate to examine the effects of accountability in light of whether time pressure is present and how performance is measured.

Hypothesis Development

The literature reviewed suggests that time pressure and accountability interact to affect performance in the issue-selection task and the audit-technique-selection task. This section will discuss the specific effects of this interaction in each task and will outline hypotheses to be tested.

Issue-Selection Task

The issue-selection task is the first phase of the Pre-Examination Analysis phase of a tax audit. In this task, the agent selects the issues that he or she plans to examine during the course of the audit. Essentially, this is a hypothesis-generation task. Performance at this task can be measured in two ways: effectiveness and efficiency. The interaction of time pressure and accountability can be examined in light of these two dimensions of performance.

Effectiveness

Effectiveness is measured in this study as the number of *plausible* issues selected for examination. The level of effectiveness increases as the number of plausible issues increases. For purposes of this dissertation, a plausible issue is an issue on the taxpayer's return that if audited has a high likelihood to result in an adjustment to the taxpayer's return. An *implausible* issue would be an issue that possesses a low likelihood to result in an adjustment if audited.

A revenue agent potentially is subject to two types of time pressure: (1) the actual hours charged to the case; and (2) the number of days-in-process on the case. The

presence of these pressures meets the definition of the need for structure in Kruglanski and Freund's (1983) theory of lay epistemology. The presence of both types of time pressure will thus lead to a shorter decision span.

According to Tetlock (1985), an agent faced with time pressure would be under pressure to derive a "least effort" solution. In this situation, an agent would choose only those issues that most obviously need to be examined. Other issues that should be examined which are not as easily identified would be ignored because the agent feels pressure to close the taxpayer's case as quickly as possible. Thus, time pressure would have a negative effect on *effectiveness* because all of the issues that should be examined are not as likely to be selected as part of the agent's "least effort" solution. This leads to the following hypothesis:

H1a: The presence of time pressure will negatively affect effectiveness in the issue-selection task of a tax audit.

Accountability meets the definition of the fear of invalidity in Kruglanski and Freund's (1983) theory of lay epistemology and will lead to a longer decision span. Tetlock (1985) states that accountability will lead an individual to develop a "defensible" solution by encouraging a higher level of attention to a task. In the case of a revenue agent, part of the "defensible" solution in the issue-selection task would be the identification of all the issues that should be examined (i.e., effectiveness). The presence of accountability would encourage the agent to select all of the issues that the agent's manager and/or QMS would view as the correct issue set.

Time pressure and accountability, thus, appear to have opposite effects. Time pressure encourages an agent to derive a "least effort" solution leading to a shorter decision span, while accountability encourages a "defensible" solution leading to a longer decision span. Now, the interaction of time pressure and accountability will be discussed.

In the presence of time pressure, agents are under pressure to derive "least effort" solutions leading to a decrease in effectiveness. When accountability interacts with time pressure, the increased likelihood of review will encourage the agent to develop a more "defensible" solution. Therefore, the agent will attempt to identify more of the issues that should be examined rather than only those that most obviously need to be examined. Thus, accountability will have a positive effect on effectiveness when time pressure is present compared to the effect of time pressure alone. This leads to the following hypothesis:

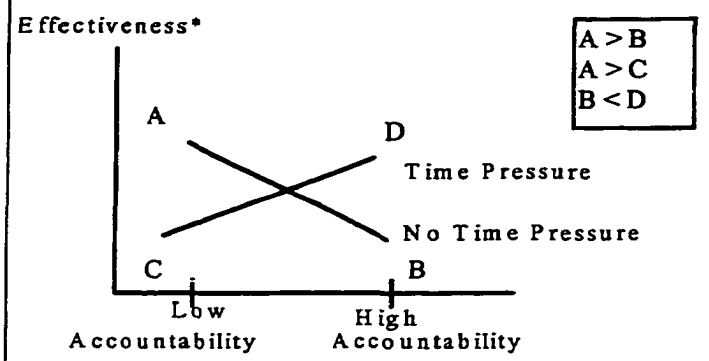
H1b: The increased presence of accountability will positively affect effectiveness in the issue-selection task of a tax audit when time pressure is present.

In the absence of time pressure, accountability will have a negative effect on effectiveness. When time pressure is absent, the agent has adequate time to develop what the agent believes is the most complete issue set. Tetlock (1985) would say that the agent would develop a "least-effort" solution absent some motivation to the contrary; however, in the case of a revenue agent, there is always a low level of accountability that encourages the agent to achieve better than a "least-effort" solution. This low level of accountability comes from the minimum review that the agent's manager will give the case when it is completed.

When the agent is under no time pressure, he or she may examine alternatives which are plausible, but which the agent does not believe are as likely to result in an adjustment. An increased level of accountability will cause these "less-likely" alternatives to be dropped, because the agent believes these alternatives are not as "defensible"; that is, the agent does not believe that his or her manager or QMS would agree that these alternatives should be examined. Thus, an increased presence of accountability will have a negative effect on effectiveness in the absence of time pressure. This leads to the following hypothesis:

H1c: The increased presence of accountability will negatively affect effectiveness in the issue-selection task of a tax audit when time pressure is absent.

The three hypotheses indicate a disordinal interaction between accountability and time pressure for effectiveness in the issue-selection task. The shape of this interaction is shown in Figure 4.



*Effective performance is measured as the number of plausible issues selected for examination.

Figure 4. Expected Interactions of Accountability and Time Pressure--Issue Selection Task

Efficiency

Efficiency is measured in this study as the ratio of *plausible* issues to the total number of issues selected for examination, both *plausible* and *implausible*. As the number of implausible issues selected for examination decreases, the level of efficiency increases. If an agent were to select only *plausible* issues, the highest level of efficiency would be achieved, since effort would be directed only to plausible issues and not implausible ones.

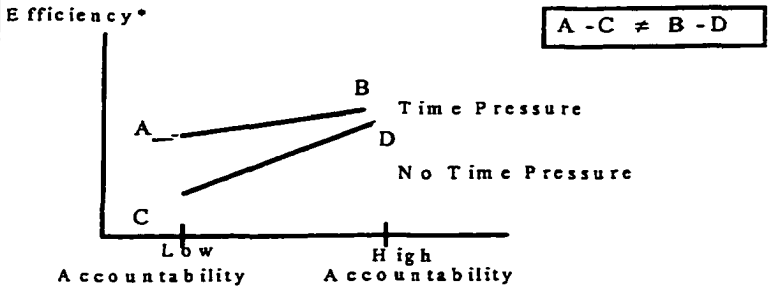
Efficiency is the other part of the "defensible" solution in the issue-selection task. In the issue-selection task, the "defensible" solution includes not only effectiveness—all the issues that *should* be examined have been selected, but also efficiency—all issues that *should not* be examined are not selected. When faced with time pressure, the agent will select only issues that most obviously need examining, deriving the "least effort" solution. Since only the most obvious issues are being selected, implausible alternatives

are not as likely to be selected. Thus, time pressure will have a positive effect on efficiency.

Accountability also improves efficiency, but for a different reason. An agent is looking for the most "defensible" solution in the presence of accountability. The most "defensible" solution will include the minimization of implausible alternatives. Therefore, accountability will have a positive effect on efficiency.

Accountability will have a larger effect on efficiency in the absence of time pressure. When time pressure is present, the agent is already under pressure to increase efficiency; therefore, the marginal effect of accountability will be smaller than when time pressure is absent. This suggests an ordinal interaction of time pressure and accountability for efficiency (Figure 5) and leads to the following hypothesis:

H2: The presence of accountability will positively affect efficiency in the selection of issues for examination by agents; more so in the absence of time pressure.



*Efficient performance is measured as:

$$\frac{\text{number of plausible issues}}{\text{(number of plausible issues + implausible issues)}}.$$

Figure 5. Expected Interactions of Accountability and Time Pressure--Issue Selection Task

Audit-Technique-Selection Task

The selection of audit techniques is the second task in the Pre-Examination Analysis phase of a tax audit and follows the issue-selection task. As described earlier, the audit techniques available for selection by the agent can be classified into three categories: (1) issue-directed techniques associated with a positive testing strategy; (2) additional-record-inspection techniques associated with a combined testing strategy; and (3) indirect-method techniques associated with a negative testing strategy.

In the audit-technique-selection task, time pressure will lead to an increased use of issue-directed techniques and a decreased use of additional-record-inspection techniques and indirect-method techniques. Additional-record-inspection techniques and indirect-method techniques require more time than issue-directed techniques. Given that the agent believes that there is adjustment potential based upon his or her initial hypothesis, he or she will utilize the most efficient strategy because he or she does not perceive that there is adequate time for slower, more time consuming information searches.

The effect of accountability on the selection of audit techniques will depend on whether time pressure is present. The literature suggests that accountability will lead to conformance with a set of criteria. The IRS has defined these criteria as a stated preference for the use of indirect-method techniques in the audit of taxpayers, which require more time than issue-directed techniques or additional-record inspection techniques. This preference for indirect-method techniques, therefore, represents the criteria for the selection of audit techniques that the agent would be evaluated against in the event of a review. Thus, in the presence of accountability, there should be an increased use of indirect-method techniques and a decrease in the use of issue-directed

techniques. The use of additional-record-inspection techniques would also increase, as these techniques are usually required in order to carry out indirect-method techniques. For example, in performing an indirect-method technique, information such as banks used by the taxpayer, major customers, etc. usually will be gathered through the inspection of the taxpayer's books and records (i.e., an additional-record-inspection technique).

When time pressure is absent, the effect of accountability will be minimal. Absent time pressure, there is little reason for an agent not to adopt negative testing strategies associated with indirect-method techniques. Conversely, in cases when time pressure exists, agents have pressure to adopt positive testing strategies associated with issue-directed techniques which require less time. Accountability will offset the effect of time pressure by encouraging agents to utilize indirect-method techniques.

It might appear that an agent would merely add indirect-method techniques to the issue-directed techniques as accountability increases; however, once the agent begins using indirect-method techniques, the use of many issue-directed techniques becomes redundant. For example, if the agent uses indirect-method techniques, the agent will be attempting to reconstruct the taxable income of the taxpayer; therefore, the issues selected for examination that require only documentary verification will essentially be verified through the use of the indirect-method. Therefore, to also use the issue-directed techniques to verify those issues would be redundant. The only issue-directed techniques that would continue to be used would be those directed at issues where the inclusion of that issue in the taxable income was unclear, rather than those issues which require only

the gathering of supporting documentation. In these situations, issue-directed techniques mostly in the form of tax law research on the given issue would continue to be used.

Accountability also increases the selection of additional-record-inspection techniques associated with a combined testing strategy in the presence of time pressure, similar to the effect on indirect-method techniques. This effect occurs because an increase in the use of indirect-method techniques requires an increased use of additional-record-inspection techniques.

Based on the differing effects of accountability in the presence/absence of time pressure, an interaction of time pressure and accountability in the audit-technique-selection task is suggested. Accountability has its greatest impact in the presence of time pressure, and leads to the absence of positive testing indicated by the selection of issue-directed techniques and the presence of combined and negative testing indicated by the selection of additional-record-inspection and indirect-method techniques, respectively. This leads to the following hypotheses:

H3a: Time pressure and accountability will interact to affect the presence/absence of positive testing (i.e., issue-directed techniques) exhibited by agents when selecting audit techniques.

H3b: Time pressure and accountability will interact to affect the presence/absence of combined testing (i.e., additional-record-inspection techniques) exhibited by agents when selecting audit techniques.

H3c: Time pressure and accountability will interact to affect the presence/absence of negative testing (i.e. indirect-method techniques) exhibited by agents when selecting audit techniques.

Summary

This dissertation examines the effect of time pressure and accountability on IRS agents in an issue-selection task and audit-technique-selection task. Time pressure and accountability are both important factors in an IRS tax audit and can be expected to affect judgments made in the issue-selection task and the audit-technique-selection task. In the issue-selection task, the literature reviewed in both accounting and psychology indicates that time pressure and accountability are important determinants of performance. Time pressure and accountability can have differing effects, both positive and negative, depending on how performance is measured (McDaniel, 1990). These effects are well examined within the framework of Kruglanski and Freund's (1983) theory of lay epistemology. For the audit-technique-selection task, Klayman and Ha's (1987, 1989) model of positive-testing strategy provides an excellent framework for examining the effect of time pressure and accountability on hypothesis-testing strategies utilized by IRS agents in this task.

The purpose of each of the hypotheses outlined is to examine the effect of time pressure and accountability on the selection of issues for examination and the selection of audit techniques used during the audit of a taxpayer by a revenue agent. The following chapters will outline the research methods used to test these hypotheses and results of those tests.

Chapter 3

Research Method

Introduction

The following issues will be addressed in this chapter: (1) subjects; (2) experimental design; (3) experimental tasks and procedures; (4) independent variables; (5) dependent variables; (6) control variables; (7) manipulation checks; and (8) tests of hypotheses.

Subjects

The subjects used are general program revenue agents of the IRS. General program agents audit individuals, corporations, partnerships, and other entities as needed. Agents who work in specialty areas such as employment tax specialists, estate and gift tax specialists, criminal investigation, etc. are not included in the subject pool. Agents in these specialty areas often have little or no audit experience outside of their specific specialty and thus their inclusion as subjects would not be appropriate. Subjects were contacted either individually or through IRS group meetings arranged with IRS managers. All subjects participated on a voluntary basis. The subjects were located in Arkansas, Kentucky, Louisiana, Missouri, Mississippi, and Tennessee representing four IRS districts (i.e., the Kentucky-Tennessee District, the Gulf Coast District, the Arkansas-Oklahoma District, and the Kansas-Missouri District) and two IRS Regions (i.e., the Southeast Region and the Mid-States Region). Table 1 presents the relevant demographic data concerning the subjects.

Table 1

Demographic Data of Revenue Agent Subjects

Grade	Number of Subjects	Average Years of Experience
11	24	10.00
12	25	15.52
13	12	16.58
Total	61	13.56

The experiment was completed by a total of seventy-three revenue agents. Eleven of these subjects were eliminated because of failure to pass the manipulation checks. The removal these subjects will be discussed later in this chapter. One subject was removed for failure to complete all of the experimental instruments. This left a total of sixty-one subjects.

Experimental Design

The experiment used consists of two tasks: (1) the issue-selection task; and (2) the audit-technique-selection task. In each of these tasks, the effects of time pressure and accountability were tested. The experiment has a 2x2 factorial design with two 2-level between-subjects variables: (1) time pressure (absent or present); and (2) accountability (low or high). The manipulation of time pressure includes hours charged to the case and days-in-process, simultaneously. The manipulation of accountability includes review by the manager and QMS, simultaneously. Subjects were randomly assigned to each of the experimental groups. Table 2 outlines the resulting treatment cells.

Table 2

Treatment Cells
(issue-selection task and audit-technique-selection task)

	Accountability	
Time Pressure	Low	High
Absent	15 subjects	15 subjects
Present	15 subjects	16 subjects

Experimental Tasks and Procedures

At the beginning of the experiment, subjects received a packet containing the following items: (1) an introductory letter containing instructions for the experiment; (2) a demographic questionnaire; (3) the case scenario containing the manipulations of the independent variables; (4) a Form 1120 corporate tax return; (5) a debriefing questionnaire; and (6) control variable questionnaires for technical tax knowledge and functional accounting knowledge. All of the instruments used in both tasks can be found in Appendix B.

In the introductory letter, subjects were instructed to complete each of the instruments in the order that they were contained in the packet and to answer all questions as truthfully as possible. All of the instruments were completed in a written format. The demographic questionnaire included questions concerning IRS experience and any other non-IRS accounting experience.

In the case scenario, subjects were given a description of a corporate taxpayer. The subjects were asked to read this description and to answer questions concerning the taxpayer as if they were going to audit the taxpayer. The Form 1120 tax return was developed by the researcher and was based upon numerous textbook examples. The main goal in the development of the tax return was to have a closely-held (i.e., owned by one individual or a small group of individuals), small corporate taxpayer that would be within the audit capabilities of all revenue agents from Grade 11 through Grade 13. The Form 1120 tax return can be found in Appendix C.

Following the reading of the case scenario, subjects answered questions that comprised the issue-selection task and the audit-technique-selection task. In the issue-selection task, subjects were asked to inspect the corporate tax return and to list all of the issues that they would choose to examine if they were auditing the taxpayer. In the audit-technique-selection task, subjects were asked to list the audit techniques that they would use to audit the corporate tax return that was used in the issue-selection task. The audit techniques selected by the subjects were inspected and classified as being associated with a positive, combined, or negative testing strategy.

Both the issue-selection task and the audit-technique-selection task are written protocols in which the agents generate their own list of issues and audit techniques without being provided with a list of issues or audit techniques to select from. At the conclusion of the experimental tasks, subjects were asked to complete the debriefing questionnaire that contained the manipulation checks for the independent variables and other questions concerning understanding and realism of the task. The subjects also

completed written tests to measure the levels of corporate tax knowledge and functional accounting knowledge.

Independent Variables

There are two independent variables in each of the tasks: (1) time pressure (TIMEPRES); and (2) accountability (ACCOUNT). In both tasks, time pressure was manipulated between-subjects at two levels: absent and present. The specific manipulations are as follows:

Absent

> This case is a new case that has no hours charged to it and no days-in-process.

Present

> This case was transferred to you from another agent in your group who has been transferred to another area. The case has 45 hours charged to it and has 400 days-in-process and is therefore classified as "over-age". From an examination of the prior agent's workpapers, you find little useful information and have determined that you will have to start the audit over.

In both tasks, accountability was manipulated between-subjects at two levels: low and high. The specific manipulations are as follows:

Low

> It is your expectation that this case will receive the usual review done by your manager and has the possibility of being selected for review by Quality Measurement Staff. QMS has historically reviewed 10% of cases worked.

High

> Your manager has told you this case is a high profile case and will be watched closely by examination officials at the district level. Because of this, you anticipate your manager will review your work closely and realize that the case will almost certainly be reviewed by Quality Measurement Staff.

Both of the tasks are asking the subjects to role-play. There is no actual time pressure or accountability. It is understood that the manipulations of these variables are not the strongest. Given the availability of subjects on a volunteer basis, a role-play was the best manipulation that could be achieved.

Role-playing is a valid research method that should not hurt the internal validity of the experiment as long as subjects are not aware of the variables being manipulated (Aronson et al. 1990, p. 101). This should not be a problem since the independent variables are being manipulated between-subjects. Role-playing, however, can reduce the external validity of any findings.

Dependent Variables

In the issue-selection task, there are two dependent variables: (1) effectiveness (EFFECTIVENESS); and (2) efficiency (EFFICIENCY). Effectiveness is measured as the number of *plausible* issues selected by the agents in the issue-selection task. Efficiency is measured as the ratio of *plausible* issues to the total number of issues selected, both *plausible* and *implausible.*

Whether an issue is plausible or implausible will be determined in the following manner. First, a panel of experts was formed consisting of a current IRS group manager,

a former IRS group manager, and a current member of the IRS management pool. Each member of the panel identified all of the issues on the experimental corporate tax return that each of them believed should be examined. The list of issues from each member was compiled into one master list. The issues on this master list were classified as plausible issues. All other issues selected by an agent were classified as implausible. The master list of plausible issues and the instruments that were completed by the experts can be found in Appendix D.

In the audit-technique-selection task, there are three dependent variables: (1) positive testing (POSITIVE); (2) combined testing (COMBINED); and (3) negative testing (NEGATIVE). These variables are measured in the following manner. Each of the dependent variables is binary. All three dependent variables will be coded as either 0 or 1 depending on whether a subject lists an audit technique that corresponds with one of the dependent variables. For example, if the subject were to list audit techniques associated with positive testing and combined testing, but not negative testing, the three dependent variables would be coded: 1 for positive, 1 for combined, and 0 for negative.

Control Variables

There are five control variables for each of the tasks: (1) grade of the agent (GRADE); (2) education level of the agent (EDUCATION); (3) years of experience as an agent (YEARS); (4) corporate tax knowledge (TAXKNOW); and (5) functional accounting knowledge (ACCKNOW). Prior research in auditing and tax has shown that task-specific knowledge can influence an individual's performance in judgment/decision-making tasks [Bonner, Davis, & Jackson, 1992; Bonner & Pennington, 1994; Bonner &

Lewis, 1990; Libby, 1995; Libby & Tan, 1994]. Based upon these studies, corporate tax knowledge and functional accounting knowledge have been identified as being the important knowledge variables for the issue-selection task and the audit-technique-selection task. These variables should be randomized over the treatment cells in the experimental design through the use of random assignment of subjects. However, they will be measured and tested for successful randomization across treatment cells to eliminate any unexpected confounding effects. The written tests for corporate tax knowledge and functional accounting knowledge can be found in Appendix E.

A 2x2 ANOVA test will be performed on all control variables to test for successful randomization across treatment cells. Each control variable will be the dependent variable in these tests with time pressure and accountability as the independent variables. Successful randomization will be indicated if both the independent variables and the interaction of the two independent variables are statistically insignificant ($p >$ .05).

Manipulation Checks

Subjects were asked questions concerning the perceived impact of time pressure and probabilistic review on their performance in the course of doing their job. These questions were contained in the debriefing questionnaire completed after the experiment (See Appendix F). The specific manipulation checks for each variable were as follows:

Time Pressure

Do you feel increased pressure to close a case when the case has a large number of hours charged to it?

Do you feel increase pressure to close a case when the case has high days-in-process and is classified as "over-age"?

Accountability

Do you feel increased pressure to perform well when you know your work will be reviewed closely by your manager?

Do you feel increased pressure to perform well when you know your work will be reviewed by Quality Measurement Staff?

Since the experiment in this dissertation is a role-play, it is important that the subjects feel that these variables affect their performance for the experimental manipulations to be successful. Thus, subjects in either the present condition for time pressure or the high condition of accountability (or both) must indicate that they feel that time pressure and/or accountability affect their performance. This will be indicated by the subjects' responses to the questions in the debriefing questionnaire. Eleven subjects failed to pass the manipulation checks. The breakdown of these eleven subjects by treatment cell is shown in Table 3.

Table 3

Subjects eliminated by Manipulation Checks
(issue-selection task and audit-technique-selection task)

	Accountability	
Time Pressure	Low	High
Absent	0 subjects	4 subjects
Present	1 subject	6 subjects

Tests of Hypotheses

This section will outline the methods used to test the hypotheses discussed in Chapter 2. These include: (1) the effectiveness in the issue-selection task (H1a, H1b, and H1c); (2) the efficiency in the issue-selection task (H2); and (3) the testing strategy in the audit-technique selection task (H3a, H3b, and H3c).

Effectiveness in the issue-selection task (H1a, H1b, and H1c)

H1a predicts that time pressure (TIMEPRES) will negatively affect effectiveness (EFFECTIVENESS) in the issue-selection task. H1b predicts that accountability (ACCOUNT) will positively affect effectiveness when time pressure is present. H1c predicts that accountability will negatively affect effectiveness when time pressure is absent. The overall shape of these predictions were shown in Figure 4. In order to test these hypotheses, the following tests will be performed. First, a 2x2 ANOVA will be

performed. The null hypothesis is that there is no significant interaction between these variables. The null hypothesis will be rejected if the interaction of time pressure and accountability is statistically significant ($p \leq .05$).

The ANOVA model has three assumptions: (1) normal distribution; (2) independence of scores within cells; and (3) homogeneity of variance. Normal distribution and independence are expected to be controlled through the randomized design; however, the SPSS statistical package used automatically runs a Brown-Forsythe adjustment if a lack of normal distribution is detected. Homogeneity of variance will be checked for using Levene's test of equality of error variances. Levene's test tests the null hypothesis that the error variance of the dependent variable is equal across groups. This null hypothesis will fail to be rejected with a p-value greater than .05.

If a significant interaction is found in the 2x2 ANOVA, t-tests will used to test H1a, H1b, and H1c. Table 4 shows that treatment cells used in the issue-selection task. Each treatment cell has been labeled A, B, C, and D. These labels will be used to specifically identify treatment cells being compared in each t-test.

Table 4

Treatment Cells—Issue-Selection Task

	Accountability	
Time Pressure	Low	High
Absent	*A*	*B*
Present	*C*	*D*

H1a predicts that time pressure will negatively affect effectiveness. In order to test this hypothesis, a t-test will be performed comparing the means of treatment cells *A* and *C*. The null hypothesis is that the means of treatment cell *A* and *C* are not significantly different. The null hypothesis will be rejected if a p-value $\leq .05$ is found. H2a predicts that accountability will positively affect effectiveness when time pressure is present. H2a is tested the same as H1a only comparing the means of treatment cells *C* and *D*. H3a predicts that accountability will negatively affect effectiveness in when time pressure is absent. H3a will be tested the same as H1a only comparing the means of treatment cells *A* and *B*.

Efficiency in the issue-selection task (H2)

H2 predicts that the interaction of time pressure (TIMEPRES) and accountability (ACCOUNT) will affect efficiency (EFFICIENCY) in the issue-selection task. In particular, accountability is predicted to improve efficiency in both the presence and absence of time pressure. The shape of this predicted interaction was shown in Figure 5. As in H1, a 2x2 ANOVA will be used to test this hypothesis. The null hypothesis is that there is no significant interaction between these variables. The null hypothesis will be rejected if the interaction of time pressure and accountability is statistically significant ($p \leq .05$). All ANOVA assumptions will be met as in H1, and Levene's test will be conducted to check for homogeneity of variance.

Testing strategy in the audit-technique-selection task (H3a, H3b, and H3c)

H3a, H3b, and H3c each predict that the interaction of time pressure and accountability will affect the testing strategies used in the audit-technique-selection task. There are three types of testing strategies that are addressed by the three hypotheses. H3a concerns positive testing; H3b concerns combined testing; and H3c concerns negative testing. Each of these types of testing are the dependent variables for their respective hypotheses.

As previously discussed, these dependent variables are binary and thus cannot be tested using a parametric model. In parametric models such as Ordinary Least Squares regression, the dependent variable is assumed to be continuous. When the dependent variables are binary (i.e., taking a value of 0 or 1), the dependent variable is not continuous and the assumptions of a model such as OLS are violated. The violation of any one of these assumptions makes the use of OLS inappropriate. Also, the error term cannot be normally distributed, since the dependent variable can take only two values. Further, the assumption of homogeneity of variance is violated since the error variances will vary systematically with the values of the independent variables.

Logistic regression is a nonparametric model that is specifically designed for use with binary dependent variables. This model has only one assumption; the observations on the dependent variable must be statistically independent of each other, which is usually accomplished by randomization.

In testing H3a, H3b, and H3c using logistic regression, two areas will be examined: (1) the overall goodness of fit of the model; and (2) the direct testing of the hypotheses. Overall goodness of fit will be examined using the Model Chi-Square

statistic. The model chi-square is the difference between the –2 Log Likelihood for the model with only a constant and the –2 Log Likelihood with the constant and the independent variables. The model chi-square tests the null hypothesis that the coefficients for all of the terms in the model, except the constant, are zero. This is comparable to the overall *F* test for regression. For H3a, H3b, and H3c, the model would be a good fit if a *p*-value of less than .05 is found for the model chi-square statistic.

In order to test H3a, H3b, and H3c directly, the Wald Statistic is examined. The Wald Statistic has a chi-square distribution and is the basis for determining the significance of the independent variables and the related interactions in logistic regression. For H3a, H3b, and H3c, the null hypothesis for each will be rejected if the interaction of time pressure and accountability is statistically significant ($p \leq .05$).

Summary

This chapter has outlined the research design and statistical methods to test the hypotheses developed in Chapter 2. The research design provides a method for examining the effects of time pressure and accountability in the issue-selection task (H1a, H1b, H1c, and H2), and the audit-technique-selection task (H3a, H3b, and H3c) which are used during a tax audit by IRS agents. It will further control for the effects of technical tax knowledge and functional accounting knowledge in these tasks.

Chapter 4

Statistical Results and Discussion

Introduction

The statistical results and the discussion of these results will be presented as follows: (1) randomization checks for control variables; (2) randomization check for collection time period; (3) results of Hypotheses 1a, 1b, and 1c; (4) results of Hypothesis 2; and (5) results of Hypotheses 3a, 3b, and 3c.

Randomization Check for Control Variables

In order to check for successful randomization across treatment cells, five 2x2 ANOVA's were performed on the five control variables discussed in Chapter 3. These variables are: (1) grade of the agent (GRADE); (2) education level (EDUCATION)[3]; (3) years of experience as an agent (YEARS); (4) corporate tax knowledge (TAXKNOW); and, (5) functional accounting knowledge (ACCKNOW). For each of the ANOVA's, the control variable of interest is the dependent variable. Time pressure (TIMEPRES) and accountability (ACCOUNT) are the independent variables. The results of these ANOVA's are presented in Tables 5, 6, 7, 8, and 9.

[3] Education level (EDUCATION) was calculated as follows: Less than a bachelor's degree was coded 1; bachelor's degree was coded 2; more than a bachelor's degree was coded 3. Most agents only had a bachelor's degree. Out of the 61 subjects, only 4 had less than a bachelor's degree. Only 4 had more than a bachelor's degree.

Table 5

ANOVA Test for Randomization
Grade Level by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	.569	3	.190	.327	.806
Intercept	8488.508	1	8488.508	14630.564	.000
TIMEPRES	6.615E-05	1	6.614E-05	.000	.992
ACCOUNT	.279	1	.279	.482	.491
TIMEPRES *ACCOUNT	.279	1	.279	.482	.491
Error	33.071	57	.580		
Total	8532.000	61			
Corrected Total	33.639	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
.980	3	57	.409

Table 6

ANOVA Test for Randomization
Education Level by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	.129	3	4.306-02	.312	.817
Intercept	244.064	1	244.064	1767.490	.000
TIMEPRES	6.356E-02	1	6.356-02	.460	.500
ACCOUNT	6.356E-02	1	6.356-02	.460	.500
TIMEPRES *ACCOUNT	6.614E-05	1	6.614E-05	.000	.983
Error	7.871	57	.138		
Total	252.000	61			
Corrected Total	8.000	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
.717	3	57	.546

Table 7

ANOVA Test for Randomization
Years of Experience by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	45.278	3	15.093	.345	.793
Intercept	11220.279	1	11220.279	256.822	.000
TIMEPRES	28.375	1	28.375	.649	.424
ACCOUNT	7.422	1	7.422	.170	.682
TIMEPRES *ACCOUNT	9.803	1	9.803	.224	.638
Error	2490.271	57	43.689		
Total	13747.500	61			
Corrected Total	2535.549	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
1.483	3	57	.229

Table 8

ANOVA Test for Randomization
Corporate Tax Knowledge by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	55.321	3	18.440	1.051	.377
Intercept	27056.288	1	27056.288	1541.566	.000
TIMEPRES	42.117	1	42.117	2.400	.127
ACCOUNT	2.489	1	2.489	.142	.708
TIMEPRES *ACCOUNT	11.556	1	11.556	.658	.420
Error	1000.417	57	17.551		
Total	28125.000	61			
Corrected Total	1055.738	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
1.927	3	57	.135

Table 9

ANOVA Test for Randomization
Functional Accounting Knowledge by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	504.272	3	168.091	.838	.479
Intercept	48114.338	1	48114.338	239.827	.000
TIMEPRES	175.290	1	175.290	.874	.354
PROBREV	33.152	1	33.152	.165	.686
TIMEPRES *PROBREV	293.893	1	293.893	1.465	.231
Error	11435.400	57	200.621		
Total	60269.000	61			
Corrected Total	11939.672	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
.234	3	57	.872

As indicated in Tables 5, 6, 7, 8, and 9, neither of the independent variables nor their interaction is statistically significant ($p \leq .05$) for any of the demographic variables. This indicates that there is no significant difference in the cell means for each of these variables and thus, randomization across the treatment cells was successful for these variables.

Randomization Check for Time Period

The data for this dissertation was collected in two different time periods with approximately a nine-month gap between the two. Approximately one-third of the data was collected during the first time period with the remainder in the second time period. Although there is no reason to suspect that the subjects would differ between these two time periods, analysis was performed to ensure that the characteristics of the subjects in

the first time period are not significantly different from those subjects in the second time period.

The analysis performed consisted of creating a dummy variable (DATASET) to represent the time period in which the data was collected. DATASET was coded 1 for the first time period, and 2 for the second time period. T-tests were conducted with DATASET as the independent variable with the control variables as the dependent variables. The control variables are: (1) grade of the agent (GRADE); (2) education level (EDUCATION); (3) years of experience as an agent (YEARS); (4) corporate tax knowledge (TAXKNOW); and, (5) functional accounting knowledge (ACCKNOW). The time period in which the data was collected will not be statistically significant if a p-value $> .05$ for DATASET is found for each control variable. The results of the t-tests are shown in Table 10.

Table 10

t-tests for Randomization of Time Period
Control Variable by DATASET

	t-test for Equality of Means				
Source	*t*	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Std. Error Difference*
GRADE	-1.594	59	.116	-.33	.20
EDUCATION	-.754	59	.454	-7.64E-02	.10
YEARS	-.982	59	.330	-1.765	1.798
TAXKNOW	-.409	59	.684	-.48	1.17
ACCKNOW	.413	59	.681	1.62	3.93

As indicated in Table 10, DATASET is not statistically significant ($p \leq .05$) for any of the control variables. This indicates that the characteristics of the subjects during

the first time period are not significantly different from the characteristics of the subjects in the second time period.

Results of Hypotheses 1a, 1b, and 1c

The purpose of hypotheses 1a, 1b, and 1c is to test the effects of time pressure and accountability on effectiveness in the issue-selection task. H1a predicts that time pressure will negatively affect effectiveness in the issue-selection task. H1b predicts that accountability will positively affect effectiveness when time pressure is present. H1c predicts that accountability will negatively affect effectiveness when time pressure is absent. The overall shape of these predictions were shown in Figure 4 in chapter two. Revenue agents were manipulated between subjects on both time pressure (absent/present) and accountability (low/high). Hypotheses 1a, 1b, and 1c are tested in following manner. First, a 2x2 ANOVA was run where effectiveness (EFFECTIVENESS) is the dependent variable and time pressure (TIMEPRES) and accountability (ACCOUNT) are the independent variables. The resulting cell means are presented in Table 11. The results of this ANOVA are shown in Table 12.

Table 11

Treatment Means (EFFECTIVENESS)
Time Pressure by Accountability

		ACCOUNT		
TIMEPRES		Low	High	Marginal Means
Absent	*Mean*	5.87	4.87	5.37
	S.D.	(1.30)	(1.73)	
	n	(15)	15	
Present	*Mean*	4.87	6.56	5.74
	S.D.	(1.36)	(1.97)	
	n	15	16	
Marginal Means		5.37	5.95	5.56

Table 12

ANOVA Test for Hypothesis One
Effectiveness by Time Pressure and Accountability

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Corrected Model	31.912	3	10.637	4.066	.011
Intercept	1871.148	1	1871.148	715.148	.000
TIMEPRES	1.845	1	1.845	.705	.405
ACCOUNT	1.845	1	1.845	.705	.405
TIMEPRES *ACCOUNT	27.686	1	27.686	10.581	.002
Error	149.138	57	2.616		
Total	2065.000	61			
Corrected Total	181.049	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
.498	3	57	.685

As presented in Table 12, Levene's test shows that the assumption of homogeneity of variance for the ANOVA model is met ($p = .685$). No main effects were found for either time pressure or accountability ($p = .405$; $p = .405$, respectively);

however, the interaction of these variables was found to be statistically significant (p = .002). Figure 6 graphs the cell means shown in Table 11.

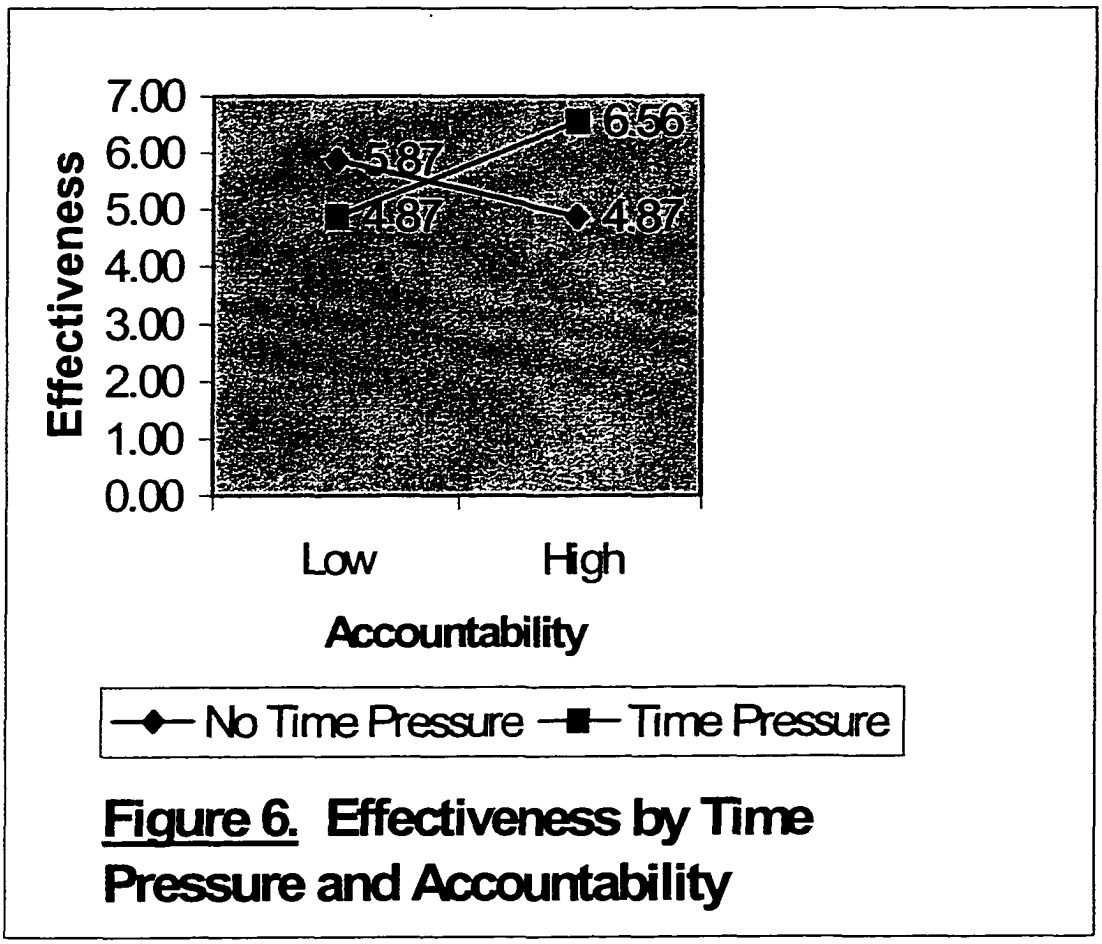


Figure 6. Effectiveness by Time Pressure and Accountability

Since significant results were found in the 2x2 ANOVA, hypotheses 1a, 1b, and 1c can be tested directly. Each of these hypotheses will be tested using individual t-tests.

Hypothesis 1a

H1a predicts time pressure will negatively affect effectiveness in the issue-selection task. A t-test was run comparing the two cell means where accountability is low and time pressure is absent/present. Tables 13 shows the cell means and group statistics for the two groups being tested. Table 14 shows the results of the t-test.

Table 13

Treatment Means
Effectiveness by Time Pressure (low accountability)

Time Pressure	*N*	*Mean*	*Standard Deviation*	*Standard Error Mean*
Absent	15	5.87	1.30	.34
Present	15	4.87	1.36	.35

Table 14

t-tests for Hypothesis 1a
Effectiveness by Time Pressure (low accountability)

	t-test for Equality of Means				
Source	*t*	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Std. Error Difference*
Time Pressure	2.060	28	.049	1.00	.49

As Table 14 shows, time pressure was found to be statistically significant (p = .049) on effectiveness in the issue-selection task; further, as shown in Table 13, the cell mean for effectiveness is lower when time pressure is present. Therefore, H1a is supported.

Hypothesis 1b

H1b predicts that accountability will positively affect effectiveness when time pressure is present. A t-test was run comparing the two cell means where accountability is present and time pressure is low/high. Tables 15 shows the cell means and group statistics for the two groups being tested. Table 16 shows the results of the t-test.

Table 15

Treatment Means
Effectiveness by Time Pressure (accountability present)

Time Pressure	*N*	*Mean*	*Standard Deviation*	*Standard Error Mean*
Absent	15	4.87	1.73	.45
Present	15	6.56	1.97	.49

Table 16

t-tests for Hypothesis 1b
Effectiveness by Time Pressure (accountability present)

	t-test for Equality of Means				
Source	*t*	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Std. Error Difference*
Time Pressure	2.545	29	.017	1.70	.67

As Table 16 shows, time pressure was found to be statistically significant (p = .017) on effectiveness in the issue-selection task when accountability is present; further, as shown in Table 15, the cell mean for effectiveness is higher when time pressure is present. This means that accountability has a positive effect on performance when time pressure is present. Therefore, H1b is supported.

Hypothesis 1c

H1c predicts that accountability will negatively affect effectiveness when time pressure is absent. A t-test was run comparing the two cell means where time pressure is absent and accountability is low/high. Tables 17 shows the cell means and group statistics for the two groups being tested. Table 18 shows the results of the t-test.

Table 17

Treatment Means
Effectiveness by Accountability (time pressure absent)

Accountability	*N*	*Mean*	*Standard Deviation*	*Standard Error Mean*
Low	15	5.87	1.30	.34
High	15	4.87	1.73	.45

Table 18

t-tests for Hypothesis 1c
Effectiveness by Accountability (time pressure absent)

	t-test for Equality of Means				
Source	*t*	*df*	*Sig. (2-tailed)*	*Mean Difference*	*Std. Error Difference*
Accountability	1.791	28	.084	1.00	.56

As Table 18 shows, accountability was not statistically significant ($p = .084$) on effectiveness in the issue-selection task when time pressure is absent at the .05 level; however, it is significant at the .10 level. Further, as shown in Table 17, the cell mean for effectiveness is higher when time pressure is present. This means that accountability has

a positive effect on performance when time pressure is present. Therefore, moderate support is found for H1c.

Results of Hypothesis 2

H2 predicts that time pressure and accountability will interact to influence efficiency at the issue-selection task. An ordinal interaction is predicted as shown in Figure 5. In particular, accountability is predicted to improve efficiency in both the presence and absence of time pressure. As in H1, revenue agents were manipulated between subjects on both time pressure (absent/present) and accountability (low/high). H2 is tested using a 2x2 ANOVA where efficiency (EFFICIENCY) is the dependent variable and time pressure (TIMEPRES) and accountability (ACCOUNT) are the independent variables. The resulting cell means are presented in Table 19. The results of this ANOVA are shown in Table 20.

Table 19

Treatment Means (EFFICIENCY)
Time Pressure by Accountability

		ACCOUNT		
TIMEPRES		Low	High	Marginal Means
Absent	*Mean*	.7556120	.6950794	.7253457
	S.D.	(.1552154)	(.2314205)	
	n	15	15	
Present	*Mean*	.7234800	.7746099	.7498697
	S.D.	(.1701128)	(.1283673)	
	n	15	16	
Marginal Means		.7395460	.7361274	.7378087

Table 20

ANOVA Test for Hypothesis Two
Efficiency by Time Pressure and Accountability

Source	*SS*	*Df*	*MS*	*F*	*Sig.*
Corrected Model	5.689E-02	3	1.896E-02	.621	.604
Intercept	33.125	1	33.125	1085.521	.000
TIMEPRES	8.559E-03	1	8.559E-03	.280	.598
ACCOUNT	3.368E-04	1	3.368E-04	.011	.917
TIMEPRES *ACCOUNT	4.750E-02	1	4.750E-02	1.557	.217
Error	1.739	57	3.052E-02		
Total	35.002	61			
Corrected Total	1.796	60			

Levene's Test of Equality of Error Variances

F	*df1*	*df2*	*Sig.*
1.696	3	57	.178

As shown in Table 20, Levene's test shows that the assumption of homogeneity of variance for the ANOVA model is met ($p = .178$). Neither of the main effects of time pressure and accountability were statistically significant ($p = .598$; $p = .917$, respectively). Also, the interaction of time pressure and accountability was not statistically significant ($p = .217$). Therefore, no support is found for H2. Figure 7 graphs the cell means.

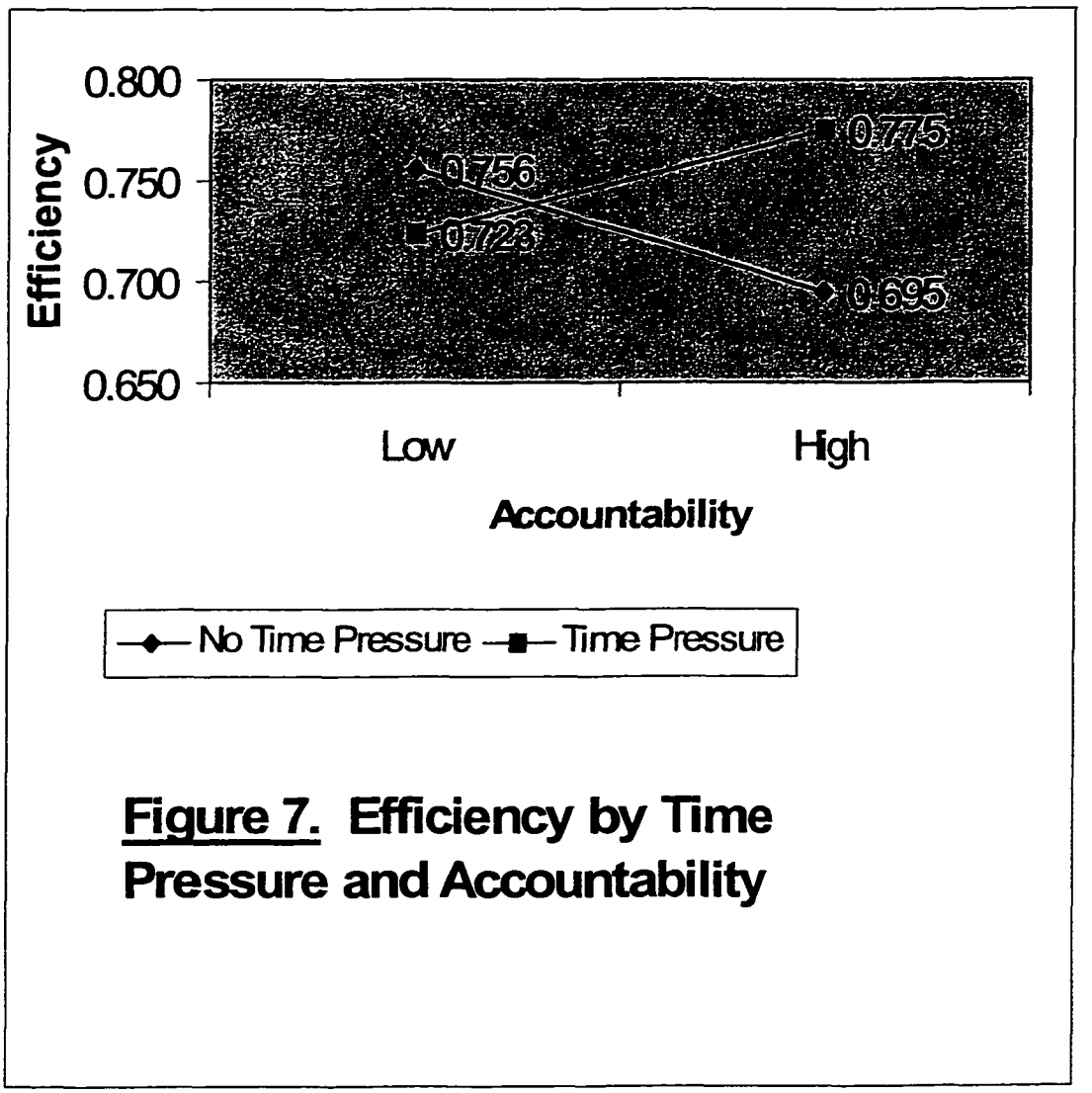


Figure 7. Efficiency by Time Pressure and Accountability

One possible explanation for the failure to find support for H2 is that because agents are achieving high levels of efficiency, they are not significantly affected by time pressure and accountability on this aspect of performance. An examination of the treatment means from the initial analysis (see Table 19) indicates that efficiency levels for all treatment cells are near or above 70% with a mean efficiency rate of 73.78%.

Also, the standard deviations are relatively small. These percentages indicate a high level of efficiency. These results combined with the results of H1a, H1b, and H1c would indicate that the agents, overall, are doing an excellent job of identifying the issues that need to be audited/not audited. Therefore, efficiency is not significantly affected by time pressure and accountability, as indicated by the results of H2. However, the agents are making a conscious decision to limit or expand the scope of the audit (which would affect effectiveness) when faced with time pressure and/or accountability, as indicated by the results of H1a, H1b, and H1c.

Results of Hypotheses 3a, 3b, and 3c

This section will discuss the statistical results of H3a, H3b, and H3c. The results of these three hypotheses will be presented individually, followed by a discussion of the implications of the results as a whole.

Results of Hypothesis 3a

H3a predicts that time pressure and accountability will interact to affect the presence or absence of positive testing in the audit-technique-selection task. The presence/absence of positive testing was determined by examining the audit techniques listed by the revenue agent-subjects during the audit-technique-selection task. If an audit technique associated with positive testing was/was not listed, the presence/absence of a positive testing would be indicated.

As described in chapter three, a logistic regression was to be run on the data to test H3a. All of the subjects in each treatment cell indicated that they would utilize an

audit technique that was identified with a positive testing. Thus, statistical analysis was impossible due to lack of variation in the dependent variable. Therefore, H3a is not supported.

Results of Hypothesis 3b

H3b predicts that time pressure and accountability will interact to affect the presence/absence of a combined testing in the audit-technique-selection task. The determination of the presence/absence of combined testing is made in the same fashion as in H3a. Logistic regression is used to test H3b. The dependent variable is combined testing (COMBINED). The independent variables are time pressure (TIMEPRES) and accountability (ACCOUNT). The classification table from the logistic regression is presented in Table 21. The results of the logistic regression are presented in Table 22.

Table 21

Logistic Regression for Hypothesis 3b
Classification Table
Combined Testing by Time Pressure and Accountability

	Predicted		
Observed	0	1	Percent Correct
0	0	22	.00%
1	0	39	100.00%
		Overall	63.93%

Table 22

Logistic Regression for Hypothesis 3b
Combined Testing by Time Pressure and Accountability

Variable	*B*	*S. E.*	*Wald*	*df*	*Sig.*	*R*	*Exp(B)*
TIMEPRES	.0562	1.7645	.0010	1	.9746	.0000	1.0579
ACCOUNT	.0562	1.7645	.0010	1	.9746	.0000	1.0579
TIMEPRES*ACCOUNT	-.3747	1.0913	.1179	1	.7313	.0000	.6875
Constant	1.2738	2.8468	.2002	1	.6546		

Model Chi-Square	*df*	*Sig.*
1.94	3	.5737

As discussed in chapter three, the model chi-square statistic tests the overall goodness of fit for the model in logistic regression. As presented in Table 22, the model chi-square statistic is not statistically significant ($p = .5737$). The main effects of TIMPRES and ACCOUNT are not significant ($p = .9746$; $p = .9746$, respectively), nor is their interaction ($p = .7313$). Thus, H3b is not supported.

Results of Hypothesis 3c

H3c predicts that time pressure and accountability will interact to affect the presence/absence of negative testing in the audit-technique-selection task. The presence/absence of negative testing is determined as in H3a and H3b. As in H3b, logistic regression is used to test H3c with negative testing (NEGATIVE) as the dependent variable and time pressure (TIMEPRES) and accountability (ACCOUNT) as the independent variables.). The classification table from the logistic regression is presented in Table 23. The results of the logistic regression are presented in Table 24.

Table 23

Logistic Regression for Hypothesis 3c
Classification Table
Negative Testing by Time Pressure and Accountability

	Predicted		
Observed	0	1	Percent Correct
0	48	0	100.00%
1	13	0	.00%
		Overall	78.69%

Table 24

Logistic Regression for Hypothesis 3c
Negative Testing by Time Pressure and Accountability

Variable	*B*	*S. E.*	*Wald*	*df*	*Sig.*	*R*	*Exp(B)*
TIMEPRES	-1.7909	1.9630	.8323	1	.3616	.0000	.1668
ACCOUNT	-2.2755	2.0816	1.1950	1	.2743	.0000	.1027
TIMEPRES*ACCOUNT	1.0977	1.3052	.7074	1	.4003	.0000	2.9974
Constant	2.2755	3.0304	.5638	1	.4527		

Model Chi-Square	*df*	*Sig.*
1.872	3	.5993

The model chi-square statistic is not statistically significant ($p = .5993$), indicating that there is not an overall goodness of fit for the model. The main effects of TIMEPRES and ACCOUNT are not significant ($p = .3616$; $p = .2743$, respectively). The interaction of these variables is also not significant ($p = .4003$). Thus, H3c is not supported.

Discussion of Hypotheses 3a, 3b, and 3c

As indicated in the statistical results, no support was found for H3a, H3b, or H3c. One explanation for this lack of support is the lack of sensitivity in the data collected for the audit-technique-selection task. In the experiment, the subjects were asked to list all of the audit techniques that they would use in auditing the taxpayer's return.

The mere listing of these techniques allowed only for the determination of the presence/absence of positive, combined, and negative testing. It did not allow for the determination of the relative weight that the subjects placed on these types of testing. It is reasonable to suspect that while time pressure and accountability might not affect the presence/absence of the different testing strategies, they might affect the relative weights that agents place on them. However, this could not be determined from the data collected. Future research in this area should examine such weighting of testing strategies.

Summary

Hypotheses 1a, 1b, 1c predicted the effects of time pressure and accountability on effectiveness in the issue-selection task. The results of H1a and H1b showed that time pressure had a negative effect on effectiveness, and accountability had a positive effect on effectiveness in the presence of time pressure. Moderate support was found for H1c which predicted that accountability had a negative effect on effectiveness in the absence of time pressure. Hypothesis 2 predicted a significant ordinal interaction of time pressure and accountability on efficiency in the issue-selection task. This hypothesis was not supported. Hypotheses 3a, 3b, and 3c predicted that time pressure and accountability

would interact to affect the presence of positive, combined, and negative testing, respectively. No support was found for any of these hypotheses.

Chapter 5

Conclusion

Introduction

The purpose of this chapter is to summarize and discuss the findings of this dissertation. To accomplish the following will be discussed: (1) the limitations of the research; and, (2) the implications and conclusions to be drawn from the research.

Limitations

Before the implications of this research can be discussed, a number of limitations should be noted. First, this research only examines one phase of the tax auditing process—the Pre-Examination Analysis phase. A complete understanding of the judgment/decision-making process in tax auditing will require examination of the other constituent components as well as the entire process.

Second, this research does not include all of the variables that are expected to affect the tax auditing process. The effects of such variables as structure of knowledge, auditing style, and the role of the taxpayer in the audit have not been included. The effects of these variables and others would need to be studied for a complete understanding of tax auditing to be gained.

Third, this research has the potential for low external validity. The experiment conducted is a role-playing experiment in which the manipulated variables are merely role-playing manipulations. Since the subjects did not experience the actual conditions of time pressure and accountability, but rather role-play them, external validity suffers.

Implications and Conclusions

The primary objective of the present research was to experimentally examine the effects of time pressure and accountability on the performance of revenue agents in a tax audit issue-selection task and an audit-technique-selection task. A model of the tax auditing process was presented and a set of five hypotheses were tested. The findings of these hypotheses have a number of implications on the policies of the IRS as well as accounting research.

Hypothesis 1a was supported and showed that time pressure has a negative effect on effectiveness in the issue-selection task. Hypothesis 1b was supported and showed that accountability has a positive effect on effectiveness in the presence of time pressure. Hypothesis 1c was moderately supported and found that accountability has a negative effect on effectiveness in the absence of time pressure. These findings will have a great impact for the IRS concerning the use and timing of the review process. These findings also give a better understanding of the effects that time pressure and accountability on an agent's performance.

The findings of hypotheses 1a, 1b, and 1c also represent an important contribution to the accounting literature. The present research is the first study to find interactive effects of time pressure and accountability in a hypothesis-generation task. This is important considering this is also the first study to examine judgment/decision-making processes in the tax audit setting.

The lack of results supporting hypothesis two was somewhat surprising, but as previously discussed, is likely due to the overall high level of efficiency exhibited by the

agents. This high level of efficiency indicates the high level of training and experience that IRS agents possess.

The lack of results supporting hypotheses 3a, 3b, and 3c indicate the need for the collection of more detailed data concerning audit techniques used by revenue agents. Future research should collect data that would allow for more sensitive analysis of hypotheses and possibly yield significant findings.

Finally, the present research provides the basis for numerous future research projects. First, the most direct extension of this research would be to further investigate the testing strategies used by revenue agents and to examine how the application of these strategies affect the results of a tax audit. Second, research on the other phases of the tax auditing process would provide a greater and more complete understanding of the process as a whole. Third, research on the interactive environment between the taxpayer and the agent would provide a better overall understanding of the tax auditing process. Such research was suggested by Pentland and Carlile (1995) in a game theory setting; however, such research is readily applied in a judgment/decision-making setting as well.

It should be noted that research in tax auditing is not limited to research on IRS agents. Such research is readily applicable to tax auditors at the state level. Tax auditing is the only area where the tax and auditing domains converge in the same setting. Tax auditing is a largely neglected accounting task which provides an excellent opportunity to examine a variety of research questions in both tax and auditing that would be difficult to examine in either of the individual domains.

REFERENCES

References

Aronson, E., P. Ellsworth, J. Carlsmith, and M. Gonzales. 1990. *Methods of Research in Social Psychology*. 2nd edition. New York: McGraw-Hill Publishing, Inc.

Asare, S., G. Trompeter, and A. Wright. 1996. The Effect of Accountability and Time Budget Pressure on Auditors' Hypothesis Testing Strategy and Judgment Accuracy. Working Paper, University of Florida.

Ashton, R. and A. Ashton, eds. 1995. *Judgment and Decision Research in Accounting and Auditing*. New York: Cambridge University Press.

Beach, L. and T. Mitchell. 1978. A Contingency Model for the Selection of Decision Strategies. *Academy of Management Review* (July): 439-449.

Bedard, J. and S. Biggs. 1991. Pattern Recognition, Hypotheses Generation, and Auditor Performance in an Analytical Task. *The Accounting Review* 66(3): 622-642.

Bonner, S., J. Davis, and B. Jackson. 1992. Expertise in Corporate Tax Planning: The Issue Identification Stage. *Journal of Accounting Research* 30 (Supplement): 1-28.

Bonner, S. and B. Lewis. 1990. Determinants of Auditor Expertise. *Journal of Accounting Research* 28 (Supplement): 1-20.

Bonner, S. and N. Pennington. 1991. Cognitive Processes and Knowledge as Determinants of Auditor Expertise. *Journal of Accounting Literature* 10: 1-50.

Brown, C. and I. Solomon. 1990. Configural Information Processing in Control Risk Appraisal. *Auditing: A Journal of Practice & Theory* 13: 17-38.

Buchman, T., P. Tetlock, and R. Reed. 1996. Accountability and Auditor's Judgments about Contingent Events. *Journal of Business Finance and Accounting* 23(3): 379-398.

Choo, F. and M. Firth. 1992. The Effect of Time Pressure on Auditors' Configural Information Processing. Unpublished Working Paper, San Francisco State University.

Chow, C., M. Hirst, and M. Shields. 1995. The Effects of Pay Schemes and Probabilistic Management Audits on Subordinate Misrepresentation of Private Information: An Experimental Investigation in a Resource Allocation Context. *Behavioral Research in Accounting* 7: 1-16.

Churchill, N. 1966. Audit Recommendations and Management Auditing: A Case Study and Some Remarks. *Journal of Accounting Research* 4 (Supplement): 128-151.

Churchill, N. and W. Cooper. 1965. A Field Study of Internal Auditing. *The Accounting Review* 40(4): 767-781.

Church, N., W. Cooper, and V. Govindarajan. 1982. Effects of Audits on the Behavior of Medical Professionals under the Bennett Amendment. *Auditing: A Journal of Practice & Theory* 1(2): 69-90.

Davis, J. 1995. A Perspective on Experimental Tax Research. *The Journal of the American Taxation Association* 17 (Supplement): 114-122.

Fischer, C., M. Wartick, and M. Mark. 1992. Detection Probability and Taxpayer Compliance: A Review of the Literature. *Journal of Accounting Literature* 11: 1-46.

Freund, T., A. Kruglanski, and A. Shpitzajzen. 1985. The Freezing and Unfreezing of Impressional Primacy: Effects of the Need for Structure and the Fear of Invalidity. *Personality and Social Psychology Bulletin* 11(4): 479-487.

Heaton, W. and A. Kruglanski. 1991. Person Perception by Introverts and Extroverts under Time Pressure: Effects of Need for Closure. *Personality and Social Psychology Bulletin* 17(2): 161-165.

Heiman-Hoffman, V., D. Moser, and J. Joseph. 1995. the Impact of an Auditor's Initial Hypothesis on Subsequent Performance t Identifying Actual Errors. *Contemporary Accounting Research* 11(2): 763-779.

Internal Revenue Service. 1989. Phase I: Revenue Agent Training Materials.

Internal Revenue Service. *Internal Revenue Manual.*

Ismail, Z. and K. Trotman. 1995. The Impact of the Review Process in Hypothesis Generation Tasks. *Accounting, Organizations and Society* 20(5): 345-357.

Jackson, B. and V. Milliron. 1986. Tax Compliance Research: Findings, Problems, and Prospects. *Journal of Accounting Literature* 5: 125-165.

Johnson, L. 1993. An Empirical Investigation of the Effects of Advocacy on Preparers' Evaluations of Judicial Evidence. *The Journal of the American Taxation Association* (Spring): 1-22.

Johnson, V. and S. Kaplan. 1992. Experimental Evidence on the Effects of Accountability on Auditor Judgments. *Auditing: A Journal of Practice & Theory* 10 (Supplement): 96-107.

Klayman, J. and Y. Ha. 1989. Hypothesis Testing in Rule Discovery: Strategy, Structure, and Content. *Journal of Experimental Psychology: Learning, Memory and Cognition* 15(4): 596-604.

Klayman, J., and Y. Ha. 1987. Confirmation, Disconfirmation, and Information in Hypothesis Testing. *Psychological Review* 94(2): 211-228.

Koehler, D. 1994. Hypothesis Generation and Confidence in Judgment. *Journal of Experimental Psychology: Learning, Memory and Cognition* 20: 461-469.

Kruglanski, A. 1990. Lay Epistemic Theory in Social-Cognitive Psychology. *Psychological Inquiry* 1: 181-197.

Kruglanski, A. 1989. *Lay Epistemics and Human Knowledge.* New York: Plenum.

Kruglanski, A. and T. Freund. 1983. The Freezing and Unfreezing of Lay Inferences: Effects on Impressional Primacy, Ethnic Stereotyping, and Numerical Anchoring. *Journal of Experimental Social Psychology* 19: 448-468.

Kruglanski, A. and O. Mayseless. 1988. Contextual Effects in Hypothesis Testing: The Role of Competing Alternative, and Epistemic Motivations. *Social Cognition* 6: 1-20.

Lakatos, I. 1970. Falsification and the Methodology of Scientific Research Programmes. In *Criticism and the Growth of Knowledge*, edited by I. Lakatos and A. Musgrave, 91-105. London: Cambridge University Press.

Libby, R. 1995. The Role of Knowledge and Memory in Audit Judgment. *Judgment and Decision Research in Accounting and Auditing*, edited by R. Ashton and A. Ashton, 176-206. New York: Cambridge University Press.

Libby, R. and D. Frederick. 1990. Experience and the Ability to Explain Audit Findings. *Journal of Accounting Research* 28(2): 348-367.

Libby, R. and H. Tan. 1994. Modeling the Determinants of Audit Expertise. *Accounting, Organizations and Society* 19(8): 701-716.

Libby, R. and K. Trotman. 1993. The Review Process as a Control for Differential Recall of Evidence in Auditor Judgments. *Accounting, Organizations and Society* 18(6): 559-574.

Lord, A. 1992. Pressure: A Methodological Consideration for Behavioral Research in Auditing. *Auditing: A Journal of Practice & Theory* 11(2): 89-108.

Manning, C., C. Gettys, A. Nicewander, S. Fisher, and T. Mehle. 1980. Predicting Individual Differences in Generation of Hypotheses. *Psychological Reports* 47: 1199-1214.

McDaniel, L. 1990. The Effects of Time Pressure and Audit Program Structure on Audit Performance. *Journal of Accounting Research* 28(2): 267-285.

Mehle, T. 1982. Hypothesis Generation in an Automobile Malfunction Inference Task. *Acta Psychologica* 52: 87-106.

Messier, W. and W. Quilliam. 1992. The Effects of Accountability on Judgment: Development of Hypotheses for Auditing. *Auditing: A Journal of Practice & Theory* 11(Supplement): 123-138.

Pentland, B. and P. Carlile. 1996. Audit the Taxpayer, Not the Return: Tax Auditing as an Expression Game. *Accounting, Organizations and Society* 21(2/3): 269-287.

Platt, J. 1964. Strong Inference. *Science* 146: 347-353.

Popper, K. 1972. *Objective Knowledge.* Oxford, England: Clarendon.

Popper, K. 1959. *The Logic of Scientific Discovery.* New York: Basic Books.

Research Institute of America. 1995. *Federal Tax Coordinator 2d--Weekly Alert.* December 15, 1994.

Roberts, M. 1995. The Influence of Contextual Factors on IRS Agents' Assessments of Taxpayer Negligence. *The Journal of the American Taxation Association* 17 (Supplement): 62-77.

Rothstein, H. 1986. The Effects of Time Pressure on Judgment in Multiple Cue Probability Learning. *Organizational Behavior and Human Decision Processes* 37: 83-92.

Shields, M., I. Solomon, and K. Jackson. 1995. Experimental Research on Tax Professionals' Judgment and Decision Making. In *Behavioral Tax Research: Prospects and Judgment Calls*, edited by J. Davis. Sarasota, FL: American Taxation Association.

Smith, J. and T. Kida. 1991. Heuristics and Biases: Expertise and Task Realism in Auditing. *Psychological Bulletin* 109: 472-489.

Snyder, M. and W. Swann. 1978. Behavioral Confirmation in Social Interaction: From Social Perception to Social Reality. *Journal of Experimental Social Psychology* 36(11): 941-950.

Spilker, B. 1995. The Effects of Time Pressure and Knowledge on Key Word Selection Behavior in Tax Research. *The Accounting Review* 70(1): 49-70.

Spilker, B. and D. Prawitt. 1995. Adaptive Responses to Time Pressure: The Effects of Experience on Tax Information Search Behavior. Working paper, Brigham Young University.

Tan, H. 1995. Effects of Expectations, Prior Involvement, and Review Awareness on Memory for Audit Evidence and Judgment. *Journal of Accounting Research* 33(1): 113-135.

Tetlock, P. 1985. Accountability: The Neglected Social Context of Judgment and Choice. In *Research in Organization Behavior*, Vol. 7, edited by L. Cummings and B. Staw. Greenwich, Connecticut: JAI Press, Inc.

Tetlock, P. 1983. Accountability and the Complexity of Thought. *Journal of Personality and Social Psychology* 45(1): 74-83.

Tetlock, P. and J. Kim. 1987. Accountability and Judgment Processes in a Personality Prediction Task. *Journal of Personality and Social Psychology* 52(4): 700-709.

Tetlock, P., Skitka, L., and R. Boettger. 1989. Social and Cognitive Strategies for Coping with Accountability: Conformity, Complexity, and Bolstering. *Journal of Personality and Social Psychology* 57(4): 632-640.

Trotman, K. 1985. The Review Process and the Accuracy of Auditor Judgments. *Journal of Accounting Research* 23(2): 740-752.

Trotman, K. and P. Yetton. 1985. The Effect of the Review Process on Auditor Judgments. *Journal of Accounting Research* 23(1): 256-267.

Wason, P. 1968. On the Failure to Eliminate Hypotheses--A Second Look. In *Thinking and Reasoning*, edited by P. Wason and P. Johnson-Laird, 165-174. Harmondsworth, Middlesex, England: Penguin.

Wason, P. 1960. On the Failure to Eliminate Hypotheses in a Conceptual Task. *Quarterly Journal of Experimental Psychology* 12: 129-140.

Weber, E., U. Bockenholt, D. Hilton, and B. Wallace. 1993. Determinants of Diagnostic Hypothesis Generation: Effects of Information, Base Rates and Experience. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. 19: 1151-1164.

Appendix A

Tax Audit Task Model Description

Select/Survey Returns

Returns that potentially are audited by an agent go through a series of checks before assignment. When a tax return is filed at one of the ten regional service centers, it is processed through the Discriminant Function (DIF) system. Essentially, the DIF system is a sophisticated algorithm that compares the return filed to a model return and assigns the filed return a score. The higher the DIF score on the return, the more likely it is to be selected for audit. As audit work is needed by the district revenue agent groups, classifiers at the service center examine the high-DIF returns for audit potential. Returns selected by classifiers as having potential for adjustment are sent to the revenue agent groups.

When the tax return is assigned to the agent, the agent may choose to audit the return or survey the return. It is infrequent that an agent surveys the return, since the return has already been through numerous checks for audit potential; however, it does occur on occasion. When the decision to survey a return is made, the agent is required to document the reasons for the survey decision.

Pre-Examination Analysis

During this phase of the examination, the agent analyzes the return for potential adjustment issues. Under normal circumstances, no issues have been identified before the case is in the hands of the agent. Occasionally a case that has a mathematical error or a nondeductible item and has other audit potential is sent to the agent with that issue

identified. Once the agent has selected the issues that he or she wishes to examine, any tax law research that can be conducted on the issues without further information is conducted. Following this, additional information that is required from the taxpayer is identified. Also, during this phase, the type of audit techniques to be used during the audit are selected.

Scheduling

The scheduling phase of the tax audit is the first contact with the taxpayer at which point the initial interview with the taxpayer and/or the tax preparer is scheduled. The agent typically requests that certain documentation be available at the first scheduled appointment. This documentation typically includes copies of prior and subsequent year tax returns, the taxpayer's books and records, and all bank statements for the year under audit. Information related to specific issues that the agent has pre-planned is usually not requested in advance. Therefore, the taxpayer often has no idea what issues will be audited by the agent.

Developing Facts

The initial interview is the first substantive contact with the taxpayer. The questions that are typically asked during this interview cover three general topic areas. The first are "package audit" requirements. These are questions that are asked to determine whether the taxpayer is current in filing all tax returns (i.e., individual, corporate, employment tax, etc.) for both the current and prior years.

The second type of questions involve the probe for unreported income. Various questions are asked concerning potential sources of income and the location of any bank accounts or other sources of cash. The questions asked during this phase should be creative in nature and tailored for the particular taxpayer being audited. Decision aids in the form of pro-forma questionnaires are often provided to agents during the various phases of training to assist them in ensuring that all basic areas of the income probe are covered. However, it has become questionable whether the use of these questionnaires is beneficial as agents have tended to limit their questions to the form questions and do not rely on their own creativity. Information gathered by these types of questions can be used by an agent in the application of indirect-method audit techniques.

The third type of questions asked during the initial interview involve the specific questions concerning the issues identified during the pre-examination analysis. These questions are used to clarify the nature of the issues and the documents that may exist which will be needed to properly examine the issue. Following these questions, the agent may either drop the issue or request documentation for examination.

Following the initial interview, additional issues for examination may be identified from either the taxpayer's responses to the agent's questions or from a subsequent inspection of the taxpayer's books and records. In any case involving a business of a taxpayer (i.e., Individual-Schedule C, corporations, and partnerships), agents are required to make an overall inspection of the taxpayer's books and records in addition to inspecting the information provided by the taxpayer for the issues that the agent pre-planned. Following a review of these records, the agent may identify additional issues that have potential for adjustment. Once a new issue has been

identified, the agent goes through the issue-analysis process as described in the pre-examination analysis section of this appendix.

Agents may further choose to use indirect-method audit techniques in the audit of the taxpayer. Indirect-method audit techniques are techniques that utilize information provided by outside sources to verify the taxable income of the taxpayer (e.g., contacting major corporate customers to verify the dollar amount of sales made by the customer). These techniques often utilize information obtained during the initial interview (e.g., location of bank accounts) or from the taxpayer's books and records (e.g., customer lists) as the starting point for the application of indirect-method techniques.

Determining Applicable Tax Law

This phase of the tax audit most closely resembles the tax law information search processes conducted by non-government tax professionals. Once issues have been identified, an information search is conducted to determine the treatment of the issues identified. A large portion of this research may be conducted during the pre-examination analysis to determine whether an issue should be pursued in the audit. However, once further information is gathered from the taxpayer, it may be necessary for further tax law research to draw a conclusion as to the correct treatment of the issue.

Closing Conference and Adjustments

Once all issues have been identified, thoroughly examined, and researched, the agent presents the taxpayer with any adjustments to the tax return. This is done at the closing conference usually with the taxpayer and/or his representative. The basis for the

adjustment(s) is thoroughly explained to the taxpayer along with the relevant law on which the adjustment is based. The taxpayer is then given the opportunity to rebut the agent's arguments if he or she feels that the adjustment is unwarranted.

At the conclusion of the closing conference, the taxpayer is given the opportunity to express his or her agreement with any or all of the issues. If all of the adjustments are agreed to, then an agreed report is prepared which the taxpayer signs, and the case is closed. If the taxpayer does not agree with any of the adjustments, the case is written up as "unagreed". The case is then sent to the appeals section for settlement or potential litigation. If some issues are agreed to, then a partially-agreed report is prepared with the unagreed issues being handled in the same fashion as an unagreed case. It should be noted that it is highly unusual to have a partially-agreed case, because the taxpayer tends to save the otherwise agreed issues as bargaining points during the appeals process.

Appendix B

McAfee School of Business Administration
Union University
1050 Union University Drive
Jackson, Tennessee 38305

My name is Tom Proctor. I am an accounting professor at Union University and a former IRS agent. I am currently working on my doctoral dissertation at the University of Memphis. My dissertation concerns how IRS agents pre-plan a tax return. Thank you for agreeing to participate in my study. The instruments enclosed are essential to the completion of my project. All responses are anonymous and confidential. Please be as truthful as possible in completing the instruments.

You will find enclosed the following items:

(1) Demographics sheet
(2) Corporate Taxpayer Questionnaire
(3) Tax Return
(4) Debriefing Questionnaire
(5) Problem Questionnaire
(6) Return Envelope

In completing the instruments, please complete them in the order they are arranged in the envelope. It should take approximately 30 minutes to complete the instruments. After completing the instruments, return all of the instruments in the return envelope provided. Again, thank you for your consideration.

Sincerely,

Thomas Y. Proctor
Assistant Professor of Accounting

Demographics

This questionnaire is anonymous and confidential. The following items are not intended to identify you. Instead, they help me understand the responses.

1. Grade (GS level): _____

2. Years in Current Grade: _____

3. Years as a Revenue Agent: _____

4. Total Years at IRS: _____

5. How many years of prior experience at IRS do you have in each of the following positions: (if none, put a zero).

   Tax Auditor _____ Years

   Taxpayer Service _____ Years

   Criminal Investigation _____ Years

   Other (Non-Revenue Agent)
   IRS Experience _____ Years
   Position _____

6. Years of non-IRS Tax or Accounting work: _____

7. Which professional certification/licenses do you hold? Please check all that apply.

   CPA _____
   Attorney _____
   Other _____--please indicate certification _____
   None _____

8. What is your highest degree earned? (Check one)

   High School _____
   Associate (2-year degree) _____--indicate major field _____
   Bachelor's _____--indicate major field _____
   Master's _____--indicate major field _____
   Law _____--indicate degree _____
   Other _____--indicate degree _____

Corporate Taxpayer Questionnaire

Instructions

Below is a description of a corporate taxpayer which has been selected for audit. Read the situation described below. While reading, place yourself in the position of the revenue agent that has been assigned this taxpayer. At the end of the description, you will be asked questions concerning the audit of this taxpayer.

Scenario

You have been assigned the 1996 Form 1120 Corporate tax return of Austin Manufacturing, Inc. by your manager for examination. Austin Manufacturing, Inc. is a manufacturer in the Structural Metals industry and is owned 100% by Jack Austin, who is also the president of the company.

[Insert TIME PRESSURE manipulation]

[Insert ACCOUNTABILITY manipulation]

Enclosed is Austin Manufacturing, Inc's 1996 Form 1120. Please review this return and respond to the following.

1. Please list below all of the issues that you would pre-plan (i.e., select for examination) if you were auditing the taxpayer described above. (include all issues including any required elements, e.g., deductions, income, balance sheet items, etc.).

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. How many hours do you anticipate that you would need to complete the audit of this taxpayer?

_____

3. Describe in detail in the space provided below, all of the audit techniques that you would plan to utilize in the examination of this taxpayer. Please include all techniques from the time of the initial interview through the conclusion of the audit. Additional space is provided on the next page, if needed.

_____

_____

_____

_____

_____

Experimental Manipulations

Time Pressure

Absent

This case is a new case that has no hours charged to it and no days-in-process.

Present

This case was transferred to you from another agent in your group who has been transferred to another area.

The case has 45 hours charged to it and has 400 days-in-process and is therefore classified as "over-age". From an examination of the prior agent's workpapers, you find little useful information and have determined that you will have to start the audit over.

Accountability

Low

It is your expectation that this case will receive the usual review done by your manager and has the possibility of being selected for review by Quality Measurement Staff. QMS has historically reviewed 10% of cases worked.

High

Your manager has told you this case is a high profile case and will be watched closely by examination officials at the district level. Because of this, you anticipate your manager will review your work closely and realize that the case will almost certainly be reviewed by Quality Measurement Staff.

Appendix C

Form **1120** — Department of the Treasury, Internal Revenue Service

U.S. Corporation Income Tax Return

For calendar year 1996 or tax year beginning ..... , 1996, ending ..... , 19 ...
▶ Instructions are separate. See page 1 for Paperwork Reduction Act Notice.

OMB No. 1545-0123

1996

A Check if a:
1 Consolidated return (attach Form 851) ☐
2 Personal holding co. (attach Sch. PH) ☐
3 Personal service corp. (as defined in Temporary Regs. sec. 1.441-4T—see instructions) ☐

Use IRS label. Otherwise, print or type.

Name: Austin Manufacturing, Inc.

Number, street, and room or suite no. (If a P.O. box, see page 6 of instructions.): 8510 Manufacturers' Row

City or town, state, and ZIP code: Lanetown, TN 38123

B Employer identification number: 62 5489314

C Date incorporated: 10/12/81

D Total assets (see page 6 of instructions): $ 534,360 –

E Check applicable boxes: (1) ☐ Initial return (2) ☐ Final return (3) ☐ Change of address

Income	1a	Gross receipts or sales	1,624,035 –	b Less returns and allowances	c Bal ▶	1c 624,035 –
	2	Cost of goods sold (Schedule A, line 8)				2 647,372 –
	3	Gross profit. Subtract line 2 from line 1c				3 976,663 –
	4	Dividends (Schedule C, line 19)				4
	5	Interest				5 2,781 –
	6	Gross rents				6 9,828 –
	7	Gross royalties				7
	8	Capital gain net income (attach Schedule D (Form 1120))				8
	9	Net gain or (loss) from Form 4797, Part II, line 20 (attach Form 4797)				9
	10	Other income (see page 7 of instructions—attach schedule)				10 140,484 –
	11	Total income. Add lines 3 through 10 ▶				11 1,129,756 –
Deductions (See instructions for limitations on deductions.)	12	Compensation of officers (Schedule E, line 4)				12 223,353 –
	13	Salaries and wages (less employment credits)				13 187,244 –
	14	Repairs and maintenance				14 40,349 –
	15	Bad debts				15
	16	Rents				16 123,985 –
	17	Taxes and licenses				17 55,722 –
	18	Interest				18 13,580 –
	19	Charitable contributions (see page 8 of instructions for 10% limitation)				19 234 –
	20	Depreciation (attach Form 4562)		20 83,826 –		
	21	Less depreciation claimed on Schedule A and elsewhere on return		21a		21b 83,826 –
	22	Depletion				22
	23	Advertising				23
	24	Pension, profit-sharing, etc., plans				24
	25	Employee benefit programs				25
	26	Other deductions (attach schedule)				26 314,868 –
	27	Total deductions. Add lines 12 through 26 ▶				27 1,043,161 –
	28	Taxable income before net operating loss deduction and special deductions. Subtract line 27 from line 11				28 86,595 –
	29	Less: a Net operating loss deduction (see page 10 of instructions)		29a		
		b Special deductions (Schedule C, line 20)		29b		29c
Tax and Payments	30	Taxable income. Subtract line 29c from line 28				30 86,595 –
	31	Total tax (Schedule J, line 10)				31 17,692 –
	32	Payments: a 1995 overpayment credited to 1996	32a 1,697 –			
	b	1996 estimated tax payments	32b			
	c	Less 1996 refund applied for on Form 4466	32c ( )	d Bal ▶	32d 1,697 –	
	e	Tax deposited with Form 7004			32e	
	f	Credit from regulated investment companies (attach Form 2439)			32f	
	g	Credit for Federal tax on fuels (attach Form 4136). See instructions			32g	32h 1,697 –
	33	Estimated tax penalty (see page 11 of instructions). Check if Form 2220 is attached ▶ ☐				33
	34	Tax due. If line 32h is smaller than the total of lines 31 and 33, enter amount owed				34 15,995 –
	35	Overpayment. If line 32h is larger than the total of lines 31 and 33, enter amount overpaid				35
	36	Enter amount of line 35 you want: Credited to 1997 estimated tax ▶		Refunded ▶		36

Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Signature of officer: Jack Austin — Date: 3/29/97 — Title: President

Paid Preparer's Use Only

Preparer's signature: Jason A. Thomas — Date: 3/21/97 — Check if self-employed ☒ — Preparer's social security number: 465 90 8312

Firm's name (or yours if self-employed) and address: Jason A. Thomas, CPA; 50 Court Square; Lanetown, TN — EIN ▶ 62 9678143 — ZIP code ▶ 38123

Cat. No. 11450Q

Schedule A Cost of Goods Sold (See page 11 of instructions.)

1	Inventory at beginning of year	1	67,135
2	Purchases	2	447,245
3	Cost of labor	3	206,781
4	Additional section 263A costs (attach schedule)	4	
5	Other costs (attach schedule)	5	
6	Total. Add lines 1 through 5	6	721,161
7	Inventory at end of year	7	73,789
8	Cost of goods sold. Subtract line 7 from line 6. Enter here and on page 1, line 2	8	647,372

9a Check all methods used for valuing closing inventory:
- (i) [X] Cost as described in Regulations section 1.471-3
- (ii) [ ] Lower of cost or market as described in Regulations section 1.471-4
- (iii) [ ] Other (Specify method used and attach explanation.) ►

b Check if there was a writedown of subnormal goods as described in Regulations section 1.471-2(c) ► [ ]

c Check if the LIFO inventory method was adopted this tax year for any goods (if checked, attach Form 970) ► [ ]

d If the LIFO inventory method was used for this tax year, enter percentage (or amounts) of closing inventory computed under LIFO — 9d

e If property is produced or acquired for resale, do the rules of section 263A apply to the corporation? [ ] Yes [X] No

f Was there any change in determining quantities, cost, or valuations between opening and closing inventory? If "Yes," attach explanation [ ] Yes [X] No

Schedule C Dividends and Special Deductions (See page 12 of instructions.)

		(a) Dividends received	(b) %	(c) Special deductions (a) × (b)
1	Dividends from less-than-20%-owned domestic corporations that are subject to the 70% deduction (other than debt-financed stock)		70	
2	Dividends from 20%-or-more-owned domestic corporations that are subject to the 80% deduction (other than debt-financed stock)		80	
3	Dividends on debt-financed stock of domestic and foreign corporations (section 246A)		see instructions	
4	Dividends on certain preferred stock of less-than-20%-owned public utilities		42	
5	Dividends on certain preferred stock of 20%-or-more-owned public utilities		48	
6	Dividends from less-than-20%-owned foreign corporations and certain FSCs that are subject to the 70% deduction		70	
7	Dividends from 20%-or-more-owned foreign corporations and certain FSCs that are subject to the 80% deduction		80	
8	Dividends from wholly owned foreign subsidiaries subject to the 100% deduction (section 245(b))		100	
9	Total. Add lines 1 through 8. See page 12 of instructions for limitation			
10	Dividends from domestic corporations received by a small business investment company operating under the Small Business Investment Act of 1958		100	
11	Dividends from certain FSCs that are subject to the 100% deduction (section 245(c)(1))		100	
12	Dividends from affiliated group members subject to the 100% deduction (section 243(a)(3))		100	
13	Other dividends from foreign corporations not included on lines 3, 6, 7, 8, or 11			
14	Income from controlled foreign corporations under subpart F (attach Form(s) 5471)			
15	Foreign dividend gross-up (section 78)			
16	IC-DISC and former DISC dividends not included on lines 1, 2, or 3 (section 246(d))			
17	Other dividends			
18	Deduction for dividends paid on certain preferred stock of public utilities			
19	Total dividends. Add lines 1 through 17. Enter here and on line 4, page 1 ►			
20	Total special deductions. Add lines 9, 10, 11, 12, and 18. Enter here and on line 29b, page 1 ►			

Schedule E Compensation of Officers (See instructions for line 12, page 1.)

Complete Schedule E only if total receipts (line 1a plus lines 4 through 10 on page 1, Form 1120) are $500,000 or more.

(a) Name of officer	(b) Social security number	(c) Percent of time devoted to business	Percent of corporation stock owned (d) Common	(e) Preferred	(f) Amount of compensation
1 Jack Austin	834-26-9149	100 %	100 %	%	223,353
		%	%	%	
		%	%	%	
		%	%	%	
		%	%	%	

2	Total compensation of officers	223,353
3	Compensation of officers claimed on Schedule A and elsewhere on return	
4	Subtract line 3 from line 2. Enter the result here and on line 12, page 1	223,353

Form 1120 (1996) Page 3

Schedule J Tax Computation (See page 13 of instructions.)

1	Check if the corporation is a member of a controlled group (see sections 1561 and 1563) . . . . ► ☒ Important: Members of a controlled group, see instructions on page 13.			
2a	If the box on line 1 is checked, enter the corporation's share of the $50,000, $25,000, and $9,925,000 taxable income brackets (in that order): (1) $ 50,000 – (2) $ 25,000 – (3) $ 11,595 –			
b	Enter the corporation's share of: (1) Additional 5% tax (not more than $11,750) $ (2) Additional 3% tax (not more than $100,000) $			
3	Income tax. Check this box if the corporation is a qualified personal service corporation as defined in section 448(d)(2) (see instructions on page 13). . . . . ► ☐		3	17,692 –
4a	Foreign tax credit (attach Form 1118)	4a		
b	Possessions tax credit (attach Form 5735)	4b		
c	Check: ☐ Nonconventional source fuel credit ☐ QEV credit (attach Form 8834)	4c		
d	General business credit. Enter here and check which forms are attached: ☐ 3800 ☐ 3468 ☐ 5884 ☐ 6478 ☐ 6765 ☐ 8586 ☐ 8830 ☐ 8826 ☐ 8835 ☐ 8844 ☐ 8845 ☐ 8846 ☐ 8820 ☐ 8847	4d		
e	Credit for prior year minimum tax (attach Form 8827)	4e		
5	Total credits. Add lines 4a through 4e		5	
6	Subtract line 5 from line 3		6	17,692 –
7	Personal holding company tax (attach Schedule PH (Form 1120))		7	
8	Recapture taxes. Check if from: ☐ Form 4255 ☐ Form 8611		8	
9	Alternative minimum tax (attach Form 4626)		9	
10	Total tax. Add lines 6 through 9. Enter here and on line 31, page 1		10	17,692 –

Schedule K Other Information (See page 15 of instructions.)

		Yes	No
1	Check method of accounting: a ☐ Cash b ☒ Accrual c ☐ Other (specify) ►		
2	See page 17 of the instructions and state the principal:		
a	Business activity code no. ► 3440		
b	Business activity ► Manufacturing		
c	Product or service ► Structural Metal		
3	Did the corporation at the end of the tax year own, directly or indirectly, 50% or more of the voting stock of a domestic corporation? (For rules of attribution, see section 267(c).)		X
	If "Yes," attach a schedule showing: (a) name and identifying number, (b) percentage owned, and (c) taxable income or (loss) before NOL and special deductions of such corporation for the tax year ending with or within your tax year.		
4	Is the corporation a subsidiary in an affiliated group or a parent-subsidiary controlled group?		X
	If "Yes," enter employer identification number and name of the parent corporation ►		
5	Did any individual, partnership, corporation, estate or trust at the end of the tax year own, directly or indirectly, 50% or more of the corporation's voting stock? (For rules of attribution, see section 267(c).)	X	
	If "Yes," attach a schedule showing name and identifying number. (Do not include any information already entered in 4 above.) Enter percentage owned ►		
6	During this tax year, did the corporation pay dividends (other than stock dividends and distributions in exchange for stock) in excess of the corporation's current and accumulated earnings and profits? (See secs. 301 and 316.)		X
	If "Yes," file Form 5452. If this is a consolidated return, answer here for the parent corporation and on Form 851, Affiliations Schedule, for each subsidiary.		
7	Was the corporation a U.S. shareholder of any controlled foreign corporation? (See sections 951 and 957.)		X
	If "Yes," attach Form 5471 for each such corporation. Enter number of Forms 5471 attached ►		
8	At any time during the 1996 calendar year, did the corporation have an interest in or a signature or other authority over a financial account (such as a bank account, securities account, or other financial account) in a foreign country?		X
	If "Yes," the corporation may have to file Form TD F 90-22.1. If "Yes," enter name of foreign country ►		
9	During the tax year, did the corporation receive a distribution from, or was it the grantor of, or transferor to, a foreign trust? If "Yes," see page 16 of the instructions for other forms the corporation may have to file		X
10	Did one foreign person at any time during the tax year own, directly or indirectly, at least 25% of: (a) the total voting power of all classes of stock of the corporation entitled to vote, or (b) the total value of all classes of stock of the corporation? If "Yes,"		X
a	Enter percentage owned ►		
b	Enter owner's country ►		
c	The corporation may have to file Form 5472. Enter number of Forms 5472 attached ►		
11	Check this box if the corporation issued publicly offered debt instruments with original issue discount . ► ☐ If so, the corporation may have to file Form 8281.		
12	Enter the amount of tax-exempt interest received or accrued during the tax year ► $		
13	If there were 35 or fewer shareholders at the end of the tax year, enter the number ►		
14	If the corporation has an NOL for the tax year and is electing to forego the carryback period, check here ► ☐		
15	Enter the available NOL carryover from prior tax years (Do not reduce it by any deduction on line 29a.) ► $		

Form 1120 (1996) Page 4

Schedule L Balance Sheets per Books

Assets	Beginning of tax year (a)	Beginning of tax year (b)	End of tax year (c)	End of tax year (d)
1 Cash		104,854		118,871
2a Trade notes and accounts receivable	67,747		84,091	
b Less allowance for bad debts	(1,355)	66,392	(1,682)	82,409
3 Inventories		67,135		73,789
4 U.S. government obligations				
5 Tax-exempt securities (see instructions)				
6 Other current assets (attach schedule)		141,906		36,902
7 Loans to stockholders				
8 Mortgage and real estate loans				
9 Other investments (attach schedule)				
10a Buildings and other depreciable assets	864,477		865,764	
b Less accumulated depreciation	(559,549)	304,928	(643,375)	222,389
11a Depletable assets				
b Less accumulated depletion	( )		( )	
12 Land (net of any amortization)				
13a Intangible assets (amortizable only)				
b Less accumulated amortization	( )		( )	
14 Other assets (attach schedule)				
15 Total assets		685,215		534,360
Liabilities and Stockholders' Equity				
16 Accounts payable		29,142		37,754
17 Mortgages, notes, bonds payable in less than 1 year				
18 Other current liabilities (attach schedule)		1,220		28,193
19 Loans from stockholders		101,226		
20 Mortgages, notes, bonds payable in 1 year or more		172,759		18,642
21 Other liabilities (attach schedule)				
22 Capital stock: a Preferred stock				
b Common stock	1,170	1,170	1,170	1,170
23 Paid-in or capital surplus		64,795		64,795
24 Retained earnings—Appropriated (attach schedule)				
25 Retained earnings—Unappropriated		314,903		383,806
26 Less cost of treasury stock		( )		( )
27 Total liabilities and stockholders' equity		685,215		534,360

Note: *You are not required to complete Schedules M-1 and M-2 below if the total assets on line 15, column (d) of Schedule L are less than $25,000.*

Schedule M-1 Reconciliation of Income (Loss) per Books With Income per Return (See page 16 of instructions.)

1 Net income (loss) per books	68,903	7 Income recorded on books this year not included on this return (itemize): Tax-exempt interest $	
2 Federal income tax	17,692		
3 Excess of capital losses over capital gains			
4 Income subject to tax not recorded on books this year (itemize):		8 Deductions on this return not charged against book income this year (itemize):	
5 Expenses recorded on books this year not deducted on this return (itemize):		a Depreciation $	
a Depreciation $		b Contributions carryover $	
b Contributions carryover $			
c Travel and entertainment $			
6 Add lines 1 through 5	86,595	9 Add lines 7 and 8	
		10 Income (line 28, page 1)—line 6 less line 9	86,595

Schedule M-2 Analysis of Unappropriated Retained Earnings per Books (Line 25, Schedule L)

1 Balance at beginning of year	314,903	5 Distributions: a Cash	
2 Net income (loss) per books	68,903	b Stock	
3 Other increases (itemize):		c Property	
		6 Other decreases (itemize):	
		7 Add lines 5 and 6	
4 Add lines 1, 2, and 3	383,806	8 Balance at end of year (line 4 less line 7)	383,806

Form **2220**

Department of the Treasury
Internal Revenue Service

Underpayment of Estimated Tax by Corporations

► See separate instructions.
► Attach to the corporation's tax return.

OMB No. 1545-0142

1996

Name: Austin Manufacturing, Inc.

Employer identification number: 62 : 5489314

Note: *In most cases, the corporation does not need to file Form 2220. The IRS will figure any penalty owed and bill the corporation. File Form 2220 only if any of the boxes or the Note in Part I applies to the corporation. If the corporation does not need to file Form 2220, it may still use it to figure the penalty. Enter the amount from line 36 on the penalty line of the corporation's income tax return, but do not attach Form 2220.*

Part I Reasons For Filing—Check the boxes below that apply to the corporation. If any box is checked or the Note below applies, the corporation must file Form 2220 with the corporation's tax return, even if it does not owe the penalty. If the box on line 1 or line 2 applies, the corporation may be able to lower or eliminate the penalty. See page 2 of the instructions.

1 ☐ The corporation is using the annualized income installment method.
2 ☐ The corporation is using the adjusted seasonal installment method.
3 ☐ The corporation is a "large corporation" figuring its first required installment based on the prior year's tax.

Note: *The corporation must also file Form 2220 if it is claiming a waiver of the penalty. See Waiver of penalty on page 3 of the instructions.*

Part II Figuring the Underpayment

4	Total tax (see page 2 of the instructions)	4	17,692
5a	Personal holding company tax included on line 4 (Schedule PH (Form 1120), line 26). 5a		
b	Interest due under the look-back method of section 460(b)(2) for completed long-term contracts included on line 4 . . . 5b	-	
c	Credit for Federal tax paid on fuels (see page 2 of the instructions) . . . 5c		
d	Total. Add lines 5a through 5c	5d	
6	Subtract line 5d from line 4. If the result is less than $500, do not complete or file this form. The corporation does not owe the penalty	6	17,692
7	Enter the tax shown on the corporation's 1995 income tax return. (CAUTION: *See page 2 of the instructions before completing this line.*)	7	1,512
8	Enter the smaller of line 6 or line 7. If the corporation must skip line 7, enter the amount from line 6 on line 8	8	1,512

		(a)	(b)	(c)	(d)
9	Installment due dates. Enter in columns (a) through (d) the 15th day of the 4th, 6th, 9th, and 12th months of the corporation's tax year. ►	4/15/96	6/15/96	9/15/96	12/15/96
10	Required installments. If the box on line 1 or line 2 above is checked, enter the amounts from Schedule A, line 41. If the box on line 3 (but not 1 or 2) is checked, see page 2 of the instructions for the amounts to enter. If none of these boxes are checked, enter 25% of line 8 above in each column	378	378	378	378
11	Estimated tax paid or credited for each period (see page 2 of the instructions). For column (a) only, enter the amount from line 11 on line 15	1,697			
	Complete lines 12 through 18 of one column before going to the next column.				
12	Enter amount, if any, from line 18 of the preceding column		1,319	941	563
13	Add lines 11 and 12		1,319	941	563
14	Add amounts on lines 16 and 17 of the preceding column.				
15	Subtract line 14 from line 13. If zero or less, enter -0-	1,697	1,319	941	563
16	If the amount on line 15 is zero, subtract line 13 from line 14. Otherwise, enter -0-				
17	Underpayment. If line 15 is less than or equal to line 10, subtract line 15 from line 10. Then go to line 12 of the next column. Otherwise, go to line 18 (see page 3 of the instructions)				
18	Overpayment. If line 10 is less than line 15, subtract line 10 from line 15. Then go to line 12 of the next column	1,319	941	563	185

Complete Part III on page 2 to figure the penalty. If there are no entries on line 17, no penalty is owed.

Form **4562**

Department of the Treasury Internal Revenue Service (99)

Depreciation and Amortization
(Including Information on Listed Property)

► See separate instructions. ► Attach this form to your return.

OMB No. 1545-0172

1996

Attachment Sequence No. 67

Name(s) shown on return	Business or activity to which this form relates	Identifying number
Austin Manufacturing, Inc.	Manufacturing	62-5489314

Part I Election To Expense Certain Tangible Property (Section 179) (Note: *If you have any "listed property," complete Part V before you complete Part I.*)

1	Maximum dollar limitation. If an enterprise zone business, see page 2 of the instructions	1	$17,500
2	Total cost of section 179 property placed in service. See page 2 of the instructions	2	
3	Threshold cost of section 179 property before reduction in limitation	3	$200,000
4	Reduction in limitation. Subtract line 3 from line 2. If zero or less, enter -0-	4	
5	Dollar limitation for tax year. Subtract line 4 from line 1. If zero or less, enter -0-. If married filing separately, see page 2 of the instructions	5	

	(a) Description of property	(b) Cost (business use only)	(c) Elected cost
6			
7	Listed property. Enter amount from line 27		

8	Total elected cost of section 179 property. Add amounts in column (c), lines 6 and 7	8	
9	Tentative deduction. Enter the smaller of line 5 or line 8	9	
10	Carryover of disallowed deduction from 1995. See page 2 of the instructions	10	
11	Business income limitation. Enter the smaller of business income (not less than zero) or line 5 (see instructions)	11	
12	Section 179 expense deduction. Add lines 9 and 10, but do not enter more than line 11	12	
13	Carryover of disallowed deduction to 1997. Add lines 9 and 10, less line 12 ►	13	

Note: *Do not use Part II or Part III below for listed property (automobiles, certain other vehicles, cellular telephones, certain computers, or property used for entertainment, recreation, or amusement). Instead, use Part V for listed property.*

Part II MACRS Depreciation For Assets Placed in Service ONLY During Your 1996 Tax Year (Do Not Include Listed Property.)

Section A—General Asset Account Election

14 If you are making the election under section 168(i)(4) to group any assets placed in service during the tax year into one or more general asset accounts, check this box. See page 2 of the instructions ► ☐

Section B—General Depreciation System (GDS) (See page 3 of the instructions.)

(a) Classification of property	(b) Month and year placed in service	(c) Basis for depreciation (business/investment use only—see instructions)	(d) Recovery period	(e) Convention	(f) Method	(g) Depreciation deduction
15a 3-year property						
b 5-year property		1280	5 Yr.	HY	MACRS	64
c 7-year property						
d 10-year property						
e 15-year property						
f 20-year property						
g 25-year property			25 yrs.		S/L	
h Residential rental property			27.5 yrs.	MM	S/L	
			27.5 yrs.	MM	S/L	
i Nonresidential real property			39 yrs.	MM	S/L	
				MM	S/L	

Section C—Alternative Depreciation System (ADS) (See page 4 of the instructions.)

16a Class life					S/L	
b 12-year			12 yrs.		S/L	
c 40-year			40 yrs.	MM	S/L	

Part III Other Depreciation (Do Not Include Listed Property.) (See page 4 of the instructions.)

17	GDS and ADS deductions for assets placed in service in tax years beginning before 1996	17	83,762
18	Property subject to section 168(f)(1) election	18	
19	ACRS and other depreciation	19	

Part IV Summary (See page 4 of the instructions.)

20	Listed property. Enter amount from line 26	20	
21	Total. Add deductions on line 12, lines 15 and 16 in column (g), and lines 17 through 20. Enter here and on the appropriate lines of your return. Partnerships and S corporations—see instructions	21	83,826
22	For assets shown above and placed in service during the current year, enter the portion of the basis attributable to section 263A costs	22	

Form 4562 (1996) Page 2

Part V Listed Property—Automobiles, Certain Other Vehicles, Cellular Telephones, Certain Computers, and Property Used for Entertainment, Recreation, or Amusement

Note: *For any vehicle for which you are using the standard mileage rate or deducting lease expense, complete only 23a, 23b, columns (a) through (c) of Section A, all of Section B, and Section C if applicable.*

Section A—Depreciation and Other Information (Caution: *See page 5 of the instructions for limitations for automobiles.*)

23a Do you have evidence to support the business/investment use claimed? ☐ Yes ☐ No | 23b If "Yes," is the evidence written? ☐ Yes ☐ No

(a) Type of property (list vehicles first)	(b) Date placed in service	(c) Business/ investment use percentage	(d) Cost or other basis	(e) Basis for depreciation (business/investment use only)	(f) Recovery period	(g) Method/ Convention	(h) Depreciation deduction	(i) Elected section 179 cost
24 Property used more than 50% in a qualified business use (See page 5 of the instructions.):								
		%						
		%						
		%						
25 Property used 50% or less in a qualified business use (See page 5 of the instructions.):								
		%				S/L -		
		%				S/L -		
		%				S/L -		

26 Add amounts in column (h). Enter the total here and on line 20, page 1 26

27 Add amounts in column (i). Enter the total here and on line 7, page 1 27

Section B—Information on Use of Vehicles

Complete this section for vehicles used by a sole proprietor, partner, or other "more than 5% owner," or related person. If you provided vehicles to your employees, first answer the questions in Section C to see if you meet an exception to completing this section for those vehicles.

	(a) Vehicle 1		(b) Vehicle 2		(c) Vehicle 3		(d) Vehicle 4		(e) Vehicle 5		(f) Vehicle 6	
28 Total business/investment miles driven during the year (DO NOT include commuting miles)												
29 Total commuting miles driven during the year												
30 Total other personal (noncommuting) miles driven												
31 Total miles driven during the year. Add lines 28 through 30												
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
32 Was the vehicle available for personal use during off-duty hours?												
33 Was the vehicle used primarily by a more than 5% owner or related person?												
34 Is another vehicle available for personal use?												

Section C—Questions for Employers Who Provide Vehicles for Use by Their Employees

Answer these questions to determine if you meet an exception to completing Section B for vehicles used by employees who are not more than 5% owners or related persons.

	Yes	No
35 Do you maintain a written policy statement that prohibits all personal use of vehicles, including commuting, by your employees?		
36 Do you maintain a written policy statement that prohibits personal use of vehicles, except commuting, by your employees? See page 6 of the instructions for vehicles used by corporate officers, directors, or 1% or more owners		
37 Do you treat all use of vehicles by employees as personal use?		
38 Do you provide more than five vehicles to your employees, obtain information from your employees about the use of the vehicles, and retain the information received?		
39 Do you meet the requirements concerning qualified automobile demonstration use? See page 6 of the instructions . .		

Note: *If your answer to 35, 36, 37, 38, or 39 is "Yes," you need not complete Section B for the covered vehicles.*

Part VI Amortization

(a) Description of costs	(b) Date amortization begins	(c) Amortizable amount	(d) Code section	(e) Amortization period or percentage	(f) Amortization for this year
40 Amortization of costs that begins during your 1996 tax year:					
41 Amortization of costs that began before 1996				41	
42 Total. Enter here and on "Other Deductions" or "Other Expenses" line of your return . . .				42	

Supporting Schedules 1996

Company: Austin Manufacturing, Inc. EIN: 62-5489314

##########

C-Corporation Form 1120
Schedule K - 50% Ownership in Voting Stock of Following:

Name	ID#	% Owned
Jack Austin	834-26-9149	100%

Supporting Schedules 1996

Company: Austin Manufacturing, Inc. EIN: 62-5489314

Form 1120 - Income, Line 10
Other Income

Description	Amount
Miscellaneous Sales	82,517
Freight on Sales	57,967
Total	140,484

Form 1120 - Deductions, Line 26
Other Deductions

Description	Amount
Bank Fees	160
Dues and Subscriptions	161
Freight	4,909
Gas and Oil	16,798
Health Insurance	43,285
Insurance-Auto, Building, and Liability	51,782
Legal and Accounting	691
Licenses	1,486
Linen and Laundry	1,329
Management Fees	70,200
Meals and Entertainment	5,355
Medical Expenses	143
Miscellaneous	31,639
Office Expenses	2,904
Sanitation	3,896
Shop Supplies	19,262
Telephone	7,123
Truck Expenses	21,706
Utilities	32,039
Total	314,868

Supporting Schedules 1996

Company: Austin Manufacturing, Inc. EIN: 62-5489314

Form 1120 - Schedule L, Line 6
Other Current Assets

Description	Beginning		Ending
Intercompany Receivable	136,682		36,200
Employee Loans			702
Estimated Federal Tax		5224	
Total	141,906		36,902

Form 1120 - Schedule L, Line 18
Other Current Liabilities

Description	Beginning	Ending
Accrued Salaries and Taxes	1,220	
Sales Tax Payable		211
Accrued Income Taxes		27,777
Payroll Taxes Payable		205
Total	1,220	28,193

Appendix D

McAfee School of Business Administration
Union University
1050 Union University Drive
Jackson, Tennessee 38305

My name is Tom Proctor. I am an accounting professor at Union University and am currently working of my doctoral dissertation at the University of Memphis. The instruments that you are about to complete are essential to the completion of my project. All responses are anonymous and confidential.

You will find enclosed the following items:

(1) Question and Response Sheet
(2) Tax Return
(3) Return Envelope

After completing the instruments, return all of the instruments in the return envelope provided. Thank you for your help and participation.

Sincerely,

Tom Proctor
Assistant Professor of Accounting

Austin Manufacturing, Inc. is a manufacturer in the Structural Metals industry and is owned 100% by Jack Austin, who is also the president of the company.

Enclosed is Austin Manufacturing, Inc's 1996 Form 1120. Please review this return and respond to the following.

Please list below all of the issues that a general program revenue agent should pre-plan (i.e., select for examination) if the agent were auditing the taxpayer described above. (include all issues including any required elements, e.g., deductions, income, balance sheet items, etc.).

After listing the issues, please rank them in order of importance in the space provided. (1=most important issue, 2=next most important issue, etc.).

Issue	Ranking
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Expert Panel Issue List

	Number of Experts Listing Issue
Other Current Assets—Intercompany Receivable	3
Loans from Stockholders	3
Gross Receipts	2
Inventory	2
Miscellaneous Expense—Other Deductions	1
Management Fees—Other Deductions	3
Health Insurance—Other Deductions	3
Insurance—Other Deductions	1
Repairs	1
Rents	1
Intercompany Long-Term Debt	1
Retained Earnings	1
Other Income	1

Appendix E

Technical Tax Knowledge

In each of the questions below, circle any answers that you believe are correct. Note that ***more than one answer*** may be correct or that there may be no correct answer.

1. In the calculation of corporate taxable income:

    a. Charitable contributions are subject to a 10% of taxable income limitation. Taxable income for purposes of the limitation is calculated without regard to any deductions or carrybacks.

    b. There is no concept of Adjusted Gross Income as there is for individuals.

    c. Gain on sale of real property is subject to recapture rules not applicable to other taxpayers.

    d. Capital losses may only be deducted against capital gains. Excess losses may be carried back 3 years and forward 5 years.

    e. Section 1231 transactions stand alone rather than being netted with capital asset transactions as they are for individuals.

2. In corporate formations:

    a. Transfers of property are nontaxable to the transferor to the extent that only stock and securities are received in exchange and the ownership control test is met.

    b. Transfers of services are nontaxable to the transferor to the extent that (a) only stock is received by the transferor, and (b) in exchange for the services, transferor does not receive more than 50% ownership of the corporation.

    c. The receipt of short-term notes of the transferee corporation is considered boot to the transferor shareholders.

    d. A service transferor cannot be treated as a "transferor" for purposes of the control test unless he or she also transfers property with a value equal to at least 10% of the value of the stock received from the corporation.

3. A redemption:

    a. Is the acquisition by a corporation of its stock from a shareholder.

    b. Is treated as a dividend if it does not meet one of five exceptions specified by the Internal Revenue Code.

    c. May be treated as an exchange. If the redemption is treated as an exchange, the earnings and profits of the corporation will not be reduced as a result of the redemption.

4. If 100% of a shareholder's stock is redeemed by a corporation to achieve a complete termination of the shareholder's interest:

    a. The Section 318 attribution rules may cause the shareholder to be considered to have continued ownership despite the fact that she/he no longer owns any shares directly.

    b. The family attribution rules and the entity attribution rules may be waived under conditions that limit future involvement in the corporation.

    c. The redeemed shareholder may have no continuing interest in the corporation other than as a creditor for a minimum period of 10 years if she/he wants to waive the family attribution rules.

5. Liquidating distributions from a corporation:

    a. Are treated as dividend income to the extent of E&P, then as a return of capital to the extent of basis, and then as capital gains for amounts in excess of basis.

    b. Are not taxable to the corporation if the distribution is of appreciated or depreciated property.

    c. Are taxable to shareholders as capital gains to the extent that the fair market value of property received exceeds the shareholders' basis in the stock.

    d. Are treated the same as nonliquidating distributions.

6. Organizational expenditures by a corporation:

    a. Have an indeterminate life and therefore are written off only when the corporation is liquidated.

    b. Can be written off over a period of not less than 60 months if they include only expenses of actually organizing the corporation. Costs of raising capital are not includable in the amortizable amount.

    c. Include all qualifying expenses incurred during the corporation's first taxable year. For these purposes, accounting method and time of payment are irrelevant.

    d. Can be written off over any period as long as it is not less than 60 months. The period must conform to the period selected for financial accounting purposes.

7. The dividends-received deduction:

    a. (Assuming dividends received are $10,000 and taxable income is $100,000) is calculated by multiplying the dividends received by 70% for dividends received from corporations in which there is less than 20% ownership; by 80% for dividends received from corporations in which there is at least 20% ownership or by 100% for dividends received from corporations in which there is at least 80% ownership.

    b. Is subject to a limitation that is based on taxable income. However, that limitation does not apply if the amount calculated as described in part "a" creates or increases a loss.

    c. Is an "artificial" deduction that cannot be used as part of an NOL carryback or carryforward.

    d. Must be calculated before the charitable contribution limitation can be calculated.

    e. Will be reduced to the extent that the security producing the dividend is classified as debt-financed portfolio stock.

8. S corporations:

    a. Are indistinguishable from a regular corporation from a legal standpoint.

    b. Are generally conduit entities. That is, all income, expense, gain and loss items realized by the entity pass through to the shareholders retaining their character.

    c. Never pay tax because the tax effects pass through to shareholders.

    d. May not have partnership or corporate shareholders.

9. The accumulated earnings tax:

    a. May not be imposed on publicly-held corporations.

    b. May be imposed on corporations which accumulate earnings in excess of the reasonable needs of the business.

    c. Was enacted in the Tax Reform Act of 1986.

    d. Will not be imposed in conjunction with the Personal Holding Company Tax.

    e. Is calculated by examining the retained earnings of a corporation on a financial accounting basis and testing that against the accumulated earnings tax credit or the needs of the business for working capital, expansion, debt repayment, etc.

Accounting Knowledge

Below are errors that could be made in the preparation of financial statements. Indicate on the response sheet provided below the effects of the errors on a company's year-end financial statements by inserting an "O" to indicate an overstatement, a "U" to indicate an understatement, or an "N" to indicate no effect.

1. Failed to accrue salaries earned at year-end.
2. Failed to adjust for office supplies (supplies are initially recorded as expenses). The ending inventory for office supplies is $5,000.
3. Failed to record the December 31 declaration of cash dividends.
4. Overstated the current year's depreciation expense.
5. Failed to adjust the prepaid insurance account for expired insurance.
6. Failed to adjust the unearned subscription revenue. Subscription receipts are initially recorded as liabilities.
7. Failed to record December 31 purchases of merchandise on account (the company uses a periodic system). The merchandise received on December 31 was correctly included in the year-end physical inventory.
8. Office equipment that was acquired during the current year was recorded as a repair expense.
9. Failed to record the estimated amount of uncollectible accounts receivable for the current year.

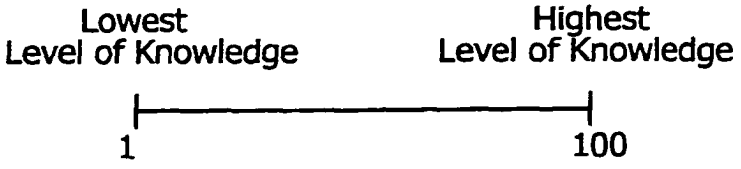
	Total Revenue	Total Expenses	Total Assets	Total Liabilities	Owners' Equity
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____

Appendix F

Debriefing Questionnaire

Please answer the following questions:

1. Using the scale below, assess your level of knowledge in the following areas:



Corporate tax knowledge _____

General accounting knowledge _____

2. On average, what is the estimated number of hours you spend on a case?

_____

Questions 3 through 5 concern the corporate taxpayer questionnaire that you just completed.

3. How often does a case assignment scenario like the one described occur?
(1=not common to 100=very common)

_____

4. Was the scenario described understandable?

Yes_____ No_____

5. Was the scenario described realistic? If not, what would make it more realistic?

Yes_____ No_____

6. Do you feel increased pressure to close a case when the case has a large number of hours charged to it?

Yes_____ No_____

7. Do you feel increased pressure to close a case when the case has high days-in-process and is classified as "over-age"?

Yes_____ No_____

8. If you answered yes to either question 6 or 7 (or both), describe how you believe you respond to the increased pressure during the course of an audit.

9. Do you feel increased pressure to perform well when you know your work will be reviewed closely by your manager?

Yes_____ No_____

10. Do you feel increased pressure to perform well when you know your work will be reviewed by Quality Measurement Staff?

    Yes_____ No_____

11. If you answered yes to either question 9 or 10 (or both), describe how you believe you respond to the increased pressure during the course of an audit.