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PUBLIC COMPANY ACCOUNTING OVERSIGHT BOARD

INSIGHTS INTO THE INSPECTION PROCESS, ENVIRONMENT, AND REPORTS

A Dissertation in

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ABSTRACT

The Public Company Accounting Oversight Board (PCAOB) performs inspections of accounting firms with fewer than 100 clients listed on an American stock exchange on a three-year cycle. The inspections of the audit work of these firms (hereafter, small public practice firms) are the focus of this study. Theory models the interactions between an inspected entity and an inspector either as static, with independent interactions, or dynamic, with continuous learning among parties throughout multiple inspection cycles. Because three years pass between inspections, prior inspection results may be irrelevant to the current inspection. If the inspectors rely on recent information supplied by the small public practice firm to plan and execute the current inspection, a static view might characterize the relationship between the PCAOB and the firm. On the other hand, a dynamic relationship encourages past PCAOB inspections to influence current interactions with the firm. I posit that a firm that received a clean prior inspection outcome, i.e., no engagement deficiencies or quality control issues, is less likely to have an increase in the number of audit clients inspected during the current inspection than firms that received other prior inspection outcomes. Controlling for the current client portfolio characteristics, I find that an average firm with a prior clean report has a 6% decrease in the probability of an increase in the number of client files inspected with the current inspection as compared to firms with different prior inspection outcomes. This finding provides evidence consistent with a dynamic relationship among the PCAOB and the firms. For practitioners, these results show that the PCAOB conditions subsequent inspections on past inspection results.

The inspection process and frequency for small public practice firms does not depend on whether the firm is headquartered in the United States (US) or abroad. I examine the impact of a home country regulator on foreign firm inspection reports issued by the PCAOB. Some foreign regulators are similar to the PCAOB. A PCAOB-like regulator belongs to the International Forum of Independent Audit Regulators and employs personnel to inspect accounting firms. Alternative regulatory regimes include regulators that indirectly oversee the accounting firms through an intermediary professional organization. I hypothesize and find evidence that foreign firms subject to PCAOB-like regulator are more likely to receive a clean inspection outcome from the PCAOB as compared to foreign firms in alternative regulatory environments. For the average firm, a PCAOB-like regulator increases the probability of a clean PCAOB inspection outcome by 21% as compared to an engagement deficient outcome. However, I find no evidence that the regulatory environment otherwise impacts the probability of a clean inspection outcome as compared to a quality deficient inspection outcome. The association between the home country regulatory environment and PCAOB inspection outcomes provides evidence of the inconsistent application of a single set of standards globally. For international audit standard setters, these results support the creation of an enforcement function for international auditing standards.

Finally, I use the creation of a new position, PCAOB inspector, and the typical staffing of this position with individuals having extensive Big 4 external audit experience to derive hypotheses based on role theory. Theory models the interaction of an individual's role within the organization in which s/he works using role ambiguity as an interceding factor in the relationship between the individual and the organization. Role

ambiguity exists if the individual does not have the required data and understanding to execute her/his position. Theory posits that a high level of role ambiguity translates into inferior job performance. I hypothesize and test (1) high role ambiguity, e.g., when the inspector reviews work papers for a public client engagement fundamentally different than an inspector's prior experience and (2) low role ambiguity, e.g. when the PCAOB leadership state specific areas of focus for inspectors, for associations with specific PCAOB inspection report wording outcomes, representing job performance. Because each inspection report follows a standard reporting review processes within the PCAOB and the inspectors are typically experienced auditors who are familiar with the execution of auditing standards, there may not be an association between the role ambiguity of an inspector and the wording outcomes of an inspection report. I find that ambiguity is positively associated with the likelihood of financial statement assertion words, e.g., completeness or valuation, representing the most basic auditing risks. I find that ambiguity is negatively associated with the likelihood of words embodying key areas of focus for inspections as stated by PCAOB leadership. As role ambiguity increases in the interquartile range, there is a 6.2% decrease in probability of the existence of words representing key areas of PCAOB focus and a 6.6% increase in the probability of the existence of financial statement assertion words in the engagement deficiency description. For investors, these findings emphasize that the PCAOB inspector subjectively adjusts the wording of an inspection deficiency.

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Chapter 1

Introduction to the Dissertation

The Public Company Accounting Oversight Board (PCAOB), a not-for-profit corporation, effectively replaced the prior peer review regime administered by the American Institute of Certified Public Accountants (AICPA) as the body responsible for overseeing the auditors at accounting firms auditing public companies. The United States (US) Congress created the PCAOB, supervised by the Securities and Exchange Commission (SEC), with the passage of the Sarbanes-Oxley Act of 2002 (hereafter, SOX). The Act states the PCAOB's mission as follows:

> To oversee the audit of companies that are subject to the securities laws, and related matters, in order to protect the interests of investors and further the public interest in the preparation of informative, accurate, and independent audit reports for companies. (15 U.S.C. § 7211.101(a))

Representing investor interests and the public, the PCAOB performs three key statutory functions: (1) to set standards for public company audits, (2) to enforce public company auditing standards, and (3) to perform inspections of firms that perform public company audits. This dissertation focuses on the inspection function.

The PCAOB inspection function assesses the accounting firm's audit work papers and procedures for compliance with professional standards and produces reports. The inspectors review work papers for audit clients that have ties to the US capital markets.

Based on the review of work papers and discussions with the public accounting firm personnel about their audit quality practices, the PCAOB generates an inspection report. [1] The PCAOB distributes the complete, detailed inspection report to the SEC, select state regulatory agencies, and the accounting firm. However, SOX contains a provision allowing an accounting firm to request information remain restricted from public view. Thus, the public version of the inspection report, posted on the PCAOB's website, is a redacted version.

The frequency with which inspections are conducted and the format of the inspection reports issued differs depending on the size of the accounting firm's public client practice. The PCAOB has one inspection process for large public client practices, characterized as greater than 100 clients as defined in SOX, and another process for smaller public client practices (CAQ 2012). I focus on the inspection reports for small practices, which are issued every three years (hereafter, small public practice firms), as opposed to the large practices, which are inspected annually.

For a small public practice firm, the PCAOB inspection report has four sections. The first section details descriptive information about the accounting firm (e.g., number of partners, number of offices, number of active clients subject to PCAOB jurisdiction, etc.), and the inspection (e.g., the start date and end date of fieldwork, the number of clients reviewed, etc.). The next section provides negative assurance concerning engagement deficiencies or specifically describes engagement deficiencies. The third section provides either negative assurance or a failure opinion on the quality control processes

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[1] SOX defines the type of accounting firm clients within the PCAOB's jurisdiction. A firm listed on a US exchange is within the definition.

for public company audits.[2] If the firm fails to remedy the underlying quality control processes to the PCAOB's satisfaction during the subsequent year, then the PCAOB releases an expanded public version of the report detailing every quality control issue that existed at the time of the inspection (CAQ 2012). The fourth section is an optional firm response to the inspection findings in the report. The PCAOB inspectors generate the small public practice firm inspection reports by applying the PCAOB inspection manual.

Through the PCAOB's inspection process, which is financially independent from the auditing profession, the investing public receives information pertinent to assessing the relative audit quality provided by small public practices with each report. Thus, the inspectors provide a consistent, direct signal about the firm's past audit performance. The audit performance comprises the appropriateness of professional judgments and documentation supporting the issuance of the audit opinion for the reviewed work papers.

However, there are two significant limitations to the current reports. Each inspection report discloses the lack of a balanced portrayal of the firm's audit quality. The reports describe audit work paper engagement issues but do not state any positive attributes or strengths of the firm performance. Thus, the reader can place firms along a negative continuum from acceptable to underperforming. But, the reports do not disclose information that can separate superior firms from acceptable firms. Also, the second limitation is the lack of context for issues identified in a report because no client identifying information is disclosed. There is no information disclosed concerning the duration, pervasiveness, or impact of a particular engagement deficiency or quality

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[2] Section A of the standard report addresses the engagement deficiencies noted from the review of work papers. Section B of the standard report details the outcome of the quality control process review.

control issue (DeFond 2010; Glover et al. 2009). Combined with the PCAOB's implementation of a judgmental sampling methodology for selecting work papers to be inspected, the results cannot be statistically extrapolated to the remaining client base (Defond 2010). Thus, the reader can only make an individual assessment of the issues and come to a personal conclusion on how his/her individual perception of audit quality changes after reading the report. In contrast, if the inspection report stated other information, e.g., an overall opinion, then the reader would be able to make a valid assessment of the firm on a stand-alone basis (Lennox and Pittman 2010). To systematically address these issues, I develop a classification schema, ISCORE, to utilize the majority of reports in my analyses.

I classify the reports into ISCORE groups to compare inspection report outcomes. Membership in a particular group forms a single measure of the information in the public version of the inspection report. The classification schema applies to 64% of the reports allowing for delineation of inspection outcomes into several categories based on a combination of attributes. The remaining 36% of the reports disclose different combinations of attributes that require individual consideration, thus, not permitting classification within the schema.

First, I use the ISCORE schema to study the relationship between a prior inspection and a current inspection. Theorists model the interaction between an inspector and the inspected entity as either a dynamic relationship, using a repeated game framework, or a static relationship, where each interaction is a separate event. In Chapter 3, I ask: Do the PCAOB inspectors' current inspection actions vary based on the prior inspection outcome with a given accounting firm? I find evidence that the prior inspection outcome

is associated with a lower probability of expansion of the current inspection's scope, consistent with a dynamic relationship.

Next, I examine the impact of a home country regulator on PCAOB inspection outcomes as captured by ISCORE groups. When a home country regulator is similar to the PCAOB, I hypothesize the home country regulatory environment positively impacts the PCAOB inspection outcomes, as measured by ISCORE, as compared to other regulatory environments where there is no comparable home country regulator. In Chapter 4, I address the second question: Does the home country regulatory environment have consequences for the PCAOB inspection reports on foreign accounting firms? I find evidence supporting my hypothesis.

Finally, I view the words used to describe engagement deficiencies in the inspection reports as a reflection of job performance and test hypotheses based on role theory. Theory models the individual's relationship to the organization in which s/he works and postulates consequences of differing levels of role ambiguity. Role ambiguity arises when an individual is unsure of the execution of his/her position responsibilities. In Chapter 5, I address: Does role ambiguity have consequences for the job performance of PCAOB inspectors? I find evidence of an association between role ambiguity and the specific language used to describe engagement deficiencies, a measure of the PCAOB inspectors' job performance.

These three questions and the results reflect the direct examination of the inspection outcome and accounting firm characteristics. My results emphasize the necessity for investors to view accounting firms as providing heterogeneous audit quality with the issuance of unqualified audit opinions. Also, for regulators, my results speak to a reason

for challenges with consistent application of auditing standards and the limitations of the current inspection approach.

Finally, I conclude the dissertation in Chapter 6. Before I address my first research question, I derive and validate the ISCORE classification schema in Chapter 2.

Chapter 2

ISCORE Derivation and Validation

The PCOAB inspection reports are challenging to compare; therefore, I create a schema to group similar inspection report outcomes together and to highlight the preferred outcome from the inspection process. Because inspection issues are not linked to specific clients, the reader cannot infer the impact, the severity or the pervasiveness of the issue. Another challenge is the absence of any summary measure or overall outcome for the inspection. The reader must examine several reports to assess an accounting firm's performance. Therefore, I derive an inspection classification schema, ISCORE, utilizing multiple attributes of each report to test my hypotheses in Chapters 3 and 4.

2.1 ISCORE Derivation

I apply four steps to generate the ISCORE: (1) interpret the PCAOB's public inspection reports as a sample set of observations, (2) delineate nine potential report attributes motivated by prior research findings, (3) execute the bootstrap methodology to generate the classification schema, and (4) analyze the results.

First, I characterize the PCAOB inspection reports as a set of observations forming a sample. If the inspections covered all aspects of every public client audit engagement for a firm since the prior inspection, then the inspection reports would completely reflect the negative items in the population of an accounting firm's public

client audit engagements and auditing procedures. In reality, the inspectors select a

distinct sample of client engagements for each inspection. Therefore, my universe of

1,471 small public practice inspection reports, issued from the inception of the PCAOB

until April 2012 with inspection fieldwork beginning prior to December 2010 (refer to

Section 3.4 for additional details), is a sample of client audit engagements.

Next, I derive seven inspection report attributes based on prior empirical research

and two report attributes based on experimental research.   Lennox and Pittman (2010)

use the number of engagement deficiencies to examine associations between inspection

reports and subsequent accounting firm client changes. My first attribute is the existence

of engagement deficiencies while the second attribute is the existence of at least three

engagement deficiencies.   Daugherty et al. (2011) create binary variables representing

the existence of quality control deficiencies and the release of quality control deficiency

details to proxy for a negative inspection report.[3] I include the existence of quality

control deficiencies, the release of quality control deficiency issue detail, and the

existence of more than two quality control issues as three additional report attributes. In

an analysis of small practice inspection reports, Hermanson et al. (2010) use the existence

of restatements noted in the engagement work paper review section of the report as a

measure of interest.   Thus, the sixth attribute is the existence of any restatement

discussion in the inspection report. Defond and Lennox (2011) study small accounting

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[3] The initial inspection report summarizes the inspector's evaluation of accounting firm's quality control processes for public company audits as either an absence or an acknowledgement of the existence of issues. All firms have 12 months from the date the inspection report is issued to address the quality control issue(s). Providing the remediation of the issue occurs to the PCAOB's satisfaction, no further release of information happens. However, if the firm fails to make sufficient progress towards remediating the issue, the PCAOB releases an expanded version of the inspection report detailing all the quality control issues identified during the inspection (CAQ 2012).

firms' subsequent exit from public company auditing following SOX and restrict a test to only those accounting firms with former public clients. Former client status arises when the firm's client subsequently deregisters or changes auditors. Thus, the seventh report attribute exists if former clients comprise the firm's entire public client base.

The next two attributes, eight and nine, are based on experimental research. First, Robertson and Houston (2010) manipulate the tone of the firm's response as supportive or argumentative to the PCAOB's findings. These researchers highlight the importance of the existence of a firm response as it is a key focus of the experimental design and results. Therefore, my eighth report attribute covers the failure of the release of a firm response to the inspection report. Secondly, Wainberg et al. (2012) manipulate the number of clients reviewed by the inspectors to investigate the impact on the interpretation of engagement deficiencies. From this experimental design, I extrapolate that the least ambiguous interpretation of engagement deficiencies arises when the inspectors review an equivalent number of client files as the firm has clients. Thus, my ninth attribute exists if the inspectors choose to review a smaller number of files than the firm has public clients.

For each of the nine attributes, I analyze each inspection report and create binary variables where the existence of the attribute, reflecting a negative outcome, e.g., the existence of engagement deficiencies, results in a value of 1 while the absence of the attribute results in a value of 0. Without adequate context to understand further consequences of any item or an ability to extrapolate an item to the remaining client base

of the firm, I chose to weigh each attribute equally.[4] Also, I decide not to separately

identify a specific type of engagement deficiency, e.g., a failure to correctly apply

Generally Accepted Accounting Principles (GAAP) as the qualitative wording in an

inspection report is a result of inspector and accounting firm interaction. For example,

negotiation and clarification occurs between the PCAOB and the accounting firm as

evidenced by firm responses to draft report inspection findings that are not evident in the

final public inspection report (Glover et al. 2009).

I create a data set comprised of the nine binary attributes coded for each small

public practice PCAOB inspection report (hereafter, my base sample data) that I

bootstrap to develop an estimate of the potential distribution for my statistic of interest

relative to the unknown population (Efron 1979, 2003; Efron and Tibshirani 1993). My

statistic of interest is the maximum number of similar inspection report groupings based

on the nine attributes. I generate 1,000 iterations with replacement using my base sample

data while maintaining a consistent domestic to foreign accounting firm ratio.   On the

expanded sample data set, I execute a non-parametric clustering algorithm to group

similar reports. I specify a range of smoothing parameters from 1 to 1,200 within the

non-parametric algorithm that allows irregularly shaped groups to emerge. Ten is the

average value of the maximum number of report groups generated from the bootstrapped

data. The ten groups utilize five of the initial nine variables, detailed in Table 2-1, and

require zero values for the remaining four variables, i.e., no release of quality control

deficiency issue detail, the absence of multiple quality control issues, the absence of any

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[4] DeFond (2010) and Glover et al. (2009) discuss a reader's inability to distinguish the most significant
issues from the issues identified in a PCAOB inspection report.

restatement discussion in the inspection report, and former clients do not comprise the firm's entire public client base. The ten groups, listed in Table 2-1, cover 64% (935/1,471 inspection reports) of the small practice report population.

I group the ten groups into three summary classes creating the ISCORE, a polychotomous variable. The ISCORE classes are clean reports without engagement deficiencies or quality control issues (hereafter, clean reports), quality control issues only reports, and reports with engagement deficiencies and a firm response (hereafter, engagement deficient reports). I leave it to future research to explore the variations within each class as reflected with the initial ten groups.

Table 2-1. ISCORE Groupings and Clusters

ISCORE	INS RPT	NOD	ED	QC	NO RESPONSE	PARTIAL REVIEW
Engagement Deficient	80	1	1	1	0	1
Engagement Deficient	172	0	1	1	0	1
Engagement Deficient	84	0	1	1	0	0
Quality Control Deficient	51	0	0	1	1	1
Quality Control Deficient	60	0	0	1	1	0
Quality Control Deficient	61	0	0	1	0	1
Clean	95	0	0	0	1	1
Clean	112	0	0	0	1	0
Clean	162	0	0	0	0	1
Clean	58	0	0	0	0	0
Other	536	1 or 0	1 or 0	1 or 0	1 or 0	1 or 0
Total	1,471					

Notes: ISCORE reflects the summary category for classification. INS RPT is the number of inspection reports that have the required attributes. NOD is 1 if the inspection report details more than two engagement deficiencies, 0 otherwise; ED is 1 if engagement deficiencies exist, 0 otherwise; QC is 1 if a negative quality control assessment exists, 0 otherwise; NO RESPONSE is 1 if the firm failed to provide public comments concerning the inspection, 0 otherwise; and, PARTIAL REVIEW is 1 if the inspectors elected not to review at least the same number of client engagement files as the firm currently has issuer clients, 0 otherwise.

I focus on the three summary ISCORE classes as I cannot rank the firms' inspection outcomes from best to worst. It is unclear if an engagement deficient report is

better or worse than a report with quality control issues only as those judgments are specific to facts and circumstances. For example, a failure to plan and execute an audit would be viewed more negatively than an issue concerning excessive partner workload. Alternatively, an issue concerning technical competence, due care and professional skepticism is more disconcerting than failure to document testing for related parties, especially if testing was actually performed. However, it is clear that a clean report is a superior outcome to the other two classes, quality control issue only reports and engagement deficient reports. Thus, the ISCORE classes do result in partial ordering of inspection outcomes.

Finally, I analyze the remaining unclassified inspection reports to identify the types of reports comprising this group. The reports containing a restatement item or disclosing quality control issue details are unclassified. Both of these situations reflect additional actions on the part of the PCAOB, of the accounting firm, and of the client, in some cases, beyond the initial inspection period. In addition, the unclassified group includes the firms that have public practices comprised entirely of former clients. These firms would be less likely to continue to improve their public practice audit quality and response positively to the PCAOB's engagement related comments with effective changes. Also, the unclassified group includes the engagement deficient report outcomes for which the firm elected to not disclose any public response. These firms elect to have the PCAOB inspection report frame and explain issues from the inspector's perspective without any input from the firm to influence the reader's interpretation. Finally, the last reports included in the unclassified group are firms with no engagement issues from the inspector's review of an equivalent number of client files as clients but do have quality

control issues with firm practices. I classify this diverse grouping of unclassified reports as other.

In the next section, I discuss validating the general ISCORE classification.

2.2 ISCORE Validation

To validate my classification scheme, ISCORE, I examine the small public practice domestic accounting firms to determine if there is alignment between increased economic resources and a more favorable ISCORE outcome. In her seminal work, DeAngelo (1981) argues larger accounting firms provide higher audit quality because the reputational concerns are greater, notwithstanding that smaller firms may have similar production capabilities. Although she relates the Big N firms to the remaining accounting firms, I reason that larger non-Big N firms provide higher audit quality than the smallest firms. Thus, I propose that as the size of an accounting firm increases, proxied by firm revenues, the firm has economic resources to support quality control for the audit function.

I obtain revenue rankings for the accounting firms in my ISCORE sample, employing the 2010 August and September editions of Inside Public Accounting (IPA), to investigate associations between firm revenues and ISCORE classes.   My sample of inspection reports includes 56 domestic accounting firms with an IPA ranking, reflecting revenues ranging from $14 million to $100 million, and an ISCORE class. I examine the frequency of report classification for association between two categorical variables, i.e., a larger firm with firm revenues above the median of $28 million and a favorable ISCORE

classification outcome of clean report. I document a significant chi square test associating the larger firm and the most favorable ISCORE classification ($\chi^2 = 4.07$; two-tailed $p = 0.044$). Overall, this result supports an association between the most favorable ISCORE classification and higher revenues in agreement with the economic resource argument providing limited validation of the ISCORE schema.

Chapter 3

Implications of Prior Inspections for Current Inspections

I use the ISCORE classification schema developed in Chapter 2 to examine my first question: Do the PCAOB inspectors' current inspection actions vary based on the prior inspection outcome with a given accounting firm?

3.1 Introduction

This study provides insight into the inspection process by examining the actions of the PCAOB inspectors. Models of the interactions among inspectors and inspected entities categorize the relationship as either static (e.g., Brams and Davis 1983; Storey and McCabe 1980) or dynamic (e.g., Friesen 2003; Raymond 1999). In a static relationship, each inspection is an isolated encounter. In contrast, in a dynamic relationship, there is continual interaction and learning among the parties as time unfolds. Consistent with the dynamic view, I find that the PCAOB adjusts the scope of its current inspections based its own earlier inspection results.

The purpose of a PCAOB inspection is to verify that accounting firms that audit American public companies adhere to professional standards requiring the implementation of appropriate quality control processes and procedures to support the audit opinion. For each inspection, the PCAOB inspectors examine a selection of audit engagement work papers for various audit clients for evidence of the execution of the quality control processes. The PCAOB publically discloses factors that influence the selection of client work papers to include: (1) prior inspection results, (2) information

concerning the firm's personnel, (3) client engagement factors especially industry, and (4) recommendations from the Office of Research and Analysis (ORA), a group within the PCAOB (PCAOB 2011, 5). Thus, if prior inspection results influence the inspector's selection of client files to review for the current inspection, a dynamic view characterizes the relationship between the PCAOB and the accounting firm.

However, it is unclear how the various work paper selection factors are weighted in the selection process because the inspectors employ a risk-based methodology. Thus, the inspectors may place little or no emphasis on the prior inspection results factor. Moreover, the passage of time between inspections might result in prior inspection reports being irrelevant to the current inspection. SOX states the maximum length time between inspections for small public practice firms is three years. For a firm with a negative inspection outcome, i.e., a quality control deficient or engagement deficient inspection, the PCAOB interacts with firm personnel subsequent to the end of the prior inspection to monitor the progress on addressing quality control deficiencies. Therefore, the PCAOB has more recent information than the latest inspection upon which to base decisions for the current inspection. In contrast, for a firm that received a clean prior inspection outcome, i.e., the absence of any quality control issues or engagement deficiencies, the PCAOB has no direct interaction with the firm until the planning for the current inspection begins. If the planning information is most relevant to the scope of the current inspection and the prior inspection results are not relevant, the relationship between a small practice firm and the PCAOB would be characterized as static.

To test the impact of prior inspection results on current inspector actions, I use the expansion in the number of clients reviewed for the current inspection from the prior

inspection, my proxy for the inspection scope. I hypothesize that the PCAOB is less likely to expand the scope of the current inspection for firms that had positive prior inspection results as compared to firms with alternative prior inspection results. This hypothesis supports a dynamic relationship where the PCAOB inspectors use information from earlier inspections to determine, in part, how subsequent inspections are executed.

Based on a sample of 204 inspection reports, I find support for a decreased likelihood of scope expansion for the current inspection of a firm with a clean prior inspection outcome as compared to alternative outcomes. For those firms with a clean prior inspection report, the average firm has a 6% decrease in the probability of an expanded scope for the current inspection. The decreased likelihood of an expanded scope for fieldwork for the current inspection is robust to excluding those firms with a single PCAOB client, to including other reporting outcomes, and to specifying an alternative levels model. These results suggest a dynamic relationship among the PCAOB and the small public practice firms.

My results support efforts by the profession to educate the public about the PCAOB inspection process. In October 2012, the Center for Audit Quality (CAQ), a non-profit entity affiliated with the AICPA, published a text about PCAOB Inspections. Although the CAQ could have internally released the document to its membership, public accounting firms, the CAQ released the document to the public. This action reflects the desire to educate the investing public about PCAOB inspections.

The investing public and public accounting firms should be interested in my results. For the public investor, my results indicate that prior inspection results are associated with the future deployment of PCAOB inspectors and resources. Therefore,

my results highlight the importance of the prior PCAOB inspection outcome when evaluating a particular firm's current inspection report. For public accounting firms, the PCAOB adjusts its current inspection scope based on prior inspection results. The PCAOB's public statements about inspection criteria are consistent with PCAOB inspector actions.

To understand the inspectors' actions, this chapter proceeds with the background, describing the phases of a PCAOB inspection, the hypothesis development, the methodology, and the sample description. The results and conclusion complete the chapter. Next, I discuss the phases of a PCAOB inspection.

3.2 Background and Hypothesis Development

3.2.1 Background

A PCAOB inspection has three phases: (1) planning, (2) fieldwork, and (3) reporting (CAQ 2012). During planning, the PCAOB inspector selects the public client files from an accounting firm's client base to review. S/he uses a risk-based methodology, an individual inspector using professional judgment to select files to review, as opposed to statistical sampling methodology. During fieldwork, the inspectors sample the work papers of these clients to determine the existence of any engagement deficiencies or evidence of the failure to apply the firm's quality control procedures. The PACOB allows firms to design and scale their quality control processes and procedures to the practice size (PCAOB 2007a, 8). Finally, the reporting phase

completes an inspection and allows the firm an opportunity to respond to the draft
inspection report.

The inspectors can adjust the amount of time spent on a particular inspection.
SOX requires inspections to occur within a three-year timeframe. As such, the inspectors
must ensure adequate coverage of the universe of accounting firms subject to the
PCAOB's jurisdiction within each inspection year. Within these time limitations,
inspectors must choose the clients and work papers reviewed carefully to be able to draw
appropriate conclusions. Thus, the number of client files reviewed is a measure of the
inspector's scope for a particular inspection.[5]

Next, I combine the PCAOB inspection process with theory to derive my
hypothesis.

3.2.2 Hypothesis Development

Originating with Becker (1968), the literature of the economics of crime and
punishment form the basis for modeling the interactions among regulators and inspected
entities. Theorists draw inspiration from a multitude of settings to abstract elements of
the interaction.[6] One branch of modeling uses a repeated-game premise to examine the

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[5] I choose to use the number of clients reviewed as my base measure because it is derived during planning
and is subjected to limited subsequent adjustment during fieldwork. The main results remain qualitatively
similar to those reported in section 3.5 if I exclude the inspections that expanded the scope by a single
client file, reflective of the most likely influence of fieldwork on the inspection scope. Alternative
measures, e.g., change in fieldwork duration for the current inspection compared to the prior inspection, are
likely to be influenced by contemporaneous events placing pressures on the PCAOB's ability to execute the
current inspection, e.g., a hurricane interrupting fieldwork, than reflective of consideration of prior
inspection outcomes.

[6] The International Atomic Energy Agency, tax inspections, and pollution abatement are examples of
settings that are covered by inspection theoretical models based on the economics of crime (Avenhaus et al.
1998).

actions of the regulator in regard to classifying the inspected entities into groups for different treatments, reflecting learning from prior interactions. For example, Greenberg (1984) generates his theoretical predictions based on the Internal Revenue Service's tax return auditing practices. Greenberg models a three-group scheme in which firms move between groups based on their audit history.

Harrington (1988) adapts Greenberg's model to the environmental regulatory arena. The environmental regulator performs infrequent regulatory inspections and imposes financial penalties on violators. To maximize the environmental compliance for the deployment of inspection resources, the regulator divides the inspected firms into two groups with differing inspection probabilities. The firms with poor inspection results are in the group with the higher inspection probability. If a firm improves with subsequent inspections, then there is a positive probability that the firm will move to the group with the lower inspection frequency. The model indicates that regulators consult prior inspection results to be more efficient in their current inspections instead of treating each inspection as an independent event. The central premise is that the dynamic interaction between the regulator and the firm involves both entities in a process of learning and reacting to each other over time.

Cason and Gangadharan (2006) conduct an experiment to test Harrington's predictions about the ways firms move between two groups with differential audit probabilities. The participants choose whether to comply in the current period while the experimenters manipulate the probability of being switched between the high and low inspection frequency groups if the participants' compliance is audited during that period. The experimental results do not directly align with predictions from Harrington's model

of changes between groups.   But, the authors' results do support an association between firm's compliance decisions and varying the ability of firms to switch between different inspection groupings based on interaction with the regulator.

However, Heyes (2000) discusses interactions among the same regulators and firms within a static context. This context treats every interaction between the parties as individual events and does not classify firms into any particular groupings ex-ante. For example, Harford (1991) extends Harrington's model by incorporating an element of uncertainty with the inspector's ability to correctly interpret a firm's compliance with standards. In addition, Harford modifies two assumptions from Harrington's model regarding the regulator's ability to modify standards and a differential compliance cost structure for firms. With these conditions, he concludes an identical inspection regime for all firms is the optimal enforcement strategy.   Thus, Harford's model utilizes the same environmental regulator and inspected firms but supports a static relationship.

As the environmental regulator can vary the audit probability and the PCAOB inspector cannot modify the audit probability due to SOX requirements, I instead model the scope of the inspection as this can be varied by the PCAOB inspector. The PCAOB may treat each small public practice inspection as unique and base the scope of the inspection on current information obtained during the planning phase. This would make the prior inspection results irrelevant and support a static relationship among inspector and inspected firms. However, if the PCAOB inspectors factor prior inspection outcomes into the execution of the current inspection, then a dynamic relationship is supported. Thus, I formally state my hypotheses, in the alternative, as:

H1: An accounting firm with a clean prior inspection report is less likely to have the PCAOB inspectors expand the number of client files reviewed during the fieldwork phase for the current inspection as compared to the prior inspection.

Next, I describe my methodology for examining this hypothesis.

3.3 Methodology

I model the probability of an expansion of the scope of the current inspection, represented by an increase in the number of clients reviewed in the fieldwork phase relative to the prior inspections, as a logistic regression. For firm i at the end of the current inspection's fieldwork phase, time $t+1$, the beginning of current inspection's fieldwork, time t, and time prior to the current inspection, time $t-1$:

$$logistic\ (ICR_{i,t+1}=1) = \beta_0 + \beta_1 PRIORCLEAN_{i,t-1} + \beta_2 CHGPARTNER_{i,t} + \beta_3 CHGCLIENT_{i,t}$$
$$+ \beta_4 GC_{i,t-1} + \beta_5 SMALLACC_{i,t-1} + \beta_6 RISK_{i,t-1},\ (1)$$

where,

ICR is 1 if there is an increase in the number of client files reviewed in the fieldwork phase of the current inspection as compared to the prior inspection, 0 otherwise;

PRIORCLEAN is 1 if the prior inspection resulted in a clean inspection report, 0 otherwise;

CHGPARTNER is the change in the number of partners between the current and prior inspection;

CHGCLIENT is the change in the number of clients between the current and prior
inspection;

GC is the number of going concern opinions issued by the firm during the 12 months
prior to the start of fieldwork for the current inspection;

SMALLACC is the number of small accelerated filer opinions issued by the firm during
the 12 months prior to the start of fieldwork for the current inspection; and,

RISK is the number of audit opinions issued by the firm during the 12 months prior to the
start of fieldwork for clients in the financial services or information technology
industries.[7]

     I use the expansion of the scope of the inspection as my dependent variable.
Under H1, I expect the coefficient β_1 to be negative and statistically significant, reflecting
a decrease in the likelihood of an expansion of the number of client files inspected for the
current inspection relative to the prior inspection for a firm that received a clean prior
inspection outcome. These results would be consistent with a dynamic learning
environment. Alternative results reflecting a lack of statistical significance would be
consistent with a static environment where the prior inspection outcome is not relevant to
the current inspection or a lack of power to capture the impact of the prior inspection
outcome on current inspector actions.

     The control variables capture accounting firm and audit client risk factors. To
control for the impact of the change in the size of the audit practice, I use change in the

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[7] I elect to not utilize percentage changes because this could obscure the criteria that the PCAOB
inspector's use to select audit work papers to review. For example, two firms could increase their relative
partnership size by 50%, i.e., grow from 2 to 3 partners or from 10 to 15 partners; however, the PCAOB
inspector has a greater number of firm personnel to assess with the second firm that grew by five partners
than the comparative firm.

number of partners (CHGPARTNER) and clients (CHGCLIENT). As the PCAOB inspectors selectively choose the audit files of certain clients with specific audit team staffing, partner growth allows for a greater likelihood of increasing the scope of the inspection to cover new staffing combinations. With client growth, the PCAOB inspectors can choose from a greater number of client files and have a greater likelihood of increasing the scope of their inspection. Thus, I expect a positive and significant relationship for these control variables.

Finally, as the PCAOB's inspection process is risk based, I control for three audit client risk factors. First, if the accounting firm has more financially distressed clients, represented by going concern opinions (GC), the firm's future revenue stream could be uncertain. With the higher uncertainty for revenue sustainability, a firm might choose to deploy resources elsewhere. Thus, PCAOB inspectors could increase the scope of the inspection to ensure that the firm is adhering to professional standards with these clients. Next, for a small public practice, each small accelerated client (SMALLACC), with public float between $75 and $700 million, epitomizes the investors relying on the accounting firm to perform an audit according to standards. Thus, these public clients are the high-profile clients for the firm. Thus, the more small accelerated clients a firm has, the greater the likelihood that the PCAOB will increase the scope of its inspection to ensure the investors are served. Finally, the risky clients (RISK) in financial services or information technology industries are more likely to expose the accounting firm to risk areas that the PCAOB has identified as areas of emphasis in its inspections (Carmichael 2003). For example, Carmichael identifies fair value accounting as a key area for inspections and financial services clients are likely to have assets on the balance sheet

subject to fair value accounting.   Therefore, clients in these industries increase the overall likelihood of review by the PCAOB. As these three variables increase, I expect the PCAOB to spend additional efforts to review additional clients resulting in positive coefficients estimates.

Next, I describe the sample data on which I run the regression.

3.4 Sample Selection

I collect the PCAOB inspection reports for small practice firms from the PCAOB's website. To be included in my sample, I begin with 1,471 reports with fieldwork starting between January 1, 2004 and December 31, 2010.[8]   I require the PCAOB inspection relate to a period of time where the PCAOB auditing standards are not significantly fluctuating. Thus, I use the cutoff of December 31, 2010, because eight new PCAOB standards became effective for fiscal years ending after December 15, 2010.

Next, I match the individual inspection report data to firm registration numbers, obtained from the PCAOB's registration and reporting division, which reduces my sample to 1,356 reports. The registration numbers assist in the identification of subsequent inspections for the same firm and allow for merging with the Audit Analytics data.   Then, I require a firm have multiple inspections to generate change variables between inspections. Finally, I restrict my sample to 204 second-round inspection reports that contain all required data elements from Audit Analytics and ISCORE, as defined in

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[8] I use April 2012 as my cutoff point for inspection report issuance as the majority of small public practice reports processed through the PCAOB backlog initiative are issued by the end of the first quarter 2012 (PCAOB 2012b).

Chapter 2.[9] Requiring an ISCORE variable as a measure of the prior inspection outcome reduces the sample size. However, this does ensure that other factors, e.g, a firm's decision to suspend public practice audits and PCAOB inspectors reviewing former client audit files, is not confounding the results.

3.2.1 Dependent Variable Measurement

While there is no indication of the degree of review of each file, the greater the number of client files reviewed does indicate an expansion in the scope of the review, all else held constant. The more expansive review of audit work papers provides an investor with assurance that the inspectors have a broad view of firm operations.

The PCAOB inspection reports disclose the actual number of client files reviewed during the inspection not the number determined during planning. Inspectors can decide to change the number of clients reviewed from the planning stage by requesting additional client files on site based on new information. However, inspection reports do state when a certain engagement deficiency is applicable to more than one client. Because the majority of inspection reports fail to state multiple engagements for each issue, I assume that the inspectors use a single instance of an issue to draft an engagement deficiency. Thus, I assume the number of files reviewed is more reflective of the original

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[9] I restrict the sample to second-round reports because the data requirements restrict the inclusion of third-round reports. For example, I only have 3 third-round inspection reports where the firm has a clean reporting outcome, as measured by ISCORE, for the two earlier inspection rounds.

number determined in the planning stage than due to expansion of the scope with the

current inspection results.[10]

I use each firm as a control for itself by taking the change in the number of issuer

clients reviewed between the current and prior inspection.   My dependent variable

captures the expansion of the scope of an inspection as I assign a value of 1 to those

inspections that had an increase in number of clients reviewed or 0 otherwise.   This

variable aligns with a non-linear interpretation of the expansion of the scope of an

inspection. Table 3-1 summarizes the descriptive statistics for the variables used in this

study including the dependent variable, ICR, increase in clients reviewed.

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[10] I run the regression including a control for the current inspection outcome and the results remain qualitatively similar.

Table 3-1. Descriptive Statistics for the 204 Inspection Reports in the Sample.

	Mean	S.D.	Min	Max
ICR	0.19	0.39	0	1
PRIORCLEAN	0.41	0.49	0	1
RISK	1.59	3.72	0	28
CHGCLIENT	2.79	8.98	-18	73
CHGPARTNER	2.92	9.22	-20	59
GC	23.00	50.63	0	459
SMALLACC	36.30	56.04	0	372

This table details the descriptive statistics for the inspection reports in the sample. The variables are defined as follows: ICR is a binary variable equaling 1 if there is an increase in the number of clients reviewed between the current and prior inspection. PRIORCLEAN is a binary variable equaling 1 if the prior inspection outcome reflected neither engagement deficiencies nor quality control concerns. CHGPARTNER is the change in number of partners reported between the current and prior inspection. CHGCLIENT is the change in number of clients reported between the current and prior inspection. GC is the number of going concern opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning. SMALLACC is the number of small accelerated client opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning. RISK is the number of financial services and information technology opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning.

I report the correlations among the variables in Table 3-2. The dependent variable has no statistically significant correlation with prior inspection results. The positive growth in clients is statistically significantly positively correlated with small accelerated clients and risk industries. Thus, the control variables capture changes in the profile of a firm's audit clientele. Next, I present the main regression results.

Table 3-2. Correlation Coefficients for Increase in Clients Reviewed Regression Using 204 Inspection Reports.

	ICR	PRIORCLEAN	CHGCLIENT	CHGPARTNER	GC	SMALLACC
PRIORCLEAN	-0.11					
CHGCLIENT	**0.25**	-0.12				
CHGPARTNER	0.01	-0.03	**0.30**			
GC	0.08	**-0.22**	**0.41**	0.06		
SMALLACC	**0.16**	**-0.21**	**0.43**	**0.27**	**0.86**	
RISK	**0.16**	**-0.16**	**0.32**	**0.14**	**0.69**	**0.67**

Correlations are bolded if significant at the 5% level (two-tailed) or better. This table reflects the correlations for the variables used to examine the probability of an increase in the number of clients reviewed during fieldwork as compared to the prior inspection. The variables are defined in the caption to Table 3-1.

3.5 Results

In Table 3-3, I report the results of estimating the logistic regression using Equation (1) where the dependent variable is an indicator for whether the PCAOB increased the scope of the current inspection. I find support for my hypothesis, H1, with a negative coefficient ($\beta_1 = -0.517$; one–tailed $p = 0.012$) significant at the 5% level. The results reflect that the odds for a firm that received a clean prior inspection outcome are 40% lower than the odds of a firm that received an alternative prior inspection outcome of the PCAOB inspectors expanding the scope of the current inspection. For the average firm, this translates into a 6% decrease in the probability of an expansion in the number of clients reviewed on the current inspection if the firm received a clean prior inspection report.[11]

For the control variables, the majority of control variables are statistically significant in the direction predicted. The change in the coefficient on the number of issuer clients ($\beta_3 = 0.084$; one–tailed $p = 0.000$) reflected a size factor that is statistically significant at the 1% level. Size, as measured by the change in the number of partners ($\beta_2 = -0.049$; one–tailed $p = 1.000$), is not statistically significant in the direction predicted. When selecting the client work papers to review, the personnel aspect of work paper preparation does not increase the likelihood of selection. Also, for client portfolio characteristics, the small accelerated clients ($\beta_5 = 0.014$; one–tailed $p = 0.010$) and the risky industry ($\beta_6 = 0.126$; one–tailed $p = 0.001$) variables are

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[11] Due to the non-linear nature of a logistic regression, I calculate the marginal effects for the probability of an increase in the number of clients reviewed with a prior clean inspection at the average values for the control variables based on the sample.

statistically significant at the 1% level in the direction predicted. The going concern

variable is not statistically significant in the direction predicted. Prior research uses an

accounting firm's willingness to issue a going concern opinion as a proxy for auditor

independence and equates the proxy with higher audit quality, everything else held

constant, e.g., DeFond et al. (2002). Thus, a going concern engagement could heighten

the sense of professional responsibility resulting in higher quality audits and reducing the

PCAOB's interest in selecting the engagement for review.

Table 3-3. Logistic Regression for an Increase in Number of Clients Reviewed from the Prior Inspection.

$Pr(ICR_{i,t+1})=\beta_0+\beta_1 PRIORCLEAN_{i,t-1}+\beta_2 CHGPARTNER_{i,t}+\beta_3 CHGCLIENT_{i,t}+\beta_4 GC_{i,t-1}$
$+\beta_5 SMALLACC_{i,t-1} +\beta_6 RISK_{i,t-1}+\varepsilon_{i,t}$

Variables	Predicted Sign	Coefficient Estimate		z-statistic	ρ–values[a]
Constant	?	-1.697		-4.29	0.000
PRIORCLEAN	−	-0.517	††	-2.27	0.012
CHGPARTNER	+	-0.049		-10.69	1.000
CHGCLIENT	+	0.084	†††	3.90	0.000
GC	+	-0.022		-5.04	1.000
SMALLACC	+	0.014	†††	2.34	0.010
RISK	+	0.126	†††	3.19	0.001
$\chi 2$		21.48			
Log-likelihood		-87.34			
N		204			

†, ††, ††† Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using one-tailed test.

*, **, *** Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using two-tailed test.
[a]ρ–values are calculated using clustered standard errors by year fieldwork begins.

This table presents a logistic regression of a positive change in the number of clients reviewed from the prior inspection. The variables are defined in the caption to Table 3-1.

Overall, the results support a dynamic relationship among inspectors and firms, which includes utilizing past inspection outcomes. To test the robustness of these results to alternative factors, I explore several sensitivity tests.

3.6 Sensitivity Tests

To establish the robustness of my results, I validate the results using alternative specifications. First, the inspectors can only increase the scope of the review if there is more than one issuer client in the portfolio. As such, I restrict the sample to those inspections where the firm has more than one issuer client. In untabulated results, I find the coefficients remain quantitatively similar.

An alternative explanation for a change in an inspection's scope would be the existence of a formal quality control (QC) function within the firm. A person assigned to interact as a QC person with the PCAOB highlights the formalization of the QC function within the firm structure. Huddart and Liang (2005) argue for different quality assurance functions in various sized partnerships. In a small partnership, each partner can generate revenue and also oversee other partners' work to minimize the risk of a partner producing inferior quality work. However, in a large partnership, the partners are served better if the quality assurance function is assigned as a separate task to a few individuals while the remaining partners concentrate on generating revenue (Huddart and Liang 2005). To examine the possibility that the quality control function substitutes for prior firm performance as a determinant of the scope of the current inspection, I obtain the data for

the QC person from the title of the individual signing the firm's response letter for the inspection.[12] I create a binary variable to represent the existence of a QC person within the firm hierarchy and include this control in the regression. The results (not tabulated) reflect a statistically significant positive coefficient on the QC variable and the coefficient of interest on the prior inspection variable remains qualitatively similar to the main regression.

Finally, while I use a change variable as the dependent variable in my main analysis, I derive and test a Poisson regression using the number of clients reviewed as my dependent variable. For any change variable in Equation (1), I use the level specification, i.e., change in issuer clients becomes the number of issuer clients for the current inspection, and I add a control variable for the number of clients reviewed during the prior inspection. The untabulated results show that a prior clean report outcome decreases the expected number of clients reviewed by 16.8%, holding all else constant. Thus, these regression results are consistent with my main results reported in Table 3-3.

3.7 Conclusion

The PCAOB publically states that prior inspection results are factored into their planning for the next inspection. Despite a three-year time span between inspections, I find evidence of a lower likelihood of an expansion in scope of the subsequent inspection with a clean prior inspection outcome.

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[12] I identify the firms that have personnel with quality control or risk management in his/her title.

My results should be of interest to the investing public and accounting firms. For the public, my results indicate that prior inspection results are associated with the future deployment of PCAOB inspector resources. Therefore, investors should consider the importance of assessing a trend of PCAOB inspection performance. For public accounting firms, the PCAOB adjusts its current inspection scope based on prior inspection results. The results validate the PCAOB's public statements about inspection criteria and indicate consequences from prior inspection outcomes. However, future research can examine if prior inspection results become less relevant as the interaction pattern among all firms and the PCAOB changed in 2010 as annual reporting began (PCAOB 2010b). With the exchange of current information, the impact of prior interactions may be subsumed by more timely, current information.

Chapter 4

Consequences of a Home Country Regulator on PCAOB Inspection Reports

After establishing prior inspections have consequences for the subsequent inspection, I focus on the initial PCAOB inspections of firms located abroad. These inspection reports provide a unique opportunity to examine the impact of the home country regulatory environment as I address the question: Does the home country regulatory environment have consequences for the PCAOB inspection reports on foreign accounting firms?

4.1 Introduction

I examine the PCAOB inspection reports for accounting firms based in countries outside the US (hereafter, foreign firms) to determine whether the home country regulatory regime has consequences for PCAOB inspection outcomes. Providing that the foreign firm performs audit work connected to a US-listed client as a primary or secondary auditor, the PCAOB inspection process for foreign firms is identical to that for domestic accounting firms with a similar number of public clients.[13] The PCAOB inspection reports provide data on the quality control processes of foreign firms performing work that ultimately support the audit opinions of US-listed clients.

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[13] Almost all foreign-based accounting firms are inspected every three years. But, there is one instance of a Canadian firm being included in the annual inspection cycle for one year. I exclude this inspection report from my study because the format of the PCAOB inspection report for firms inspected annually differs from that of firms inspected triennially.

I study the impact of different regulatory environments on the PCAOB inspection outcomes. Some countries have a home country regulator similar in mandate and execution style to the PCAOB, e.g., the Canadian Public Accountability Board (CPAB). For these countries, in the future, the PCAOB plans to rely on the home country inspector's work to reduce the PCAOB inspection efforts (PCAOB 2010a). Alternately, foreign firms may be located in jurisdictions that do not have a home country regulator overseeing accounting firms or that execute inspections in a different manner to the PCAOB.[14] For example, in Japan, the Certified Public Accountants and Auditing Oversight Board within the Financial Services Agency reviews the quality control work executed by the Japanese Institute of Certified Public Accountants to determine if further action is needed.

Carcello et al. (2011) establish the importance of the PCAOB's ability to execute inspections in foreign countries. The researchers associate the inability of the PCAOB to perform inspections with a significant negative stock market reaction for the audit clients of the foreign accounting firms. While the perceived importance of the PCAOB's international inspection program is established, I extend the research by examining the consequences of home country environments on the executed PCAOB's inspections.

I use the home country regulatory regimes to contrast those most similar to the PCAOB (hereafter, PCAOB-like regimes) to alternative regulatory regimes to examine the impact of the regulatory environment on PCAOB inspection outcomes. To be

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[14] The PCAOB mandate requires inspections of foreign firms performing auditing work on US-listed clients on a set schedule. Thus, the PCAOB cannot choose to perform inspections in certain countries at the expense of firms located elsewhere. However, foreign governments/regulators can limit the PCAOB's ability to perform inspections, most frequently citing confidentiality and sovereignty concerns (PCAOB 2009).

PCAOB-like, I identify the home country regulators that belong to the same organization as the PCAOB, the International Forum of Independent Audit Regulators (IFIAR), and execute direct inspections of accounting firms. I test the theoretical prediction that two similar but not identical regulators should result in more effort expended by the firm as evidenced by a positive PCAOB inspection outcome. Thus, I posit that firms with a PCAOB-like home country regulator are more likely to have a clean PCAOB inspection report outcome than firms domiciled under alternative regulatory regimes.

I analyze 70 PCAOB inspection reports with fieldwork performed between January 1, 2004 and December 31, 2010 to empirically test my hypothesis. I find that a PCAOB-like home country regime results in an increase in the likelihood of a clean PCAOB inspection report as compared to an engagement deficiency report outcome. However, the existence of a PCAOB-like home country regime does not impact the likelihood of a clean PCAOB inspection report as compared to a quality control deficiencies report outcome. For the average firm, the existence of a PCAOB-like regulator decreases the probability by 21% of receiving an engagement deficient over a clean inspection report. These results are robust to alternative specifications of country environments and inspection variables.

My study contributes to the literature in two ways. First, I find evidence consistent with a home country regulatory environment influencing a foreign firm's performance on PCAOB inspections. For investors, additional attention must be paid to the home country regulatory environment beyond the ability of the PCAOB to perform inspections. Secondly, the PCAOB has the identical standards for every country in my sample. Yet, the analysis reveals differences in the compliance with the standards across

countries. For international auditing standard setters, my results highlight the importance

of an enforcement function for monitoring compliance across jurisdictions and the

challenges to consistent implementation of a single standard.

The remainder of the chapter is presented as follows. Section 4.2 discusses the

background and hypothesis development. In Section 4.3, I describe the methodology

used to test the hypothesis. In Section 4.4, I detail the data sources for the sample and

present univariate statistics.   The main results are summarized in Section 4.5. Section

4.6 provides sensitivity tests while Section 4.7 concludes.

4.2 Background and Hypothesis Development

4.2.1 Background

Although each country has a unique business and cultural environment in which

auditors operate, the PCAOB enforces the identical PCAOB auditing standards for all

small practice firms. The PCAOB inspection process is the same irrespective of the

country where the inspection occurs. In addition, SOX requires periodic inspections

reducing the risk of selecting particular firms in particular countries for more frequent

inspections by the PCAOB.

While the PCAOB inspection process and standards are identical for firms in

different countries, the home country regulatory environment may not be similar.

Academic research draws on information from international organizations to capture the

regulatory environment of foreign countries. Bronson et al. (2012) use information from

a survey administered by the International Federation of Accountants to develop a proxy

for the auditor regulatory atmosphere for 33 countries. According to these researchers,

the ability of the home country auditing oversight body to perform inspections of auditing

firms is a key contributing factor to the robustness of the regulatory environment.   Thus,

I choose an organization that allows regulators to interact, granting a forum to discuss

challenges in performing inspections of auditing firms, as a proxy for classifying the

home country regulatory regime.

For regulatory personnel, the International Forum of Independent Audit

Regulators (IFIAR) is an international organization with the stated mission of sharing

information among regulators and agreeing on best practices for inspections (IFIAR

2011a). Founded in 2006, IFIAR held its first meeting in March 2007 with 22 nations

participating (IFIAR 2007). The PCAOB was not a founding member but did attend the

first meeting. Currently, the PCAOB participates in all aspects of IFIAR, with a PCAOB

board member serving as the vice chairman of the organization and another PCAOB

board member leading a working group. As of September 2011, IFIAR has 41 member

countries (IFIAR 2011b). Thus, this is an active forum for PCAOB and other regulatory

body interaction besides when the PCAOB actively inspects firms within the respective

home country regulator's jurisdiction, subjecting a firm to multiple regulators.

4.2.1 Hypothesis Development

Theory models the impact of multiple regulators on the relationship of the firm to

the regulators. Laffont and Pouyet (2004) examine a firm's ability to extract rents from

the regulator(s) under a single- or multiple- regulator regime.   In their model, the firm

has an informational advantage over the regulators.   If the firm has to perform separate

activities to satisfy each regulator and those activities cannot be interchanged between

regulators, then a single regulator creates the maximum benefit for the firm. However, if

the activities performed for each regulator are completely interchangeable, multiple

regulators maximize the benefit for the firm. Elsewhere along the continuum from

completely separate to completely interchangeable, each regulator will extract additional

effort from the firm to ensure that the firm is paying adequate attention to activities for

that regulator and not the other one. The authors term this a "competition effect"

(Laffont and Pouyet 2004, 257) between regulators and model the effect as stronger when

activities are closer to interchangeable, as opposed to distinct, for each regulator.[15]

Translating the theory to PCAOB inspections, I expect the "competition effect" for

foreign firms with a PCAOB-like regulator to result in improved PCAOB inspection

results as compared to foreign firms without such a home-country regulator.

Alternatively, regardless of the similarity between regulators, the foreign firm

could devote its resources and efforts to ensuring compliance with the home country

regulator and pay less attention to satisfying the PCAOB. If the foreign firm fails to

satisfy the home country regulator, the investors in the home country could penalize the

foreign firm's home country audit clients. This could have a negative effect on the

foreign firm's reputation.   Prior research has documented a significant negative US

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[15] Crew and Kleindorfer (2002) provide a critique of two assumptions underlying the general theory used in the Laffont and Pouyet (2004) paper. The two assumptions are the regulatory concession of an informational benefit to the firm and the common knowledge assumption among all parties. However, the researchers critique the theory based on efficiency goals for regulators, whereas I consider the effectiveness of the regulators. Thus, the critique is not critical to the development of my hypotheses.

market reaction for accounting firm clients to the release of a negative PCAOB

inspection report within the US (Offermans and Peek 2011). Especially as foreign firms

have few US clients, the relative importance of their domestic client base could mean that

foreign firms place more emphasis on the report of the home country inspection than on

the PCAOB inspection report.[16] Thus, I state my first hypothesis, in the alternative, as:

H2: Compared with foreign firms located in a country without a PCAOB-like

regulator, foreign firms located in a country under a PCAOB-like home country regime

are more likely to receive clean PCAOB inspection reports.

Next, I propose the model I use to test my hypothesis.

4.3 Methodology

I model each of the negative report outcomes, a classified by the ISCORE

outlined in Chapter 2, compared to the most favorable report outcome, clean, to

determine the impact of a PCAOB-like home country regulator as a multinomial logistic

regression. For firm i , located in country c, at time $t-1$, prior to the beginning of

inspection fieldwork, time t, the beginning of inspection fieldwork, and, time $t+1$, when

the inspection report is publically released compared to the remainder of firms, j, with

clean inspection reports:

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[16] I do not have data on overall firm revenues; however, I calculate the ratio for the total number of clients (number of issuer clients and work on issuer clients for which the accounting firm is not the principal auditor) to the total number of client service personnel i.e., partners and staff, disclosed in the inspection report. The results indicate that as the ratio is consistently less than1, other clients must drive the firm's activity.

$$logistic(ISCORE = QC_{i,t+1}|ISCORE = CLEAN_j)$$

$$= \beta_0 + \beta_1 PCAOBLIKE_{i,t} + \beta_2 PARTNER_{i,t}$$

$$+\beta_3 CLIENT_{i,t} + \beta_4 CORRUPTIONIND_{c,t-1}, \text{and (2)}$$

$$logistic(ISCORE = ENG_{i,t+1}|ISCORE = CLEAN_j)$$

$$= \beta_0 + \beta_1 PCAOBLIKE_{i,t} + \beta_2 PARTNER_{i,t}$$

$$+\beta_3 CLIENT_{i,t} + \beta_4 CORRUPTIONIND_{c,t-1}, (3)$$

where,

$ISCORE$ is the summary classification variable based on the public version of the

inspection report, where CLEAN reflects a clean report, QC reflects a report with only

quality control issues and ENG reflects a report with engagement deficiencies, as

described in Chapter 2;

$PCAOBLIKE$ is 1 if the home country regulator is a member of IFIAR and provides

direct oversight of the home country accounting firms, 0 otherwise;

$PARTNER$ is the number of partners of the accounting firm;

$CLIENT$ is the number of PCAOB clients of the accounting firm; and,

$CORRUPTIONIND$ is a country variable ranging from -2.5 to 2.5, where a higher value

is indicative of a less corrupt environment, obtained from The World Bank's Worldwide

Governance Indicators website.[17]

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[17] For the purposes of my models, all the variables are measured at the time of the beginning of fieldwork or earlier excluding the final report score. Thus, even if firm circumstances change between the end of fieldwork and the issuance of the report, the inspection is still a valid observation for my analyses. To ensure that my results are not sensitive to this assumption, I run a sensitivity test related to the subsequent registration status of the accounting firm.

To test H2, I expect a significant negative coefficient, β_1, on $PCAOBLIKE$, my binary variable representing PCAOB-like regimes. I model PCAOB-like regimes as the regulators that participate in similar organization to the PCAOB, specifically IFIAR, and perform direct oversight of firms within their jurisdiction. A statistically significant, negative coefficient would support the hypothesis that PCAOB-like home-country regimes result in improved outcomes from PCAOB inspections for foreign firms.

I control for practice, inspection and country characteristics with the following variables: $PARTNER$, $CLIENT$S and $CORRUPTIONIND$. The $PARTNER$ variable is the number of partners disclosed in the inspection report at the beginning of fieldwork for the particular inspection. I use the number of partners to control for the size of the US-listed client practice. As the number of people involved in auditing US clients increases, the firm must spend incrementally additional resources on training to ensure consistent documentation and application of procedures for all potential partner/manager combinations. The more people involved in auditing US clients increases the economic and reputational incentives to invest in the US audit practice.

The $CLIENT$ variable is the number of US clients disclosed in the inspection report at the beginning of fieldwork for the particular inspection. I use the number of US clients to proxy for the economic incentives for the firm to invest in the US client practice. I expect this variable to proxy for size and move in a similar direction as the $PARTNER$ variable.

Finally, the last control variable is $CORRUPTIONIND$. I use this variable to control for the home country's perceived propensity to corrupt the home country regulator resulting in a less effective entity for protecting the investing public. If the home country

regulatory environment is very corrupt, then it is less likely that the home country regulator is an effective monitor comparable to the PCAOB. In this scenario, the home country regulator is viewed as executing its responsibilities for the benefit of a few and not the benefit of the public interest. In summary, I expect a negative and significant relationship for these three control variables.

I run these regressions on the sample of PCAOB inspection reports as detailed in the next section.

4.4 Sample

I collect the PCAOB inspection reports for small practice firms from the PCAOB's website. As of April, 2012, I begin with 1,471 reports with fieldwork starting between January 1, 2004 and December 31, 2010. I require the PCAOB inspection relate to a period of time where the standards are not significantly fluctuating. Thus, I use the cutoff of December 31, 2010, because eight new PCAOB standards became effective for fiscal years ending after December 15, 2010.

Next, I match the individual inspection report data with firm registration numbers, obtained from the PCAOB's registration and reporting division, which reduces my sample to 1,356 reports. [18] The registration numbers assist in the identification of subsequent inspections for the same firm. Then, I parse the sample into foreign and domestic firms. For the foreign firms, I restrict my final sample to 70 initial inspection

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[18] An individual firm could have different names due to partner turnover, mergers or acquisitions. However, as the main identifiers are firm name and location, the results are sensitive to firm headquarter changes and text variations in firm names as published on the inspection report.

reports that contain all required data elements. Any second- or third-round inspection would include the firm learning about the PCAOB inspection process and dilute the impact of the home country regulatory environment.

For the remaining variables, my data sources are the IFIAR and The World Bank websites. I gather the IFIAR press releases to reconstruct membership and meeting attendance patterns for each country regulator. Also, I use each regulator's member profile to document the type of oversight the regulator provides (i.e., direct or indirect). Combining these two attributes, I determine the appropriate classification of a home country regime as PCAOB-like. Finally, I access The World Bank's Worldwide Governance Indicators website for the corruption scores of the countries in my sample.[19]

My final sample covers 28 countries. Table 4-1 lists the countries included in the sample.

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[19] The World Bank corporate corruption index is available for 2004 and 2010. I utilize the 2004 data as this data would have been available prior to fieldwork beginning for the inspections.

Table 4-1. Countries Represented in the Sample.

COUNTRY	INSPECTIONS
Argentina	4
Australia	3
Bermuda	3
Brazil	2
Canada	14
Chile	2
Hong Kong (China)	2
Colombia	1
Greece	1
India	5
Indonesia	1
Ireland	1
Israel	4
Japan	1
South Korea	3
Mexico	3
New Zealand	1
Norway	1
Papua New Guinea	1
Peru	1
Philippines	1
Puerto Rico	1
Russia	3
Singapore	2
South Africa	2
Taiwan	2
Thailand	1
United Kingdom	4
Total	70

Note: Bolded countries are classified as PCAOB-like regimes.

Table 4-2 summarizes the descriptive statistics for the variables in the sample.

While there are a substantial number of partners reported for the practices, the majority of

firms have few actual PCAOB clients. Thus, the small number of clients potentially

allows for a manual quality control environment for each audit engagement. Therefore,

this is a potential explanation for the most frequent inspection outcome, CLEAN.

Table 4-2. Descriptive Statistics for 70 Inspection Reports.

	Mean	S.D.	Min	Max
ENG	0.39	0.49	0	1
QC	0.10	0.30	0	1
CLEAN	0.51	0.50	0	1
PCAOBLIKE	0.47	0.50	0	1
PARTER	93.11	160.58	1	850.0
CLIENT	7.31	12.34	1	87.0
CORRUPTIONIND	0.81	1.07	-1	2.5

 This table details the descriptive statistics for the inspection reports in the
sample. The variables are defined as follows: ENG is 1 if the inspection
report included engagement deficiencies and a firms response, 0 otherwise.
QC is 1 if the inspection report reported quality control issues only and no
engagement deficiencies, 0 otherwise. CLEAN is 1 if the inspection report
failed to report any engagement deficiencies or any quality control issues, 0
otherwise. PCAOBLIKE is a binary variable equaling 1 if the home country
regulator participates in the IFIAR organization and performs direct
inspections. PARTNER is the number of partners in the firm at the
beginning of the inspection fieldwork. CLIENT is the number of public
company clients at the beginning of inspection fieldwork.
CORRUPTIONIND is a value representing the corruption environment for
the country prior to any inspections occurring.

The univariate statistics reflect a statistically significant relationship, in opposite
directions, between the home country regulatory environment and the two negative
inspection report outcomes, QC and ENG. There is a negative correlation between the
existence of a PCAOB-like home country regulatory environment and an engagement
deficient type outcome. Surprisingly, the PCAOB-like regulatory environment is
positively associated with the quality control outcome. Table 4-3 outlines the correlation
coefficients for the inspection report sample.

Table 4-3. Correlation Coefficients for 70 Inspection Reports.

	ENG	QC	CLEAN	PCAOBLIKE	PARTNER	CLIENT
QC	**-0.264**					
CLEAN	**-0.815**	**-0.343**				
PCAOBLIKE	**-0.278**	**0.258**	0.116			
PARTNER	0.079	-0.158	0.018	**0.298**		
CLIENT	0.169	-0.063	-0.127	0.219	**0.544**	
CORRUPTIONIND	**-0.258**	**0.304**	0.069	**0.655**	0.296	0.259

Correlations are bolded if significant at the 5% level (two-tailed) or better. This table reflects the correlation coefficients for the variables used to examine the probability of a particular report outcome based on the home country regulatory environment similarity to the PCAOB. The variables are defined in the caption to Table 4-2.

The results are discussed in the following section.

4.5 Results

In Table 4-4, I report the results of estimating the multinomial regression where the dependent variable is the type of report outcome. I find partial support for H2 as a decrease in the probability of an engagement deficient report outcome is associated with a PCAOB-like regulatory regime. The coefficient on the engagement deficient inspections is negative and significant at the 10% level ($\beta_1 = -0.939$; one–tailed $p = 0.078$). For a firm with the average number of partners, clients, and corruption score, the existence of a PCAOB-like home country regulator is associated with a 21% increase in the probability of having a clean inspection outcome as compared to an engagement deficient outcome. My results fail to support a decrease in the probability of a quality control deficient inspection outcome ($\beta_1 = 0.966$; one–tailed $p = 0.757$) compared to a clean outcome for a PCAOB-like home country regulator.

I find mixed relationships for the control variables depending on the type of negative outcome compared to the clean outcome. The PARTNER variable is statistically significant at the 5% level in the predicted direction reflecting the lower likelihood for a quality control opinion as the firm practice increases in size. The corruption indicator, CORRUPTIONIND, is significant at the 10% level for engagement deficient report versus a clean report in the predicted direction. Thus, the PCAOB-like indicator reflects incremental country effects beyond the country's corruption environment. The remaining control variables for both regressions are not statistically

significant. Because the inspection is very qualitative in nature, the quantitative representation of greater counts for clients and partners fails to capture additional variation between firms. Finally, the small sample size for quality control inspection outcomes contributes to the lack of significance for the country level variables.

Overall, these results provide evidence consistent with the home country regulatory environment impacting the PCAOB inspection outcome. Next, I run sensitivity tests to test the robustness of the results.

Table 4-4. Multinomial Logistic Regression Analysis for PCAOB-Like Entities.

$Pr(QC \text{ or } ENG| CLEAN)=\beta_0+\beta_1 PCAOBLIKE_{i,t-1}+\beta_2 PARTNER_{i,t-1}+\beta_3 CLIENT_{i,t-1}+\beta_4 CORRUPTIONIND_{i,t-1} +\varepsilon_i$

Variables	QC vs. CLEAN				ENG vs. CLEAN			
	Predicted Sign	Coefficient Estimate		z-statistic	ρ–values[a]	Predicted Sign	Coefficient Estimate	z-statistic	ρ–values[a]
Constant	?	-2.639 **		-2.17	0.030	?	-0.102	-0.28	0.777
PCAOBLIKE	–	0.966		0.70	0.757	–	-0.939 †	-1.42	0.078
PARTNER	–	-0.028 ††		-2.10	0.018	–	0.000	0.14	0.558
CLIENT	–	-0.030		-0.33	0.371	–	0.049	1.80	0.964
CORRUPTIONIND	–	1.056		2.58	0.995	–	-0.329 †	-1.57	0.058
χ2	23.84								
Log-likelihood	-53.86								
N	70								

†, ††, ††† Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using one-tailed test.
*, **, *** Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using two-tailed test.
[a]ρ–values are calculated using clustered standard errors by year inspection fieldwork began.
This table presents a multinomial logistic regression of inspection outcome to determine the impact of the home country regulatory environment. Variable Definition: PCAOBLIKE is a binary variable equaling 1 if the home country regulator participates in the IFIAR organization and performs direct inspections. PARTNER is the number of partners in the firm at the beginning of the inspection fieldwork. CLIENT is the number of public company clients at the beginning of inspection fieldwork. CORRUPTIONIND is a value representing the corruption environment for the country prior to any inspections occurring.

4.6 Sensitivity Tests

To test the robustness of the results, I address timing considerations, sample, global networks and country origin alternatives. First, concerns about the reporting lag for PCAOB inspection reports, the time between fieldwork ending and the issuance of the public version of the report, has been a documented concern lessening over time as the PCAOB continues to focus on more timely report issuance (Roybark 2009). Thus, I run the regressions including a reporting period variable, calculating the number of days from the end of fieldwork to report issuance, to control for the variation in reporting timeframes. In untabulated results, the coefficients of interest remain qualitatively similar to the main results.

Also, DeFond and Lennox (2011) conclude that the potential for a negative inspection report can lead to accounting firms subsequently deciding to exit the public accounting market. To address concerns that the results might be driven by the firms deciding to exit the market, I re-estimate the regression including a variable representing those firms that are actively registered with the PCAOB as of May, 2012. I find the results remain qualitatively similar.

Although the formal global network firm inspection program (GNP), covering the foreign affiliates of the six largest accounting firms registered with the PCAOB (Franzel 2012), begins after my sample period, I assume an informal exchange of information occurred among affiliates of each firm prior to the inspectors formalizing the GNP in 2011. The information exchanges allow the global network firms to understand the

realities of a PCAOB inspection differently than other firms that have limited or no prior exposure to private information about the PCAOB inspection process. Thus, I create the variable $GLOBALNETWORK$ as a binary variable representing the membership of a firm as a "global network firm" (i.e., if the firm is affiliated with one of the six largest accounting firm networks) and re-estimate the regression. While the global network variable is statistically significantly and negative, the *PCAOB-LIKE* variable retains similar characteristics as the original regression results in untablulated results. Therefore, my inferences remain the same.

Because the PCAOB's mission aligns with investor protection, I explore the possibility that the country origin effect subsumes the specific regulatory impact. To examine country origin effects, I re-estimate the regression using the La Porta et al. (1998) determination of country groupings through the lens of investor protection. The authors classify countries into groupings representing the historical origins of the economic systems of countries as English, French, German and Scandinavian. The addition of these country grouping variables creates a smaller sample that does not allow for clustering by inspection year. In untabulated results, the regression results remain qualitatively consistent with the addition of variables representing the different types of investor protection regimes.

4.7 Conclusion

I find evidence consistent with the home country regulatory environment impacting performance on PCAOB inspections. My study provides insights into the

global aspects of auditing. The results reflect the influences of the home country regimes can have on consistent implementation of the same standards globally. This is a key contribution to the debate about the implementation of an enforcement arm for the International Auditing and Assurance Standards Board, IAASB.

I acknowledge my results are based on a small sample. However, the PCAOB perseveres in signing agreements with other countries to expand inspections, most recently with Germany and Spain in 2012. In addition, by July 2012, Germany, Spain, Norway, United Kingdom, Switzerland, Norway and the Netherlands have agreed to joint inspections with the PCAOB (PCAOB 2012a). The PCAOB continues to state on the website that "a sliding scale -- the more independent and rigorous a home country system of oversight, the more the Board may rely upon it" may be used for inspections (PCAOB 2010a). Future research on subsequent inspections will be useful to validate convergence of inspection results for firms located in foreign countries and the robustness of my results.

Chapter 5

Consequences of Role Ambiguity on PCAOB Inspection Report Language

After addressing a question utilizing multiple inspection outcomes, I focus on the engagement deficient reports. I perform an analysis of the words used to describe the engagement deficiencies, a measure of job performance, for testing hypotheses concerning the impact of role ambiguity. Role ambiguity exists when an individual does not have the required information to perform duties of her/his job upon which s/he will be evaluated (Rizzo et al. 1970). I address the following question: Does role ambiguity have consequences for the job performance of PCAOB inspectors?

5.1 Introduction

This study examines the language used in the public versions of PCAOB inspection reports for alignment with role theory. Theory models the interaction of an individual's role within the organization in which s/he works using role ambiguity as an interceding factor in the relationship (Kahn et al. 1964). Role ambiguity exists if the individual does not have the required data and understanding to execute his/her position and responsibilities. The theory postulates that a high level of role ambiguity increases the likelihood of an individual's dissatisfaction with the position and potentially creates a lack of clarity concerning performance evaluation by the organizational leadership (Rizzo

et al. 1970). I find that role ambiguity is associated with the job performance of PCAOB inspectors.

The enactment of SOX creates the job positions of PCAOB inspector team member and team leader (hereafter, inspectors) within the PCAOB Inspections division. The PCAOB is challenged to hire an adequate number of individuals for these new positions during the first years of existence (Glover et al. 2009; PCAOB 2007b) resulting in performance pressures on the employed PCAOB inspectors. Also, the PCAOB hires professionals generally at the level of manager or above from the Big 4 public accounting firms (PCAOB 2007b). These professionals would have experience auditing the largest public clients in the US capital markets, the mainstay of the Big 4 audit client portfolios. Thus, I examine the output from the inspection process, the PCAOB inspection report, produced when the inspectors inspect firms that provide auditing services to clients different from those serviced during their audit careers.

Daugherty and Tervo (2010) establish that accounting firm personnel for the smallest public practices perceive a lack of familiarity with their client base by the PCAOB inspectors. Due to the contrasting client base for a small public practice firms as compared to the Big 4, role ambiguity is generated when an inspector examines work papers for the small public practice firm's client and makes judgments on compliance with auditing standards. Power (2003, 385) discusses the development of "the intuitions appropriate to the professional communities…[where] individual judgments are products not simply of cues in an external environment but of collectively maintained habits" for auditors. I assume that inspectors need to develop similar "intuition." Thus, until a consensus emerges of quality auditing for these smaller clients, the inspectors might

implement coping mechanisms to address the role ambiguity. These coping mechanisms might reflect in the job performance output, the language of a PCAOB inspection report.

I identify one coping mechanism as framing audit issues in the most fundamental terms, financial statement assertions.   PCAOB Auditing Standard No. 15 indicates an auditor gathers evidence to support the basic financial statement assertions, e.g., completeness, valuation, etc. (PCAOB 2010c). Libby and Frederick (1990) document that as auditors gain experience, they transition from an financial statement assertion framework to an audit cycle orientation, e.g., revenue cycle, as the primary method for classifying audit error implications. Libby and Frederick (1990) imply the most basic method for communicating audit ideas is the assertions. Therefore, I hypothesize and test that role ambiguity is positively related to the existence of financial statement assertion words to describe issues in the PCAOB inspection report, a measure of the PCAOB inspectors' job performance.

In contrast, I examine an alternative scenario with limited role ambiguity for the newest inspector. The PCAOB leadership publically discloses the key target areas for PCAOB inspections, e.g., fair value or related parties, reflecting a desire to tackle complicated areas in the execution of its mission of investor protection.   PCAOB leadership might positively view the inspector's job performance if the inspection reports reflect the key target areas because these reports provide evidence of the execution of the PCAOB's mission. Therefore, I hypothesize and test that role ambiguity is negatively related to the existence of key PCAOB target words in the PCAOB inspection report, a measure of the PCAOB inspectors' job performance.

On the other hand, Kalbers and Cenker (2008) find an overall decreasing trend in role ambiguity with more experience in public accounting. As the typical PCAOB inspector has at least 15 years of auditing experience (PCAOB 2007b) and an inspector utilizes a similar knowledge base as a public company auditor, a link between role ambiguity and job performance may not exist. Moreover, the PCAOB utilizes a standard reporting process for small public practice reports that may format engagement issue wording for consistency, analogous to a stylebook used by journalists.

Using a sample of 501 PCAOB inspection reports with engagement deficiency issues, I find evidence that the existence of financial statement assertion words is positively related to role ambiguity. Also, I find evidence that the existence of PCAOB key words is negatively related to role ambiguity. As role ambiguity increases in the interquartile range, there is a 6.2% decrease in probability of the existence of words representing key areas of PCAOB focus and a 6.6% increase in the probability of the existence of financial statement assertion words in the engagement deficiency description. These results are robust to including qualitative client factors and restricting the sample to address client mix concerns.

My results provide evidence that role ambiguity of an inspector does impact the job performance and manifest itself in the inspection report. For investors, my results emphasize that the language of an inspection report is subjective on the part of the inspector. For internal auditors, my results suggest individuals should be aware that external influences can impact the report language.

The remainder of the chapter proceeds with background and hypotheses development. Followed by methodology, sample selection, and results sections, I conclude with sensitivity tests and a conclusion.

5.2 Background and Hypotheses Development

5.2.1 Background

The generation of the final public version of an engagement deficient inspection report, including language describing the issues that the PCAOB inspection team deems important, begins with a selection of engagement work papers to inspect.   The PCAOB inspectors use a risk-based process to choose the specific audit engagement work paper files for review during an inspection. The inspector draws conclusions about the compliance of the audit with professional standards based on examining select work papers from each selected client engagement file.   To complete an inspection, the inspector obtains written representation, an Inspection Comment Form, from the accounting firm as to their agreement with each issue identified. Thus, the inspector persuades the accounting firm personnel to acknowledge the existence and validity of each issue or the accounting firm can persuade the inspectors that the issue should be removed from the report. Based on the comment forms, inspectors draft an inspection report. The inspectors allow the accounting firm to formally respond to the draft report. The final report may be adjusted based on the firm response. The culmination of the

reporting process is the issuance of the public version of inspection report on the Internet (CAQ 2012).

5.2.2 Hypotheses Development

Originating with Kahn et al. (1964), role theory details the relationship of role ambiguity to an individual's experience within an organizational structure. Theory links a high level of role ambiguity to an increase in the likelihood of an individual's dissatisfaction with his/her experience. The dissatisfaction arising from a lack of clarity for executing the job responsibilities might results in the individual instituting a coping response (Rizzo et al. 1970). The coping response can lead to a differential job performance than if the ambiguity was not present. Because the existence of role ambiguity can lead to a change in job performance, I study the job performance for inspectors under scenarios of high and low role ambiguity.

I extrapolate the impact of role ambiguity on job performance from the audit environment to the inspector environment because the typical inspector has significant audit experience at the level of manager or above (PCAOB 2007b). Prior research supports role ambiguity impacting the perceived stress level and job performance for auditors (e.g., Bamber et al. 1989; Choo 1986; Senatra 1980; Viator 2001). In addition, Owhoso et al. (2002) document evidence that specialized auditors have strengths for abstract error identification within specific industries. But, in their study, the authors find that audit managers are less effective at discovering errors outside their area of

specialization. Thus, the actual performance of auditors is impacted when experiencing circumstances outside their core area of expertise.

I examine the work product of an inspector, the inspection report, for specific financial statement assertion words as a reflection of the job performance. Prior research establishes that financial statement assertion word (i.e., accuracy, classification, completeness, cutoff, disclosure, existence, occurrence, presentation and valuation) linkages to audit objectives form a basis for auditors to classify financial statement errors irrespective of their career stage (e.g., Frederick et al. 1994; Bonner et al. 1996; Coyne et al. 2010). Because the financial statement assertions are outlined in professional standards, an inspector and accounting firm personnel can discuss an issue in terms of the basic tenets and gain agreement. Therefore, when job performance is pressured under circumstances of high ambiguity, I expect the inspector to react by framing issues in these most basic tenets.

High ambiguity is measured using the absence of small accelerated clients in an audit firm's client portfolio. The small accelerated client that requires an annual financial statement opinion and an internal control opinion from the external auditor is most similar to the large corporate clients comprising the client base of a Big 4 firm, the past experience of an inspector. Thus, as the number of small accelerated clients in the current firm's client portfolio decreases, representing an increase in ambiguity, I expect that an inspector has a higher probability of selecting clients that are not small accelerated clients to review. These clients would be atypical for the inspector's past career experience, requiring more judgment on acceptable compliance with standards, resulting

in increased ambiguity in the inspection process.   Therefore, I state my hypothesis, in the

alternative:

H3: The likelihood of the existence of financial statement assertion words in the

PCAOB inspection reports is negatively associated with the number of small accelerated

clients in an accounting firm's portfolio.

Next, I examine the relationship between ambiguity and key target areas for

PCAOB inspections. PCAOB senior leadership publically discloses target areas for

inspections to reflect a willingness to examine auditing quality in complex and

challenging areas. In a speech in 2003, prior to beginning any inspections for small

public practice firms, the Director of Professional Standards identified the initial target

areas for inspections as related party transactions, fair value accounting for all types of

assets and liabilities, and revenue recognition (hereafter, PCAOB words)(Carmichael

2003). Moreover, PCAOB leadership releases summaries of the inspection reporting

emphasizing the trends with the specific target areas. Therefore, the organizational focus

on these areas provides an incentive for inspectors to specifically detail issues in the

target areas.

As the number of small accelerated clients increases, representing decreasing

ambiguity between a PCAOB inspector and his/her past career experience, I posit that

inspection reports reflect an outcome that is positively viewed within the organization.[20]

Therefore, I hypothesize, stated in the alternative:

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[20] An accounting firm should execute its audits in compliance with standards irrespective of the size of the client, i.e., audit quality is not client size dependent. Moreover, the PCAOB target areas potentially apply to all audit clients.   Thus, I argue that the results should not be driven by the client mix of small accelerated clients and those that are not.

H4: The likelihood of the existence of "PCAOB words" in the PCAOB inspection reports is positively associated with the number of small accelerated clients in an accounting firm's portfolio.

On the other hand, formal reporting and informal mentoring mechanism within the PCAOB could standardize report language to eliminate any specific wording variations. First, each inspection report goes through a reporting process requiring communication of the issues and dissemination of a draft report to the accounting firm personnel prior to the release of the public version of the inspection report (CAQ 2012). During this reporting process, the wording of issues could change from an initial draft allowing the language to be standardized, akin to a stylebook used by journalists.

Secondly, inspectors might transfer knowledge from longer-serving inspectors to the newer individuals through informal mentoring. Dirsmith and Covaleski (1985) describe the importance of mentoring in the socialization of public accounting managers and partners. Mentoring reduces ambiguity for auditors concerning job expectations (Reinstein et al. 2013; Viator 2001). Thus, the inspection team member relationships could reduce the ambiguity and standardize the reporting to eliminate the association between ambiguity and the wording of the inspection report.

Next, I discuss the methodology used to test my hypotheses.

5.3 Methodology

I model the probability that the PCAOB inspectors used financial statement assertion or PCAOB words to describe engagement deficiencies as a logistic regression.

For firm *i* prior to the inspection time, time *t-1*, the beginning of fieldwork for the current inspection, time *t*, and the issuance of the current inspection report, time *t+1*:

$$logistic(\text{AUDWORDS}_{i,t+1}=1 \text{ or } \text{PCAOBWORDS}_{i,t+1}=1)=\beta_0+\beta_1\text{SMALLACC}_{i,t-1}$$

$$+\beta_2\text{RISK}_{i,t-1}+\beta_3\text{GC}_{i,t-1}+\beta_4\text{CLIENT}_{i,t}+\beta_5\text{WORDS}_{i,t+1}+\beta_6\text{NUMDEF}_{i,t+1}, (4)$$

where,

AUDWORDS is 1 if any financial statement assertion words are used to describe engagement deficiencies for the current inspection report, 0 otherwise;

PCAOBWORDS is 1 if any PCAOB words are used to describe engagement deficiencies for the current inspection report, 0 otherwise;

SMALLACC is the number of small accelerated filer client opinions the accounting firm issued during the 12 months prior to the beginning of fieldwork for the current inspection;

RISK is the number of client opinions issued for financial services and information technology clients by the accounting firm during the 12 months prior to the beginning of fieldwork for the current inspection;

GC is the number of going concern opinions issued by the accounting firm during the 12 months prior to the beginning of fieldwork for the current inspection;

CLIENT is the number of public clients for an accounting firm at the beginning of fieldwork for the current inspection;

WORDS is the total number of words in Section A of the inspection report; and,

NUMDEF is a count of the deficiencies in Section A of the inspection report.[21]

For H3, a negative value for the coefficient of interest, β_1, would suggest a decrease in the number of small accelerated clients, representing an increase in ambiguity, increases the likelihood of the existence of financial statement assertion words in the engagement deficiency section of the inspection report. To test H4, I expect a positive value for the coefficient, β_1, suggesting an increase in the number of small accelerated filers, representing a decrease in ambiguity, can be associated with an increase in the likelihood of PCAOB key words used to capture engagement deficiencies.

I control for aspects of the client portfolio that might contribute to a higher frequency of issues including the existence of clients in select industries (RISK) and the existence of financially unstable clients (GC). A going concern opinion represents an audit client with a higher inherent audit risk and presents additional challenges for performing an acceptable audit. I expect the coefficients on these variables to be positively associated with the word usage as the inspectors could target these types of client work papers to review.

I control for the overall size of the public client practice, CLIENTS. As the public client practice grows, an accounting firm has additional reputational capital at risk that might promote an investment of resources in audit quality. With the increased investment, I expect that the firm should reduce the potential for identification of

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[21] I use counts of the types of engagements as it is unclear how the PCAOB and accounting firms view multiple engagements for the same client. For example, an accounting firm could provide audit opinions on the financial statements and the benefit plan for the same client resulting in two engagements for a single client. Also, the number of PCAOB clients reported at the beginning of fieldwork might be different than a year earlier. Because of these factors, translating the count variable into a percentage variable introduces additional complexity to the interpretation of the results.

engagement issues during the inspection. Therefore, I expect a negative relationship for CLIENTS.

For the reports themselves, I control for the number of words, WORDS, and the number of engagement deficiencies, NUMDEF, detailed in Section A of the inspection report. As the words and the number of deficiencies increase, the probability of the existence of financial statement assertion and PCAOB issue words increases. Thus, I expect positive relationships for β_5 and β_6. To create my sample, I gather all the PCAOB inspection reports for small public practice firms.

5.4 Sample

I collect the PCAOB inspection reports for small public practice firms from the PCAOB's website. As of April, 2012, I begin with 1,471 reports with fieldwork starting between January 1, 2004 and December 31, 2010.   I require the PCAOB inspection relate to a period of time where the standards are not significantly fluctuating. Thus, I use the cutoff of December 31, 2010, because eight new PCAOB standards became effective for fiscal years ending after December 15, 2010.

Next, I match the individual inspection report data with firm registration numbers, obtained from the PCAOB's registration and reporting division, which reduces my sample to 1,356 reports. The registration numbers assist in the identification of subsequent inspections for the same firm and allow for merging with the Audit Analytics data.   Then, I parse the sample into reports with engagement deficiencies resulting in a

sample of 652. Finally, I restrict my sample to 501 inspection reports that have all required control variables including Audit Analytics data.

      To create my dependent variable, I create custom word lists for financial statement assertions and for PCAOB words.[22] For each inspection report, I use Linguistic Inquiry and Word Count (LIWC) software to determine if any of these words are used in Section A which details the outcome of the review of specific client engagement work papers.[23] I create my dependent variable as a binary variable taking the value of 1 if any of the key words exist from the respective word list.[24] Table 5-1 outlines the sample descriptives for words used to describe engagement deficiencies reflecting a higher frequency for the existence of PCAOB words than financial statement assertion words.

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[22] The custom dictionary words for financial statement assertions include accuracy, classification, completeness, cutoff, disclosure, existence, occurrence, presentation and valuation. For PCAOB issues, the words include derivative, fair, related and revenue.

[23] Academic research utilizing variables derived from specific words usage has been growing since Li (2008) analyzed annual reports for readability. Jenkins et al. (2008) recognize the potential usage of LIWC software in analyses for audit research.

[24] I use the existence of words because my intent is to capture the nature of the relationship between the accounting firm's client base and the inspector. The number of words is representative of the degree of non-compliance with the auditing standards. Moreover, greater than half of the inspection reports report two or fewer issues.

Table 5-1. Descriptive Statistics for 501 Inspection Reports with Engagement Deficiencies.

	Mean	S.D.	Min	Max
AUDWORDS	0.43	0.49	0	1
PCAOBWORDS	0.63	0.48	0	1
SMALLACC	37.37	57.98	0	387
GC	31.34	58.16	0	398
RISK	1.44	3.44	0	28
WORDS	165.10	71.44	70	503
CLIENT	14.35	20.33	0	162
NUMDEF	2.61	2.05	1	14

This table details the descriptive statistics for the inspection reports in the sample. The variables are defined as follows: AUDWORDS is 1 if a financial statement assertion word is used within Section A of an inspection report, 0 otherwise. PCAOBWORDS is a 1 if a PCAOB word, outlined in the sample selection, is used within Section A of an inspection report, 0 otherwise. SMALLACC is the number of small accelerated client opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning. RISK is the number of financial services and information technology opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning. GC is the number of going concern opinions issued by the firm in the 12 months prior to the current inspection fieldwork beginning. CLIENT is the number of public company clients at the beginning of inspection fieldwork. WORDS is the number of total words in the engagement deficiency section of the report. NUMDEF is a count of the number of engagement deficiencies cited in the inspection report section.

Table 5-2 details the correlation coefficients for the variables in the study providing limited initial support for the use of specific words to describe engagement deficiencies. While there is no significant correlation between the existence of financial statement assertion words and the number of small accelerated clients, there is a significant and positive correlation between the existence of PCAOB words and the small accelerated clients. This provides some initial support for the use of specific words to describe engagement deficiencies.

Table 5-2. Correlation Coefficients for 501 Inspection Reports with Engagement Deficiencies.

	AUDWORDS	PCAOBWORDS	SMALLACC	GC	RISK	WORDS	CLIENT
PCAOBWORDS	**0.240**						
SMALLACC	-0.032	**0.097**					
GC	-0.007	0.073	**0.883**				
RISK	0.025	0.046	**0.637**	**0.582**			
WORDS	**0.211**	**0.261**	0.192	0.181	0.026		
CLIENT	0.033	**0.132**	**0.804**	**0.707**	**0.559**	**0.201**	
NUMDEF	**0.354**	**0.347**	0.176	0.216	0.052	**0.594**	**0.272**

Correlations are bolded if significant at the 5% level (two-tailed) or better. This table reflects the correlation coefficients for the variables used to examine the probability of the existence of certain words in the description of engagement deficiencies. The variables are defined in the caption of Table 5-1.

5.5 Results

I report the results from the simultaneous estimation of the logistic regression results for Equation (4) in Table 5-3.[25] The coefficient on the number of small accelerated filers is negative and significant at the 1% level ($\beta_1 = -0.007$; one-tailed $p = 0.005$) reflecting a decrease in likelihood of financial statement assertion words used within the engagement deficiency section of an inspection report as the number of small accelerated filers increases. These results support H3 and are consistent with the idea that the more similar the client is to the inspector's background, the less frequently an audit issue will be stated in terms of financial statement assertions. The coefficient on the number of small accelerated filers is positive and significant at the 5% level ($\beta_1 = 0.007$; one-tailed $p = 0.012$) reflecting an increase in likelihood of PCAOB words within the engagement deficiency portion of the inspection report as the number of small accelerated filers increase. Supporting H4, these results are consistent with the idea that the more familiar a client is to an inspector's background, the more frequently PCAOB leadership initiatives are reflected in the issues and descriptions of engagement deficiencies in inspection reports.

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[25] Simultaneous estimation of the results is used to adjust for the covariance between the equations as they are run on identical samples.

Table 5-3. Simultaneous Results for Logistic Regressions of Engagement Deficiency Wording.

$P(AUDWORDS_{i,t+1}$ or $PCAOBWORDS_{i,t+1}) = \beta_0 + \beta_1 SMALLACC_{i,t-1} + \beta_2 RISK_{i,t-1} + \beta_3 GC_{i,t-1} + \beta_4 CLIENT_{i,t} + \beta_5 WORDS_{i,t+1} + \beta_6 NUMDEF_{i,t+1} + \varepsilon_i$

Variables	AUDWORDS					PCAOBWORDS				
	Predicted Sign	Coefficient Estimate		z-statistic	ρ–values[a]	Predicted Sign	Coefficient Estimate		z-statistic	ρ–values[a]
Constant	?	-1.958	***	-12.28	0.000	?	-1.691	***	-4.56	0.000
SMALLACC	−	-0.007	†††	-2.60	0.005	+	0.007	††	2.27	0.012
RISK	+	0.103	†††	4.50	0.000	+	0.008		0.27	0.392
GC	+	-0.001		-0.20	0.578	+	-0.008		-2.24	0.988
CLIENT	−	-0.004		-0.55	0.291	−	0.004		0.42	0.662
WORDS	+	0.001		1.17	0.121	+	0.004	††	1.76	0.039
NUMDEF	+	0.519	†††	6.32	0.000	+	0.698	†††	-4.56	0.000
$\chi 2$		99.96					113.16			
Log-likelihood		-278.31					-278.74			
N		501					501			

†, ††, ††† Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using one-tailed test.

*, **, *** Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively using two-tailed test.

[a]ρ–values are calculated using clustered standard errors by year inspection fieldwork began.

This table presents a logistic regression of the existence of specific words used to describe the engagement deficiencies in inspection reports. Financial statement assertion words, AUDWORDS, and PCAOB words, PCAOBWORDS, are detailed in the sample selection. The variables are defined in the caption of Table 5-1.

For the overall economic significance of these results, I measure the interquartile range for the small accelerated filer values for the firms and determine the marginal impact on the probability of the wording changes. As ambiguity increase in the interquartile range, there is a 6.2% decrease in probability of the existence of PCAOB words and a 6.6% increase in the probability of the existence of financial statement assertion words in the engagement deficiency description.

The number of deficiencies is statistically significant and positive at the 1% level. As the number of deficiencies increases, the opportunity for both sets of words increases. I find mixed results for the remaining control variable relationships reflecting the limited ability for the variables to capture the underlying constructs as they relate to inspection report language. Overall, these results reflect that role ambiguity impacts the likelihood of specific inspection report wording. Next, I examine my results for robustness.

5.6 Sensitivity Tests

I examine the results for the inclusion of additional variables representing the qualitative nature of the inspection environment and for restricting the sample to address client mix issues. First, the count measures of the various attributes for each accounting firm's client portfolio in the main regression do not capture the varied qualitative nature of the client portfolio that can impact the ease with which an accounting firm can produce a high quality audit, i.e., two firms could have the same number of financial services clients but one firm has a more conservative client base than the other. To proxy for the

client company environment, I use the corporate accounting score as measured by Audit Integrity.[26] Audit Integrity uses a proprietary algorithm and process to capture the likelihood of fraud and misconduct within the corporate accounting environment. Price et al. (2011) document support for the Audit Integrity score's comparability with similar academic accounting measures, e.g., F-Score. When I include the average Audit Integrity score for a company in the accounting firm's client portfolio in the regressions, the untabulated results remain qualitatively the same for a sample size of 373 inspection reports.

Secondly, while the inspection process requires agreement between the PCAOB and firm personnel on the specific engagement deficiency issues, the interaction may differ if evidence is publically released. Supporting the importance of the firm response, Robertson and Houston (2010) manipulate the tone of the firm response to a PCAOB inspection within an experimental setting examining an accounting firm's credibility. As such, I use the existence of a firm response made public to proxy for additional transparency to the inspection process.   When I include a control variable in the regression for the existence of a firm response to the inspection, my untabulated results remain qualitatively similar to the main results.

Finally, to address the client mix of small accelerated clients and other client types impacting the results, I restrict the sample to the observations where the PCAOB inspectors reviewed fewer client files than the number of small accelerated client opinions issued in the year prior to the inspection beginning. Although specific client

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[26] For my analysis, I reverse the scale for the corporate accounting score so a higher value represents a worse score. Then, for each firm where I have Audit Integrity data, I average the scores. Thus, a high score of five represents the clients most likely to commit fraud and a low score represents the clients least likely to commit fraud.

files selected for inspection are not identified, a reasonable assumption would be that the majority of client files reviewed are the small accelerated filers. With the client type held constant across accounting firms, the untabulated results remain qualitatively the same as the main regression.

5.7 Conclusion

The inspection report language describes the issues identified; however, the words also reflect the interaction between the inspectors and the firm personnel. I find evidence consistent with role ambiguity being associated with differential probabilities of specific language used to describe engagement deficiencies. Future research is needed to refine the incorporation of qualitative factors, such as tone of the public response, and alternative measures of audit client risk to gain further insights into the output of the inspection process.

My results reflect role ambiguity appears to impact the word choices used in inspection reports. For an investor, the results highlight the subjective nature and the specificity of the jargon used in describing engagement deficiencies. Thus, the literal interpretation of the engagement deficiency to the public might be different than another auditor, further contributing to the expectation gap between auditors and the investing public. Finally, my results use a unique setting to analyze a significant number of deficiency statements. Internal auditors can apply a similar analysis to their own reports to determine if there are wording choices reflecting influences beyond the observation of the issue.

Chapter 6

Conclusion

I examine three questions within this dissertation and document empirical results concerning the inspection process, environment and output. My contribution is three-fold: (1) a new measurement variable capturing an overall assessment of a PCAOB inspection outcome; (2) insights into the inspection process for foreign firms and domestic firms; and (3) an analysis of inspection reports detailing pressures impacting the work product of the inspectors, the inspection report.

My results emphasize the variation in audit quality across audit firms and the limitations with the inspection process to communicate this information. One influence on the variation in audit quality, the home-country regulatory environment, suggests that a uniform inspection function is critical to promulgating consistency in the application of the standards. International audit standard setting bodies should be interested in this result. Audit firms are the key audience for the findings relative to the dynamic relationship among the PCAOB inspector's actions and the firm's prior performance. Finally, individual investors need to be aware that the risk-based methodology behind the work paper review that generates the inspection report details can be influenced by factors, e.g., role ambiguity, in addition to the work being inspected.

In addition, there are implications for future improvements in the reporting and communication of information from the PCAOB to the investing public and audit firms; thus, I propose three natural extensions. First, as the PCAOB matures, does the

commitment to represent investors and the public continue to manifest itself in the inspection process? Future analysis of this question with the introduction of self-reporting annual disclosures will shed light on the development of the PCAOB relationship with the inspected entities. Secondly, future research can examine the foreign regulators' reports for similarity in wording and topics to the PCAOB. Revelations concerning the consistency among regulators in topics and issues will provide evidence about the convergence of international auditing. Finally, as the population of reports grows, a linkage might emerge among the inspection outcomes and subsequent enforcement actions against firm personnel. Thus, the ISCORE could mature into an enforcement prediction variable.

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