# Foreign Operations and Audit Quality of U.S. Multinational Corporations: Evidence from the Access of PCAOB International Inspections

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## Abstract

We examine the relation between U.S. multinational corporations' (MNCs') foreign operations and their audit quality. The audit of an MNC is often an international group audit that involves one or more participating foreign auditors performing the audit of the MNC's foreign subsidiaries, and a domestic principal auditor that reviews and coordinates participating auditors' work. The coordination effort needed and the variation in the quality of participating auditors' work could affect an MNC's overall audit quality. In this study, we examine how an MNC's actual and market-assessed audit quality is associated with its operations in countries that prohibit PCAOB inspections. We predict and find that MNCs with a relatively greater presence in no-inspection countries are more likely to subsequently restate their financial statements and these firms' investors have smaller stock price reactions to earnings. Additional analyses provide further support to the relationship between the extent of missing PCAOB inspections and lower MNC audit quality. Overall, this study adds to the growing literature on group audits and PCAOB international inspections by examining outcomes that arise from the cross-sectional variation among MNCs in their foreign subsidiaries' environment of auditor oversight.



**Keywords:** PCAOB Inspections, Multinational Corporations, Audit Quality

## Introduction

In the wave of recent globalization over the past century, many U.S. domestic firms became multinational corporations (MNCs). The Public Company Accounting Oversight Board (PCAOB) has estimated that 55 percent of SEC issuers have multinational operations (Ferguson and Sharp, 2017). Unlike companies audited by one single auditor, MNCs are typically audited through group audits, in which the principal auditor in the United States relies on participating auditors in other countries to conduct the foreign components of the audit work. As such, the cross-country differences in language, culture, and local regulatory environment among an MNC's countries of operations could impose challenges to the overall audit engagement.

The PCAOB has expressed concerns over the audit quality of U.S. MNCs. For example, Doty (2011) notes that PCAOB inspectors have identified numerous instances where participating auditors "failed to accomplish the objectives of the instructions provided by the principal auditor," and "inspectors have found obvious errors that could have, and should have been picked up by the principal auditor, if communication between the two auditors had been robust." In response to these concerns, the PCAOB recently adopted Rule 3211 which requires principal auditors to disclose other persons or audit firms involved in the audit (PCAOB, 2015).

Despite MNCs' predominant presence in the United States and the PCAOB's concerns, the extant auditing research is surprisingly scant on the cross-sectional determinants of MNCs' audit quality beyond the inclusion of geographic and/or operational segments in audit quality models. Understanding what drives the variation in MNCs' audit quality is important because (1) this is a necessary risk assessment step for auditors with MNC engagements, (2) investors normally base their investment decisions on aggregated numbers disclosed in a company's financial statements and their return on investment will vary with the quality of these numbers,

and (3) regulators such as the SEC and the PCAOB are interested in learning which types of companies are subject to higher risks of audit failure.

In this study, we examine the audit outcomes of U.S. multinational corporations by focusing our attention on PCAOB international inspections that varies cross-sectionally within MNCs. Specifically, we first examine the association between an MNC's audit quality and its foreign operations in countries that prohibit the PCAOB from inspecting their domestic auditors. Prior literature finds that PCAOB international inspections in foreign countries improves the quality of audits performed in those foreign countries (Lamoreaux, 2016; Fung et al., 2017, and Krishnan et al., 2017). This increase in audit quality is caused by the threat of PCAOB inspections and the related disciplinary actions taken by the PCAOB following negative inspection outcomes. In the context of a group audit for an MNC, this disciplinary effect directly applies to the participating auditor who conducts the audit of local operations. It is also expected to apply indirectly to the principal auditor who reviews the participating auditor's work, resulting in the principal auditor's greater effort in coordinating and reviewing the foreign audit work. Therefore, we hypothesize that the overall quality of a multinational audit will be lower if it involves subsidiaries in countries that prohibit PCAOB international inspections.

Using a sample of 9,352 firm-year observations of U.S. MNCs from 2006 to 2014, we find evidence consistent with our prediction. We first find that the likelihood that an MNC subsequently restates its financial statements is positively associated with its fraction of foreign countries of operations that *prohibit* the PCAOB from inspecting local auditors. Our results suggest that as the fraction of no-inspection foreign countries of operations increases from the bottom quartile of our sample to the top quartile, the likelihood of subsequent restatements on average increases by 0.92 percent, 8.1% of the mean probability of restatements in our sample.

We next find that market-assessed audit quality, measured as earnings response coefficient, is lower for MNCs with a greater fraction of no-inspection foreign countries of operations. Our findings suggest that the sensitivity of an MNC's stock price at three months following the year-end over earnings per share will be weaker as the MNC operates in more no-inspection foreign countries.

We perform several additional tests and find evidence that corroborates our main findings. In subsample analyses, we find that the link between the extent of missing PCAOB inspections in foreign countries of operations and lower audit quality is stronger in two types of MNCs whose audit engagements are more susceptible to participating auditors' work: MNCs with more sales contributed by foreign operations and MNCs with their business involving more intangible assets. Further, among no-inspection foreign countries, those with higher global GDP ranks play a more important role in the association between missing PCAOB inspections and lower audit quality. Finally, consistent with foreign local audit regulators acting as a substitute for PCAOB international inspections, audit quality is the lowest when a no-inspection foreign country of operations also lacks strong local auditor oversight.

Our study makes several contributions to the literature. First, we add to the literature on the cross-country differences in auditing. Prior studies find that audit quality varies with regulatory, legal, and cultural regimes (Kleinman et al., 2014; Hope et al., 2008). These studies examine the cross-country difference of audit quality between companies from different countries. Our study is the first to examine how U.S. multinational corporations' audit quality is related to the *cross-sectional* difference in their foreign countries of operations. Our empirical results indicate that the challenge of auditing an MNC comes not only from the complexity of the

MNC's business, but also from the different audit regulation environment in the MNC's foreign countries of operations. These findings are important to market participants and policy makers.

Secondly, we contribute to the literature on PCAOB international inspections. Our results that an MNC's audit quality is lower when it operates in more foreign countries that prohibit PCAOB inspections are consistent with prior studies' findings that PCAOB international inspections improve the audit quality of companies headquartered in the inspected countries (Lamoreaux, 2016; Fung et al., 2017, and Krishnan et al., 2017).

Finally, we add to the emerging literature regarding group audits. In a related study, Gunn and Michas (2018) find that an MNC's audit quality is positively associated with the principal auditor's expertise in conducting multinational audits. Our study examines how audit outcomes are related to the incentives of both the participating auditors and the principal auditor. Our results support the notion that an MNC's overall audit quality is a joint product by both parties. In fact, participating auditors could play a more important role in group audits because their output serves as the input for the principal auditor. Without high-quality work by participating auditors, it is unlikely that the final product of an MNC's audit engagement will have a high quality.

The rest of this paper is organized as follows. Section 2 provides background information and develops our hypotheses, Section 3 describes our research design, Section 4 reports the empirical results, and Section 5 concludes with the implications of our results.

## 2. Background and Hypotheses Development

### *2.1 Multinational group audits*

U.S. multinational corporations are audited through multinational group audits. In these audits, the U.S. signing auditor (or "principal" auditor or "lead" auditor) relies on foreign

auditors ("participating", "component", or "other" auditors) to conduct the foreign components of the audit work. In most cases, the principal auditor is ultimately responsible for the overall engagement for the client's consolidated financial statements (ASB 2011).[1] Because most principal auditors are Big Four auditors that have a global network, participating auditors are often affiliated foreign auditors in the same network (for example, Deloitte London). However, the participating auditor may also be a smaller audit firm in the foreign country or another large auditor in a different global network, especially when the principal auditor's global network does not extend to the foreign country of the MNC's operations. The cross-network differences in internal procedures and quality control standards could impose challenges to the communication between the principal auditor and participating auditors. Even if the participating auditors are in the same global network as the principal auditor, they are essentially independent entities that are more influenced by their local language, culture, and regulations (Doty, 2011).

The literature has recently started to examine multinational group audits. Hanes (2013) reviews the literature on geographically distributed work arrangements in the broader management literature and notes several issues that are likely to make geographically distributed audit engagements challenging. Sunderland and Trompeter (2017) and Downey and Bedard (2016) discuss the challenges associated with conducting global group audits and the strategies that auditors use to overcome them. Dee et al. (2015) find a negative market reaction and a significant decline in earnings response coefficients after the disclosure of component auditor involvement. Gunn and Michas (2018) find that audit quality of an MNC is higher when the principal auditor has more MNC-auditing expertise.

*2.2 PCAOB international inspections*

[1] In some rare cases, the principal auditor splits responsibilities with certain participating auditors by stating so in the audit opinion.

One mechanism that mitigates the inconsistent quality between audits conducted in foreign countries and in the United States is the PCAOB's international inspection program. This program involves the PCAOB either conducting its own independent assessment of foreign auditors or entering into joint inspections with its foreign counterparts. In these inspections, the PCAOB evaluates both the quality of the audit work performed on selected audit engagements and the audit firm's quality control system. After finishing an inspection, the PCAOB releases a formal report to communicate its findings and discloses material audit engagement deficiencies identified during the inspection publicly in Part I of the report.[2] Since the program's inception in 2005, the PCAOB has spent significant effort to negotiate with foreign regulators to enable inspections of their audit firms and have inspected foreign audit firms located in 50 non-U.S. jurisdictions (PCAOB, 2017). However, the PCAOB continues to be prohibited access to inspect auditors in certain non-U.S. jurisdictions.[3] Appendix A provides information, for each of the foreign country that grants the PCAOB the access of inspections between 2006 and 2013, about the specific years when such access was granted.

Prior literature generally finds that PCAOB inspections have a positive effect on the quality of audits conducted in the United States. Gramling et al. (2011) find that small U.S. auditors with PCAOB deficiencies are more likely to issue going concern opinions for

[2] Detailed information on the inspected engagements or issuer-specific deficiencies are not publicly disclosed in the inspection report. Deficiencies stemming from the audit firm's quality control system are included in Part II of the inspection report. Part II findings are covered in the nonpublic portion of the inspection report that will never be made public unless the audit firm fails to make sufficient progress in remediating these issues to the Board's satisfaction within 12 months.

[3] China is the largest economy that has not allowed the PCAOB the access for inspections. In their June 12, 2019 letter to Ambassador Lighthizer, who was leading the United States' trade deal negotiation with China, Senators Chris Van Hollen and John Kennedy note that 'China's failure to comply with our disclosure laws has already impacted investor confidence and the integrity of our financial markets', and that 'we still do not have complete information regarding Chinese companies listed in the U.S.' (Van Hollen, 2019). They urge the trade negotiation to include the Holding Foreign Companies Accountable Act that will require U.S. listed foreign companies to allow the PCAOB to review their accounting records.

financially distressed clients after undergoing an inspection. Carcello et al. (2011) report that discretionary accruals for clients of inspected U.S. Big Four auditors subsequently decreases following the inspection. Aobdia (2017) find that audit firms expend more effort on both their inspected engagements and non-inspected engagements that involve partners and audit offices for which Part I deficiencies were identified. DeFond and Lennox (2017) documented that PCAOB inspections prompt auditors to improve the quality of their internal control audits.

With regard to the effectiveness of the PCAOB's international inspections, Lamoreaux (2016) shows that the initiation of PCAOB inspections in foreign countries results in a subsequent increase in audit quality for foreign local companies listed in the United States. Krishnan et al. (2017) report that clients of non-U.S. auditors that are inspected by the PCAOB exhibit lower abnormal accruals and enjoy more value relevant earnings. Fung et al. (2017) find that the PCAOB's international inspection program provides a spillover effect in improving the audit quality of foreign auditors' clients that are locally listed. Aobdia and Shroff (2017) find that foreign auditors' market shares increase when fewer deficiencies are reported after they are inspected by the PCAOB.

*2.3 Hypotheses Development*

A U.S. MNC's overall audit quality might not be a function of its foreign locations of operations given that the principal auditor needs to sign the final audit report and is held responsible for the overall audit engagement. The principal auditor is generally an industry expert and one of the BIG 4 auditors and should be able to detect problems in participating auditors' work. Further, an MNC's principal auditor is under the U.S. jurisdiction. To reduce litigation liability, the principal auditor will likely exert greater effort when reviewing work conducted by participating auditors in countries with weaker local regulatory environment, thus

offset the potential negative impact from missing PCAOB inspections and/or lacking local audit regulators in certain foreign countries of the MNC's operations.

On the other hand, an MNC's overall audit quality can be affected by its foreign operations in countries that prohibit the PCAOB's international inspections through two channels. First, similar to the findings in Lamoreaux (2016), without the threat of PCAOB inspections, participating auditors in no-inspection countries are less likely to provide sufficient effort in auditing their respective share of the MNC's financial statements. As a result, these participating auditors will produce lower-quality audit outputs, which will negatively affect the MNC's overall audit quality. Secondly, if the participating auditor is in a country that allows PCAOB inspections and the PCAOB finds issues when it inspects the participating auditor, then the PCAOB could blame the principal auditor for not providing sufficient review of the participating auditor's work. This could result in the PCAOB's punitive actions against the principal auditor. In other words, the principal auditor faces an indirect threat from the PCAOB's international inspections. However, if the participating auditor is in a country that prohibits PCAOB inspections, then such a threat toward the principal auditor will be weaker. Accordingly, the principal auditor will likely provide a lower amount of effort in reviewing the participating auditor's work, again leading to lower overall audit quality of the MNC. Measuring audit quality by the likelihood of the MNC's subsequent restatement of financial statements, our first hypothesis, stated in the alternative form, is the following:

*H1. The likelihood that an MNC subsequently restates its financial statements will be higher as a larger fraction of the MNC's foreign countries of operations prohibit the PCAOB from inspecting local auditors.*

Another measure for audit quality is the market-based earnings response coefficient. We predict that stock market participants will assess an MNC with more foreign operations in no-inspection countries as having lower earnings quality and respond less strongly to reported earnings. Our second hypothesis is the following:

*H2. The stock price for an MNC will respond less strongly to its earnings as a larger fraction of the MNC's foreign countries of operations prohibit the PCAOB from inspecting local auditors.*

## 3. Research Design

### *3.1 Sample selection*

Table 1 outlines our sample construction process. Our sample period starts from 2006, the year in which PCAOB commenced inspections of foreign auditors; and ends in 2014, the last year in which the PCAOB website discloses that information. Our initial sample includes 23,942 U.S. firm-year observations with available foreign subsidiary data from Scott Dyreng's website.[4] This data captures the information of a firm's material foreign subsidiaries as disclosed through Exhibit 21 in the 10k form (e.g., Dyreng and Lindsey 2009).[5]

[Insert Table 1 here]

We then merge the foreign subsidiary data with Audit Analytics and delete 578 observations not found in Audit Analytics. Our sample is thus restricted to the multinational corporations with available audit data. We next delete 7,699 observations that are from the financial sector or with missing foreign sales. Furthermore, we delete 5,863 observations with

[4] https://sites.google.com/site/scottdyreng/Home/data-and-code, accessed on Mar 4, 2020.

[5] SEC guidelines require public U.S. companies to disclose on Exhibit 21 the name and location of each 'significant subsidiary,' defined as any subsidiary in which (1) the registrant's investment level in the subsidiary exceeds 10 percent of the registrant's consolidated total assets, (2) the subsidiary's total assets exceed 10 percent of the registrant's consolidated total assets, or (3) the registrant's equity in the income of the subsidiary exceeds 10 percent of the registrant's consolidated net income. Resources: https://www.law.cornell.edu/cfr/text/17/210.1-02

missing control variables necessary for the restatement test (H1) as specified in Equation (1) below. Our final sample for testing H1 consists of 9,352 observations. After deleting 153 observation with additional missing control variables, our final sample for the earnings response coefficient test (H2) includes 9,199 firm-year observations.

*3.2 Restatement model*

To test H1, we estimate the following logit multivariate regression model:

$$RESTATE = \beta_0 + \beta_1 MISSING\_COUNTRY\_RATIO + \beta_2 SUM\_COUNTRY\_NUM + \beta_3 FOREIGN SALES + \beta_4 SIZE + \beta_5 MB + \beta_6 LOSS + \beta_7 GROWTH + \beta_8 GEOSEG + \beta_9 OPSEG + \beta_{10} LAGRETURN + \beta_{11} VOLATILITY + \beta_{12} TENURE + \beta_{13} BIG4 + \beta_{14} REPLAG + \beta_{15} GDP + \beta_{16} CIVILLAW + \beta_{17} RULEOFLAW + YEAR + INDUSTRY + \varepsilon \quad (1)$$

where *RESTATE* is equal to one for firms that restate their annual financial statements, and zero otherwise. The variable of interest is *MISSING_COUNTRY_RATIO*, the percentage of an MNC's foreign countries of operations that prohibit the PCAOB from inspecting their domestic auditors. We calculate this ratio based on the number of foreign countries instead of foreign subsidiaries because subsidiaries in the same country have the same local institutional and legal environment and are often audited by the same participating auditor.[6] According to H1, we predict a positive coefficient for *MISSING_COUNTRY_RATIO* ($\beta_1 > 0$) because we expect that a greater extent of missing PCAOB inspections will result in lower effort from both the participating auditor and the principal auditor, leading to a greater probability of financial report restatement.

The likelihood that an MNC subsequently restates its financial statements is also directly affected by the size and complexity of its foreign operations. As an MNC operates in more foreign countries and has more foreign business, the principal auditor will face more challenges in monitoring and cooperating with participating auditors, resulting in a greater chance of the

[6] Even if different subsidiaries in the same country are audited by different auditors, the auditing practice should be similar in the same country. Another weakness of calculating the ratio with subsidiary-level data is the additional measure error introduced through the assumption that every subsidiary has the same size.

MNC's subsequent restatements. We therefore add *SUM_COUNTRY_NUM* (the number of countries in which a firm has foreign subsidiaries) and *FOREIGN SALES* (the ratio of foreign sales to total sales) to control for the prominence of an MNC's overall foreign operations.

Following prior studies (for example, Krishnan et al., 2016), we include a number of additional control variables in Equation (1). We control for the following firm and auditor characteristics that have been documented to affect the likelihood of restatements: *SIZE* (the natural logarithm of total market valuations), *MB* (the ratio of market value of equity to book value of equity), *LEV* (the ratio of total liabilities to total assets), *LOSS* (a dummy variable that equals to 1 if the firm has negative net income, and 0 otherwise), *GROWTH* (the annual sales growth rate), *GEOSEG* (the number of the sum of geographic segments), *OPSEG* (the number of the sum of operating segments), *LAGRETURN* (the firm's 12-month stock returns for the prior fiscal year), *VOLATILITY* (the standard deviation of 12 monthly stock returns for the current fiscal year), *TENURE* (the number of audit firm tenure) *BIG4* (a dummy variable that equals to one if the firm is audited by a Big 4 audit firm during the fiscal year, and zero otherwise) and *REPLAG* (the number of days between the audit report date and the fiscal year end date). Further, to control for country-level variation, we include three country-level variables: *GDP* (the natural logarithm of the weighted average of the gross domestic product of all the foreign countries in which the firm has subsidiaries, with the number of subsidiaries as the weight), *CIVILLAW* (a dummy variable that equals 1 if any of the foreign countries in which the firm has subsidiaries has a civil law system), and *RULEOFLAW* (the weighted average of the rule of law index of all the foreign countries in which a firm has subsidiaries). Finally, we include industry fixed effects and year fixed effects in our main regressions. Definitions for all variables in this study are in Appendix B.

*3.3 Earnings response coefficient (ERC) model*

The model we use to test H2 is developed by Ohlson (1995) and is a standard approach to examine the response coefficients on earnings (e.g., Ghosh et al., 2005; Al Jifri and Citron, 2009; Barth et al., 1999; Balachandran and Mohanram, 2011). A commonly used specification of this model is as follows:

$$STOCK\ PRICE = \beta_0 + \beta_1\ BVPS + \beta_2\ EPS + \varepsilon \quad (2)$$

where *STOCK PRICE* is the stock price three months after fiscal year end; *BVPS* is the book value per share, calculated as book value of equity divided by shares outstanding at the end of fiscal year t; and the *EPS* is earnings per share, calculated as income before extraordinary items divided by shares outstanding at the end of fiscal year t.

This model links stock price of the firm to its book value of equity, earnings per share, and 'other information'. In this paper, the 'other information' is primarily the missing PCAOB inspection (*MISSING_COUNTRY_RATIO*). We also include the strength of an MNC's overall foreign operations (*SUM_COUNTRY_NUM*) and the reliance of an MNC' sales on foreign operating (*FOREIGN SALES*) to control for the effect of these variables on the ERC of *MISSING_COUNTRY_RATIO*. As is usual in stock price relevance studies, we include *SIZE* (Cortesi and Vena, 2019), *LOSS* (Core et al., 2003) and *LEVERAGE* (Houqe et al., 2019) to control for size effect, operating performance and financial risk, respectively. All these variables are as previously defined in Equation (1). Taken together, the full model can be stated as:

$$STOCK\ PRICE = \beta_0 + \beta_1\ BVPS + \beta_2\ EPS + \beta_3\ MISSING\_COUNTRY\_RATIO + \beta_4\ MISSING\_COUNTRY\_RATIO * EPS + \beta_5\ SUM\_COUNTRY\_NUM + \beta_6\ SUM\_COUNTRY\_NUM * EPS + \beta_7\ FOREIGN\ SALES + \beta_8\ FOREIGN\ SALES * EPS + \beta_9\ SIZE + \beta_{10}\ SIZE * EPS + \beta_{11}\ LEV + \beta_{12}\ LEV * EPS + \beta_{13}\ LOSS + \beta_{14}\ LOSS * EPS + \varepsilon \quad (3)$$

In Equation (3), the variable of interest is *MISSING_COUNTRY_RATIO * EPS*. We predict $\beta_4$ to be negative because we expect that as an MNC operates in more foreign countries

that prohibit the PCAOB from inspecting their domestic auditors, the stock market will assess the MNC's reported accounting earnings as less informative of its value and therefore stock price will react less strongly to reported earnings.

## 4. Empirical Results

### *4.1 Summary Statistics*

Table 2 Panel A provides the trend of our sample MNCs regarding their countries of operations over the sample period. For each year between 2006 and 2014, we report the average numbers of all foreign countries of an MNC's operations and foreign countries of operations with and without PCAOB inspections. On average, an MNC has foreign subsidiaries located in the range of 12 to 14 countries during our sample period. We also observe a decrease (an increase) in the number of countries without (with) PCAOB inspection over the sample period, consistent with a rapidly growing number of countries that start to allow PCAOB to inspect their domestic auditors.[7] The average percentage of foreign countries of operations that are missing PCAOB inspections decreases from 45.2% in 2006 to 23.0% in 2014.

[Insert Table 2 here]

Table 2 Panel B provides summary statistics for the variables used in our regressions for the full sample. We winsorize all the continuous variables at the 1st and 99th percentiles. The average likelihood of an MNC restating its financial report (*RESTATE*) in our sample is 11.3%. On average, the number of all foreign countries in which MNCs have subsidiaries is 13.389, the number of all foreign countries in which MNCs have subsidiaries is 13.389, with mean and median *MISSING_COUNTRY_RATIO* equaling 0.396 and 0.429, respectively. There is

[7] In our sample MNCs' foreign counties of operations, the top five frequent countries with PCAOB inspections are Canada, United Kingdom, Mexico, Australia and Japan. The top five frequent countries without PCAOB inspections are China, France, Italy, Netherlands, and Spain.

substantial variation in the degree of multinationality across our sample firms. The standard deviation of *SUM_COUNTRY_NUM* is 13.647 and the min (max) value of *SUM_COUNTRY_NUM* is 1 (65). In addition, the firm characteristics are comparable to those reported in other studies on MNCs. For example, on average sample firms have a foreign sales ratio of 52.6%, an annual sales growth rate of 10.0% and a leverage of 46.9%, and 83.3% firms hire Big 4 auditors.

We also compare firm characteristics between subsamples with higher and lower missing PCAOB ratio. Specifically, we partition the full sample into two parts based on the yearly industry median value of *MISSING_COUNTRY_RATIO*. As shown in table 2 Panel C, MNCs in the higher *MISSING_COUNTRY_RATIO* group are more likely to restate their financial reports, providing preliminary support to H1. Furthermore, MNCs with higher *MISSING_COUNTRY_RATIO* are generally based in more foreign countries, rely more on foreign operations, are larger in size, have higherleverage, are less profitable and have more segments.

*4.2 Main Results (tests of H1 and H2)*

Table 3 reports the test of H1 from the model in Equations (1) that examines the probability of financial report restatement. In Column (1), the coefficient of *MISSING_COUNTRY_RATIO* is 0.334 and is statistically significant (t-statistics =1.97). This suggests that, holding constant the total number of foreign countries of operations, MNCs that operate in more foreign countries prohibiting PCAOB inspections are more likely to subsequently restate their financial statements. Using the mean value of all control variables in our sample, this coefficient indicates that compared with MNCs with *MISSING_COUNTRY_RATIO* at the bottom quartile (0.250), the likelihood of restatement for an

MNC with *MISSING_COUNTRY_RATIO* at the top quartile (0.541) is on average 0.92 percent higher. [8] This effect is equivalent to  of the 11.4 percent average likelihood of restatement in our sample (0.92%/11.4%=8.1%).

[Insert Table 3 here]

In Table 3 Columns (2) and (3), we add industry fixed effects and firm fixed effect to control for industry-wide unobservable factors (such as industrial trend) and firm specific characteristics (such as corporate culture) that might affect the audit quality of MNCs. MISSING_COUNTRY_RATIO continues to have positive and statistically significant coefficients. Overall, the evidence in Table 3 supports our H1 that the likelihood that an MNC subsequently restates its financial statements will be higher as the MNC operates in more foreign countries that prohibit the PCAOB from inspecting local auditors.

We find in Table 3 that the coefficients on common economic determinants of audit report restatement are largely consistent with prior research and in general have predicted signs. For example, firms with larger size (*SIZE*) are less likely to restate their audit report. Besides, firms that have higher leverage (*LEV*) and risk (*LAGRETURN*), or have more subsidiaries in countries with higher risk of management expropriation (*EXPROPRIATION*) are more likely to

[8] Consider the scenario of an MNC with *MISSING_COUNTRY_NUM* at the bottom quartile (i.e., *MISSING_COUNTRY_RATIO* = 0.250) and all firm characteristics equaling the mean value of variables in our sample (e.g., *SUM_COUNTRY_NUM* = 13.389, *FOREIGN SALES* = 0.526, etc.). In Table 3 Column (1), if we compute all the effects and add them up we have 0.084 (0.334 * 0.25; *MISSING_COUNTRY_RATIO*) + 0.013 (0.001 * 13.389; *SUM_COUNTRY_NUM*) + 0.037 (0.071 * 0.526 ; *FOREIGN SALES*) - 0.832 (-0.122 * 6.822; *SIZE*) - 0.272 (-0.334 * 0.814; *MB*) + 0.528 (1.125 * 0.469; *LEV*) - 0.011 (-0.015 * 0.765; *LOSS*) - 0.000 (-0.002 * 0.100; *GROWTH*) + 0.297 (0.026 * 11.41; *GEOSEG*) + 0.189 (0.078 * 2.428; *OPSEG*) + 0.016 (0.122 * 0.129; *LAGRETURN*) - 0.042 (-0.360 * 0.118; *VOLATILITY*) + 0.057 (0.006 * 9.554; *TENURE*) + 0.888 (1.066 * 0.833; *BIG4*) + 0.377 (0.006 * 62.763; *REPLAG*) + 1.412 (0.136 * 10.382; *GDP*) –0.031 (-0.066 * 0.472; *CIVILLAW*) – 0.306 (-0.037 * 8.277; *RULEOFLAW*) - 4.584 (Constant) = -2.182. The logistic transformation is: Probability = 1 / (1 + exp (2.182)) = 10.14%. Thus, the MNC is predicted as having an 10.14% chance of restating its financial statements. If we redo this, just changing one thing, which is assuming *MISSING_COUNTRY_RATIO* equaling to the top quartile (i.e., *MISSING_COUNTRY_RATIO*= 0.541), we compute that the MNC has an 11.06% chance of financial report restatement.

incur financial reports restatement. The area under the ROC curve for all columns of Table 3 is above 0.6, suggesting a good model fit.

Table 4 reports the results for the test of H2, the effect of missing PCAOB inspection on ERCs, using multivariate regression model in Equation (3). Similar to our model specifications in Table 3, all columns in Table 4 include year fixed effect and the models in columns (2) and (3) also include industry fixed effect and firm fixed effect, respectively. We find that both coefficients of BVPS and EPS are significantly positive in Columns (1) to (3), consistent with findings in prior studies (e.g., Ghosh et al., 2005; Balachandran and Mohanram, 2011). More importantly, in Column (1), we find a significant (t-statistics = -4.99) and negative (-1.451) coefficient on the interaction term *MISSING_COUNTRY_RATIO * EPS*, suggesting that the incremental ERC for MNCs having higher missing PCAOB ratio is negative.[9] Overall, the results presented in Table 4 suggest that, investors perceive the audited accounting numbers of MNCs operating in more non-inspection foreign countries as less informative of long-term value, and incorporate less information from reported earnings into stock price. The results for the test of H2 is consistent with the result of H1 that missing PCAOB inspections is associated with lower audit quality.

[Insert Table 4 here]

*4.3 Further analyses*

*4.3.1 Conditioning on Foreign Sales*

[9] Specifically, the results imply that for each unit increase in *MISSING_COUNTRY_RATIO*, ERC increases by -32.06 percent (-1.451/4.526). The magnitude of the negative incremental ERC is quite large. In particular, for one unit increase in the ratio of countries without PCAOB inspection, on average, stock price decreases by (0.891+1.451*1.197) or $2.628, given 1.197 as the sample average of EPS. Considering that average number of shares held by the sample firms are 192.070 million, it results in a decrease in market value by $504.760 million, whereas 33.90% of this value losing or $171.134 million ($0.891*192.070) loses exclusively for the increase in *MISSING_COUNTRY_RATIO*. Similarly, in Column (2) (Column (3)) including industry fixed effect (firm fixed effect), the coefficients of *MISSING_COUNTRY_RATIO * EPS* is -1.322 (-1.221), translating into a 28.36 percent (50.77 percent) decrease in the ERCs resulted from the increase of missing PCAOB inspection.

The evidence thus far is that operating in more foreign countries without PCAOB inspection negatively affects an MNC's overall audit quality. We contend that without the threat of PCAOB inspections, participating auditors in the no-inspection countries are less likely to provide sufficient effort in auditing their respective share of the MNC's financial statements. If this is the case, we would expect the effect of missing PCAOB inspection on audit quality to be stronger for firms that are the most likely to be affected by the work of participating auditors. To shed light on this possibility, we follow Gunn and Michas (2017) and employ the ratio of foreign sales to total sales as a proxy for the extent of an MNC's audit engagement that is conducted by participating auditors. We partition our sample into two subsamples according to whether an MNC's foreign sales ratio is above or below yearly median and rerun our regression models in Column (2) of Tables 3 and 4.[10]

Table 5 reports the results for this analysis. As shown in Panel A where the dependent variable is *RESTATE*, *MISSING_COUNTRY_RATIO* is positive and significant in the Column (1) subsample of MNCs' with higher foreign sales ratio, while it is not distinguishable from zero in the Column (2) subsample of MNC's with less sales generated in foreign countries. Chow tests indicates that the coefficient on *MISSING_COUNTRY_RATIO* of high foreign sales MNCs subsample is significantly higher than that of low foreign sales MNCs subsample. In Panel B regarding earnings response coefficient, we find that *MISSING_COUNTRY_RATIO * EPS* in both Columns (1) and (2) is negatively and significant. However, the magnitude of this coefficient is greater in Column (1) for the subsample with higher foreign sales ratio. Taken together, our results in Table 5 confirm our prediction the effects of missing PCAOB inspections

[10] We split the samples into separate models instead of including interactions because challenges may exist in interpreting interaction coefficients in logit model (Norton et al., 2004).

on the actual and market-assessed audit quality are stronger for MNCs with a larger share of the group audit conducted by participating auditors.

[Insert Table 5 here]

*4.3.2 Conditioning on Intangible Assets*

We next examine whether the link between missing PCAOB inspections and lower audit quality varies cross-sectionally with the difficulty of an MNC's audit engagement caused by its nature of business. Firms with more intangible assets are more difficult to audit (e.g., Stein, 2018), making audit quality more susceptible to the division of the audit engagement between the principal auditor and participating auditors. Because intangible assets are generally not actively traded in a market, the estimations of their fair values and related expenses require greater amounts of professional judgement. We predict that the negative association between missing PCAOB inspection and audit quality will be more pronounced in MNCs with more intangible assets, because participating auditors in no-inspection countries for these MNCs have greater freedom to exercise discretion based on their personal incentives rather than accounting rules. To test our conjecture, we split our sample into two subsamples according to whether an MNC's ratio of intangibles assets to total assets is greater than the yearly median and rerun our main models in Tables 3 and 4 for each subsample.

Table 6 presents the results for this analysis. As shown in the Panel A, the coefficient for *MISSING_COUNTRY_RATIO* is significantly positive for the subsample in Column (1) with higher intangible assets ratio, and is not significantly different from zero for the subsample in Column (2) with lower intangible assets ratio. In Panel B, *MISSING_COUNTRY_RATIO * EPS* is significantly more negative in Columns (1) than in Column (2) (p-value for Chow test < 0.05). These results indicate that the effect of missing PCAOB inspection on audit quality is enhanced

when the audit engagement is more challenging due to the MNC's operations involving more intangible assets.

[Insert Table 6 here]

*4.3.3 GDP in Countries that Prohibit PCAOB Inspection*

In this section, we analyze the association between missing PCAOB inspection and audit quality after considering the GDP rank in the counties that prohibit PCAOB inspection. Among all significant subsidiaries disclosed in Exhibit 21, audit practices on subsidiaries located in high-rank GDP countries are more likely to affect an MNC's overall audit quality. Because countries with higher GDP ranking tend to have more opportunities and be greater multinational markets for MNCs, and operations in these countries play an important role in MNCs' total business. Therefore, we expect that missing PCAOB inspection in high-rank GDP countries might affect MNCs' audit quality to a greater extent.

For this analysis, we partition *MISSING_COUNTRY_RATIO* into two measures based on the strength of missing PCAOB inspection and GDP rank. In particular, *TOP15_COUNTRY_RATIO* (*NO_TOP15_COUNTRY_RATIO*) equals the ratio of an MNC's foreign countries that (1) prohibit PCAOB inspections, and (2) whose GDP is (not) in the top 15.[11] Table 7 reports the tests of replacing *MISSING_COUNTRY_RATIO* with these two measures and re-running Equations (1) and (3). In Column (1) examining the restatement rate, the coefficient on *TOP15_COUNTRY_RATIO* is significantly positive while the coefficient on *NO_TOP15_COUNTRY_RATIO* is insignificant. Turning to Column (2) estimating Equation (3), the coefficients on interaction terms *TOP15_COUNTRY_RATIO * EPS* and

[11] We calculate and rank the average GDP in each country during our sample period (i.e., 2006-2014). In our sample MNCs' foreign counties of operations, the countries in top 15 GDP rank are China, Japan, Germany, France, United Kingdom, Brazil, Italy, India, Canada, Russia, Spain, Australia, Korea (South), Mexico, Netherlands.

*NO_TOP15_COUNTRY_RATIO* * *EPS* are both significant and positive. More importantly, a Chi-square test indicates that these coefficients are significantly different from each other across the two models. The economic magnitudes are also considerably high in Table 7. Taken Column (1) as an example, holding all other variables at their mean levels, the restatement rate of MNCs decreases from 20.5 percent when all missing PCAOB foreign countries are in the top 15 GDP rank to 16.4 percent when all missing PCAOB foreign countries are not in the top 15 GDP rank, a 250 percent reduction. Overall, these results suggest the operating in high-rank GDP countries that prohibit PCAOB inspection are more likely to harm the overall audit quality of a multinational firm.

[Insert Table 7 here]

*4.3.4 Local Regulator in Countries that Prohibit PCAOB Inspection*

Next, we examine the prediction in H1 and H2 by analyzing whether the impact of missing PCAOB inspection on audit quality of U.S. MNCs varies systematically with local audit oversight in countries that prohibit PCAOB inspection. Many foreign jurisdictions have created their own auditor oversight bodies and these inspections conducted by the local regulators may substitute the U.S. PCAOB inspections. Therefore, missing PCAOB oversight of foreign auditors should have less negative impact on audit quality if countries without PCAOB inspection adopt local auditor oversight function.

To address this, we follow Lamoreaux (2016) to define a foreign country's strength of local audit oversight using three alternative characteristics of local regulatory environment: (1) whether a local regulator is present in the foreign country (*LOCAL_REGULATOR*), (2) whether the foreign local regulator is a member of the International Forum of Independent Audit Regulators (*LOCAL_IFIAR*), and (3) whether a local auditor inspection program is present in the

foreign country (*LOCAL_INSPECTION*). Further, we separate our main test variable, *MISSING_COUNTRY_RATIO*, into three group measures based on these three characteristics. Specifically, using the first characteristic, *LOCAL_REGULATOR*, we create two variables, *NO_LOCAL_REGULATOR_RATIO* and *LOCAL_REGULATOR_RATIO*, to gauge the strength of local regulatory environment for an MNC's participating auditors in foreign jurisdictions that prohibit PCAOB inspection. *NO_LOCAL_REGULATOR_RATIO* equals the ratio of an MNC's foreign countries that (1) prohibit PCAOB inspections, and (2) do not have their own local auditor regulators. *LOCAL_REGULATOR_RATIO* equals the ratio of an MNC's foreign countries that (1) prohibit PCAOB inspections, and (2) have their own local auditor regulators. We create another two sets of variables (*NO_LOCAL_IFIAR_RATIO* and *LOCAL_IFIAR_RATIO*, *NO_LOCAL_INSPECTION_RATIO* and *LOCAL_INSPECTION_RATIO*) in a similar pattern using the other two measure of strong local auditor oversight (*LOCAL_IFIAR* and *LOCAL_INSPECTION*). We replace *MISSING_COUNTRY_RATIO* with each group of local regulator measures and re-estimate Equations (1) and (3). This allows to investigate whether local auditor regulators help improve audit quality in the background of missing PCAOB inspection.

Table 8 reports the results. In Panel A where the dependent variable is *RESTATE*, Columns (1) to (3) present Equation (1) estimated with three group proxies based on *LOCAL_REGULATOR*, *LOCAL_IFIAR* and *LOCAL_INSPECTION*, respectively. In Panel A Column (1), the coefficient on *NO_LOCAL_REGULATOR_RATIO* is positive and highly statistically significant. In sharp contrast, the coefficient on *LOCAL_REGULATOR_RATIO* is statistically indistinguishable from zero. This evidence indicates that the negative effect of missing PCAOB inspection on audit quality is weaker (stronger) when most countries without

PCAOB inspection have (not) conducted their local audit regulators. We provide similar evidence in Columns (2) and (3) estimated with *NO_LOCAL_IFIAR_RATIO*, *LOCAL_IFIAR_RATIO*, *NO_LOCAL_INSPECTION_RATIO* and *LOCAL_INSPECTION_RATIO*, indicating that the high quality local regulator in a country without PCAOB inspection helps improve the audit quality of an MNC who operates in it. When taken as a whole, the evidence in Table 8 Panel A shows that, local audit regulator is an effective substitute in improving audit quality when lacking PCAOB inspection, and it may could totally clean out the negative effect of missing PCAOB inspection, as the *LOCAL_REGULATOR_RATIO*, *LOCAL_IFIAR_RATIO* and *LOCAL_INSPECTION_RATIO* are not associated with *RESTATE* in Columns (1) to (3). This finding further supports the policy trend of U.S. PCAOB to place some reliance on these local regulators (Lamoreaux, 2016).

[Insert Table 8 here]

Panel B reports results from regressions using *STOCK PRICE* as the dependent variable. Columns (1) presents Equation (3) estimated with *NO_LOCAL_REGULATOR_RATIO* and *LOCAL_REGULATOR_RATIO.* As we can see, the coefficients on interaction terms *NO_LOCAL_REGULATOR_RATIO * EPS* and *LOCAL_REGULATOR_RATIO * EPS* are both negative and significant. This evidence further supports prior findings in Table 4 that missing PCAOB inspection impedes the incorporation of earnings information into the stock price. Furthermore, when comparing the magnitude of these two coefficients, it turns out that the coefficient of *NO_LOCAL_REGULATOR_RATIO * EPS* is significantly higher than that of *LOCAL_REGULATOR_RATIO * EPS*, indicating that when operating in foreign countries that prohibit the PCAOB from inspecting local auditors, investors perceive MNCs operating in more foreign countries without local audit regulators as less truthful. We provide similar evidence in

Columns (2) and (3) estimated with *NO_LOCAL_IFIAR_RATIO * EPS*, *LOCAL_IFIAR_RATIO * EPS*, *NO_LOCAL_INSPECTION_RATIO * EPS*, *LOCAL_INSPECTION_RATIO * EPS*. Taken together, Panel A and Panel B in Table 8 suggest that the effects of H1 and H2 will be weaker when local auditor regulators provide additional monitoring in the foreign countries of the MNC's operations that prohibit the PCAOB from inspecting local auditors.

*4.3.5 Alternative measure of audit quality*

In this section, we examine whether the effect of PCAOB international inspections we document is robust to using abnormal accruals as the measure for audit quality. Specifically, we revise our model in Equation (1) to a linear regression model where the dependent variable is *ABS_ACCRUAL*, the absolute value of abnormal accruals derived from the performance adjusted accruals model in Kothari et al. (2005). Our results in Table 9, Columns (1) to (3) suggest that the coefficients of the *MISSING_COUNTRY_RATIO* continue to be positive and statistically significant with this alternative measure of audit quality.

[Insert Table 9 here]

## 5. Conclusion and Discussion

We examine the relation between U.S multinational corporations' (MNCs) foreign operations and their audit quality. Given the group-audit nature of MNCs' audit engagements and the coordination needed between the principal auditor and participating auditors, we expect that audit outcomes will vary cross-sectionally with the MNC's operations in foreign countries, and in particular, in countries that prohibit the PCAOB's inspections. Our empirical results suggest that an MNC's actual and market-assessed audit quality is lower when the MNC operates in more inspection-prohibiting foreign countries.

Our study identifies the foreign audit regulatory environment as a cross-sectional risk factor that affects MNCs' overall audit quality. We add to the emerging literature on group audits and extend the prior literature on the cross-country differences in audit quality by showing that a fraction of a firm's operations in foreign countries is sufficient to affect its overall audit quality. The improvement in the foreign audit regulatory environment can be achieved through more active foreign local regulators, or the PCAOB's international inspection program, or a combination of both. Our empirical evidence suggests that such improvement will be beneficial to the overall quality of the MNC's audit engagement.

Note that we focus on the *cross-sectional* variation in MNCs' locations of operations. While our results are consistent with PCAOB international inspections improving MNCs' audit quality, our study does not directly examine the benefits. A more suitable research design for answering this question would involve comparing the same firm's audit quality before versus after the introduction of PCAOB inspections in a foreign country of the MNC's operations (similar to Lamoreaux, 2016). However, due to the scattered timing pattern of the PCAOB's introduction of inspections in foreign countries, it is unlikely that the initiation of foreign inspections in a year that involves only one or two countries will result in the change in MNCs' audit quality that is large enough to show in statistical tests.

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**Appendix A. Jurisdictions Where the PCAOB has Conducted International Inspections**

| Jurisdictions | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| Argentina | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Australia | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Belize | | | | yes | yes | yes | yes | yes | yes |
| Belgium | | yes | | | | | | | |
| Bermuda | | | yes | yes | yes | yes | yes | yes | yes |
| Bolivia | | | | yes | yes | yes | yes | yes | yes |
| Brazil | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Canada | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Cayman Islands | | | | yes | yes | yes | yes | yes | yes |
| Chile | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| China | | yes | | | | | | | |
| Colombia | | | yes | yes | yes | yes | yes | yes | yes |
| Finland | | | | | | | | | yes |
| France | yes | yes | | | | | | | yes |
| Germany | yes | yes | | | | | yes | yes | yes |
| Greece | | yes | yes | yes | yes | yes | yes | yes | yes |
| Hong Kong | | | yes | yes | yes | yes | yes | yes | yes |
| India | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Indonesia | | | yes | yes | yes | yes | yes | yes | yes |
| Ireland | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Israel | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Japan | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Kazakhstan | | | yes | yes | yes | yes | yes | yes | yes |
| Korea | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Malaysia | | | | | yes | yes | yes | yes | yes |
| Mexico | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Netherlands | yes | yes | | | | | yes | yes | yes |
| New Zealand | | | yes | yes | yes | yes | yes | yes | yes |
| Nicaragua | | | | | | | | yes | yes |
| Norway | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Panama | | | yes | yes | yes | yes | yes | yes | yes |
| Papua New Guinea | | | | yes | yes | yes | yes | yes | yes |
| Peru | | | yes | yes | yes | yes | yes | yes | yes |
| Philippines | | yes | | yes | yes | yes | yes | yes | yes |
| Russian Federation | | | yes | yes | yes | yes | yes | yes | yes |
| Singapore | | yes | yes | yes | yes | yes | yes | yes | yes |
| South Africa | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| Spain | | | | | | | yes | yes | yes |
| Sweden | yes | yes | | | | | | | yes |
| Switzerland | yes | yes | | | | yes | yes | yes | yes |
| Chinese Taipei (Taiwan) | | | yes | yes | yes | yes | yes | yes | yes |
| Thailand | | | | | yes | yes | yes | yes | yes |
| Turkey | | | | | | yes | yes | yes | yes |
| Ukraine | | | | yes | yes | yes | yes | yes | yes |
| United Arab Emirates | | | | yes | yes | yes | yes | yes | yes |
| United Kingdom | yes | yes | yes | yes | yes | yes | yes | yes | yes |

Appendix A provides information on the foreign jurisdictions included in analysis where the PCAOB has conducted international inspections. This table lists the Country name and whether it allows PCAOB inspections each year in our analysis ("yes" means allowing PCAOB inspections).
Information in 2006 to 2008 is obtained from the PCAOB annual reports 2006 to 2008. (resource:
PCAOB annual report 2006 (https://pcaobus.org/About/Administration/Documents/Annual%20Reports/2006.pdf)
PCAOB annual report 2007 (https://pcaobus.org/About/Administration/Documents/Annual%20Reports/2007.pdf)
PCAOB annual report 2008 (https://pcaobus.org/About/Administration/Documents/Annual%20Reports/2008.pdf)).
Information in 2009 to 2014 is obtained from the official website of PCAOB
(resource: https://pcaobus.org/International/Inspections/Pages/Archived_Lists.aspx).

**Appendix B: Variable Definitions**

| Variables | Definitions |
|---|---|
| *Dependent variables* | |
| *RESTATE* | A dummy variable that equals 1 for firms that restated their annual financial statements, 0 otherwise. |
| *STOCK PRICE* | The stock price three months after fiscal year end. |
| *Variables of interest* | |
| *MISSING_COUNTRY_RATIO* | The percentage of countries that prohibit the PCAOB from inspecting their domestic auditors. |
| *Control variables* | |
| *SUM_COUNTRY_NUM* | The number of countries in which a firm has foreign subsidiaries. |
| *FOREIGN SALES* | The ratio of foreign sales to total sales. |
| *SIZE* | The natural logarithm of total assets. |
| *MB* | The ratio of market value of equity to book value of equity. |
| *LEV* | The ratio of total liabilities to total assets. |
| *LOSS* | A dummy variable that equals 1 if the firm has negative net income, and 0 otherwise. |
| *GROWTH* | The annual sales growth rate. |
| *GEOSEG* | The number of the sum of geographic segments. |
| *OPSEG* | The number of the sum of operating segments. |
| *LAGRETURN* | The firm's 12-month stock returns for the prior fiscal year. |
| *VOLATILITY* | The standard deviation of 12 monthly stock returns for the current fiscal year. |
| *TENURE* | The number of audit firm tenure. |
| *BIG4* | A dummy variable that equals 1 if the firm is audited by a Big 4 audit firm during the fiscal year. |
| *REPLAG* | The number of days between the audit report date and the fiscal year end date. |
| *GDP* | The natural logarithm of weighted average of the gross domestic product (GDP) of all the foreign countries in which the firm has subsidiaries. Obtained from the World Bank website (http://data.worldbank.org/indicator). |
| *CIVILLAW* | Indicator variable that equals 1 if any of the foreign countries in which the firm has subsidiaries has a civil law system (La Porta et al. 1998). Source: La Porta website; Dyreng website |
| *RULEOFLAW* | Weighted average of the rule of law index (La Porta et al. 1998) of all the foreign countries in which a firm has subsidiaries. The weight is the number of subsidiaries that the firm in that country. Source: La Porta website; Dyreng website |
| *BVPS* | The book value per share, calculated as book value of equity divided by shares outstanding at the end of fiscal year *t*. |
| *EPS* | Earnings per share, calculated as income before extraordinary items divided by shares outstanding at the end of fiscal year *t*. |
| *Additional variables included in further analyses* | |
| *NO_TOP15_COUNTRY_RATIO* | The ratio of foreign countries that prohibit the PCAOB and whose GDP is not in the top 15. |

| | |
|---|---|
| *TOP15_COUNTRY_RATIO* | The ratio of foreign countries that prohibit the PCAOB and whose GDP is in the top 15. |
| *NO_LOCAL_REGULATOR_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have NOT conducted their local auditor regulators (Lamoreaux, 2016). |
| *LOCAL_REGULATOR_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have conducted their local auditor regulators (Lamoreaux, 2016). |
| *NO_LOCAL_IFIAR_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have NOT conducted high quality local auditor regulators (membership in the International Forum of Independent Audit Regulators) (Lamoreaux, 2016). |
| *LOCAL_IFIAR_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have conducted high quality local auditor regulators (membership in the International Forum of Independent Audit Regulators) (Lamoreaux, 2016). |
| *NO_LOCAL_INSPECTION_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have NOT conducted high quality local auditor regulators (regulators who conduct their own audit inspections) (Lamoreaux, 2016). |
| *LOCAL_INSPECTION_RATIO* | The ratio of foreign countries that prohibit the PCAOB and have conducted high quality local auditor regulators (regulators who conduct their own audit inspections) (Lamoreaux, 2016). |
| *ABS_ACCRUAL* | The absolute value of abnormal accruals derived from the performance adjusted accruals model in Kothari et al. (2005). |

**Table 1. Sample selection for the period 2006-2014**

| Description | |
|---|---|
| Restatement model | |
| Firms with foreign subsidiary data from Scott Dyreng's website | 23,492 |
| Less: | |
| Missing Audit Analytics data | (578) |
| Firms in financial sector (SIC: 6000-6799) or with missing foreign sales ratio data | (7,699) |
| Firms with other missing control variables | (5,863) |
| Final sample for restatement model | **9,352** |
| Less: | |
| Firm years without control variables | (153) |
| Final sample for ERCs model | **9,199** |

**Note:** This table reports sample selection procedures to test both the models: the *RESTATE* model and the *ERC* model

**Table 2 Sample descriptions**

**Panel A Distribution by year**

| Year | # foreign countries in which MNCs have subsidiaries | # foreign countries allowing PCAOB inspections | # foreign countries prohibiting PCAOB inspections | *MISSING_COUNTRY_RATIO* |
|---|---|---|---|---|
| 2006 | 12.978 | 5.716 | 7.262 | 0.452 |
| 2007 | 13.459 | 7.262 | 6.197 | 0.355 |
| 2008 | 13.820 | 6.036 | 7.784 | 0.491 |
| 2009 | 13.945 | 6.718 | 7.227 | 0.456 |
| 2010 | 14.008 | 7.118 | 6.890 | 0.433 |
| 2011 | 14.034 | 7.405 | 6.629 | 0.413 |
| 2012 | 13.140 | 7.667 | 5.473 | 0.347 |
| 2013 | 13.023 | 8.721 | 4.302 | 0.256 |
| 2014 | 12.752 | 8.903 | 3.849 | 0.230 |

**Panel B Summary statistics**

| VARIABLES | N | MEAN | SD | MIN | P25 | P50 | P75 | MAX |
|---|---|---|---|---|---|---|---|---|
| *RESTATE* | 9352 | 0.114 | 0.318 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |
| *STOCK PRICE* | 9199 | 27.546 | 20.908 | -1.313 | 9.340 | 22.640 | 43.030 | 65.550 |
| *MISSING_COUNTRY_RATIO* | 9352 | 0.396 | 0.238 | 0.000 | 0.250 | 0.429 | 0.541 | 1.000 |
| *SUM_COUNTRY_NUM* | 9352 | 13.389 | 13.647 | 1.000 | 3.000 | 8.000 | 19.000 | 65.000 |
| *FOREIGN SALES* | 9352 | 0.526 | 0.340 | 0.000 | 0.226 | 0.485 | 0.883 | 1.000 |
| *SIZE* | 9352 | 6.822 | 1.818 | 1.075 | 5.583 | 6.804 | 8.079 | 10.506 |
| *MB* | 9352 | 0.814 | 0.755 | -1.520 | 0.317 | 0.761 | 1.250 | 3.956 |
| *LEV* | 9352 | 0.469 | 0.206 | 0.035 | 0.310 | 0.467 | 0.613 | 0.998 |
| *LOSS* | 9352 | 0.765 | 0.424 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| *GROWTH* | 9352 | 0.100 | 0.379 | -0.986 | -0.026 | 0.068 | 0.168 | 6.565 |
| *GEOSEG* | 9352 | 11.410 | 6.644 | 1.000 | 6.000 | 9.000 | 15.000 | 31.000 |
| *OPSEG* | 9352 | 2.428 | 4.224 | 1.000 | 1.000 | 1.000 | 1.000 | 21.000 |
| *LAGRETURN* | 9352 | 0.129 | 0.536 | -0.853 | -0.184 | 0.071 | 0.333 | 3.492 |
| *VOLATILITY* | 9352 | 0.118 | 0.067 | 0.015 | 0.073 | 0.102 | 0.145 | 0.525 |
| *TENURE* | 9352 | 9.554 | 2.752 | 1.000 | 7.000 | 9.000 | 12.000 | 15.000 |
| *BIG4* | 9352 | 0.833 | 0.373 | 0.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| *REPLAG* | 9352 | 62.763 | 19.418 | 16.000 | 54.000 | 59.000 | 70.000 | 246.000 |
| *GDP* | 9352 | 10.382 | 0.452 | 7.535 | 10.220 | 10.451 | 10.648 | 11.362 |
| *CIVILLAW* | 9352 | 0.472 | 0.283 | 0.000 | 0.286 | 0.500 | 0.660 | 1.000 |
| *RULEOFLAW* | 9352 | 8.277 | 1.076 | 4.758 | 7.700 | 8.359 | 9.018 | 10.000 |
| *EPS* | 9199 | 1.203 | 2.162 | -6.850 | 0.040 | 0.970 | 2.250 | 7.540 |
| *BVPS* | 9199 | 12.285 | 10.586 | 0.002 | 4.762 | 9.511 | 16.541 | 53.372 |
| *ABS_ACCRUAL* | 8885 | 0.104 | 0.237 | 0.001 | 0.022 | 0.051 | 0.105 | 3.914 |

**Panel C Comparative statistics**

| VARIABLES | Lower *MISSING_COUNTRY_RATIO* | Higher *MISSING_COUNTRY_RATIO* | Difference in mean |
|---|---|---|---|
| *RESTATE* | 0.106 | 0.122 | -0.016** |
| *STOCK PRICE* | 25.719 | 29.190 | -3.470*** |
| *MISSING_COUNTRY_RATIO* | 0.224 | 0.550 | -0.326*** |
| *SUM_COUNTRY_NUM* | 9.188 | 17.173 | -7.986*** |
| *FOREIGN SALES* | 0.494 | 0.554 | -0.060*** |
| *SIZE* | 6.511 | 7.125 | -0.614*** |
| *MB* | 0.828 | 0.802 | 0.026 |
| *LEV* | 0.451 | 0.485 | -0.034*** |
| *LOSS* | 0.751 | 0.778 | -0.028*** |
| *GROWTH* | 0.100 | 0.100 | 0.000 |
| *GEOSEG* | 11.004 | 11.775 | -0.771*** |
| *OPSEG* | 2.254 | 2.584 | -0.330*** |
| *LAGRETURN* | 0.134 | 0.124 | 0.010 |
| *VOLATILITY* | 0.120 | 0.115 | 0.005*** |
| *TENURE* | 9.541 | 9.566 | -0.025 |
| *BIG4* | 0.810 | 0.853 | -0.044*** |
| *REPLAG* | 63.445 | 62.149 | 1.296*** |
| *GDP* | 10.407 | 10.360 | 0.047*** |
| *CIVILLAW* | 0.406 | 0.530 | -0.124*** |
| *RULEOFLAW* | 8.260 | 8.292 | -0.032 |
| *EPS* | 1.051 | 1.328 | -0.277*** |
| *BVPS* | 11.234 | 13.179 | -1.944*** |
| *ABS_ACCRUAL* | 0.103 | 0.105 | -0.002 |

**Note:**
This table shows the sample descriptions. Panel A shows the distribution of firm-year observations by year. For each year we calculate the number of foreign countries in which MNCs have subsidiaries, the number of foreign countries allowing PCAOB inspections and the number of foreign countries prohibiting PCAOB inspections. Panel B shows the summary statistics, including the number of observations, mean, standard deviation, min, the bottom quarter, median, the top quarter, and the max. Panel C shows the comparative statistics between two subsamples with *MISSING_COUNTRY_RATIO* above and below median. Variables are defined in the Appendix B. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 3. The effect of missing PCAOB inspection on audit report restatement**

| VARIABLES | (1)<br>*RESTATE* | (2)<br>*RESTATE* | (3)<br>*RESTATE* |
|---|---|---|---|
| *MISSING_COUNTRY_RATIO* | 0.334** | 0.345** | 0.586** |
| | (1.97) | (1.98) | (2.36) |
| *SUM_COUNTRY_NUM* | 0.001 | 0.002 | -0.001 |
| | (0.27) | (0.60) | (-0.14) |
| *FOREIGN SALES* | 0.071 | 0.099 | 0.044 |
| | (0.67) | (0.88) | (0.21) |
| *SIZE* | -0.122*** | -0.136*** | -0.115** |
| | (-4.39) | (-4.49) | (-2.12) |
| *MB* | -0.334*** | -0.334*** | -0.383*** |
| | (-6.60) | (-6.36) | (-4.72) |
| *LEV* | 1.125*** | 0.979*** | 1.315*** |
| | (5.73) | (4.67) | (3.71) |
| *LOSS* | -0.015 | -0.001 | -0.192 |
| | (-0.17) | (-0.01) | (-1.59) |
| *GROWTH* | -0.002 | -0.001 | -0.002 |
| | (-0.23) | (-0.13) | (-0.12) |
| *GEOSEG* | 0.026** | 0.028** | 0.043** |
| | (2.57) | (2.58) | (2.07) |
| *OPSEG* | 0.078*** | 0.086*** | 0.129*** |
| | (4.71) | (4.79) | (3.98) |
| *LAGRETURN* | 0.122* | 0.128* | 0.230*** |
| | (1.81) | (1.89) | (2.95) |
| *VOLATILITY* | -0.360 | -0.317 | -0.395 |
| | (-0.61) | (-0.53) | (-0.53) |
| *TENURE* | 0.006 | 0.001 | 0.093*** |
| | (0.37) | (0.06) | (4.99) |
| *BIG4* | 1.066*** | 1.061*** | 1.158*** |
| | (8.69) | (8.55) | (5.34) |
| *REPLAG* | 0.006*** | 0.005*** | 0.002 |
| | (3.53) | (3.23) | (1.01) |
| *GDP* | 0.136 | 0.129 | 0.106 |
| | (1.23) | (1.15) | (0.59) |
| *CIVILLAW* | -0.066 | -0.046 | -0.062 |
| | (-0.49) | (-0.32) | (-0.26) |
| *RULEOFLAW* | -0.037 | -0.044 | -0.050 |
| | (-0.81) | (-0.96) | (-0.65) |
| Constant | -4.584*** | -3.834*** | -6.084*** |
| | (-4.79) | (-3.50) | (-3.85) |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | | Yes | |
| Firm Fixed Effects | | | Yes |
| Observations | 9,352 | 9,352 | 9,352 |
| ROC | 0.649 | 0.672 | 0.951 |

**Note:**
This table examines the effect of missing PCAOB inspection on the probability of restatement. *RESTATE* is a dummy variable that equals 1 for firms that restated their annual financial statements, 0 otherwise. *MISSING_COUNTRY_RATIO* is the percentage of countries that prohibit the PACOB from inspecting their domestic auditors. The logit regressions control for year fixed effects in Column (1), control for year and industry fixed effects in Column (2), and control for year and firm fixed effects in Column (3). Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 4. Earnings response coefficient and missing PCAOB inspection**

| VARIABLES | (1)<br>*STOCK PRICE* | (2)<br>*STOCK PRICE* | (3)<br>*STOCK PRICE* |
|---|---|---|---|
| *BVPS* | 0.636*** | 0.651*** | 0.569*** |
| | (38.45) | (38.72) | (20.21) |
| *EPS* | 4.526*** | 4.661*** | 2.405*** |
| | (12.52) | (13.22) | (7.16) |
| *MISSING_COUNTRY_RATIO* | -0.891 | -1.444** | 0.923 |
| | (-1.41) | (-2.32) | (1.44) |
| *MISSING_COUNTRY_RATIO * EPS* | -1.451*** | -1.322*** | -1.221*** |
| | (-4.99) | (-4.67) | (-5.13) |
| *SUM_COUNTRY_NUM* | 0.083*** | 0.012 | -0.018 |
| | (5.59) | (0.79) | (-0.81) |
| *SUM_COUNTRY_NUM * EPS* | 0.016*** | 0.020*** | 0.006 |
| | (3.27) | (4.25) | (1.33) |
| *FOREIGN SALES* | -0.318 | 0.730* | -0.430 |
| | (-0.73) | (1.66) | (-0.57) |
| *FOREIGN SALES * EPS* | 0.067 | -0.203 | 0.220 |
| | (0.36) | (-1.11) | (1.30) |
| *SIZE* | 2.267*** | 2.897*** | 1.081*** |
| | (19.84) | (24.86) | (3.13) |
| *SIZE * EPS* | -0.322*** | -0.365*** | -0.169*** |
| | (-7.82) | (-8.96) | (-4.06) |
| *LEV* | 1.092 | 1.747** | -0.492 |
| | (1.43) | (2.24) | (-0.44) |
| *LEV * EPS* | -0.497 | -0.355 | 0.110 |
| | (-1.51) | (-1.10) | (0.37) |
| *LOSS* | 4.372*** | 4.233*** | 1.295*** |
| | (12.51) | (12.46) | (4.72) |
| *LOSS * EPS* | 2.339*** | 2.279*** | 0.707*** |
| | (12.32) | (12.39) | (5.12) |
| Constant | -4.838*** | -6.561*** | 12.825*** |
| | (-7.08) | (-8.47) | (5.54) |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | | Yes | |
| Firm Fixed Effects | | | Yes |
| Observations | 9,199 | 9,199 | 9,199 |
| adj. R-sq | 0.663 | 0.686 | 0.874 |

**Note:**
This table examines the effect of missing PCAOB inspection on the Earnings response coefficient. *STOCK PRICE* is the stock price three months after fiscal year end. *EPS* is earnings per share, calculated as income before extraordinary items divided by shares outstanding at the end of fiscal year t. *MISSING_COUNTRY_RATIO* is the percentage of countries that prohibit the PACOB from inspecting their domestic auditors. The OLS regressions control for year fixed effects in Column (1), control for year and industry fixed effects in Column (2), and control for year and firm fixed effects in Column (3). Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 5. Conditioning on foreign sales**

**Panel A Restatement**

| VARIABLES | (1)<br>*RESTATE* | (2)<br>*RESTATE* |
|---|---|---|
| *MISSING_COUNTRY_RATIO* | 0.691** | 0.085 |
| | (2.55) | (0.36) |
| *SUM_COUNTRY_NUM* | 0.005 | -0.007 |
| | (1.23) | (-1.15) |
| *FOREIGN SALES* | 0.442* | 0.265 |
| | (1.87) | (0.73) |
| *SIZE* | -0.176*** | -0.097** |
| | (-4.14) | (-2.09) |
| *MB* | -0.305*** | -0.376*** |
| | (-4.07) | (-4.91) |
| *LEV* | 0.813*** | 1.132*** |
| | (2.72) | (3.65) |
| *LOSS* | -0.089 | 0.041 |
| | (-0.70) | (0.31) |
| *GROWTH* | -0.004 | 0.106 |
| | (-0.03) | (0.92) |
| *GEOSEG* | 0.015 | 0.059*** |
| | (1.07) | (3.22) |
| *OPSEG* | 0.106*** | 0.084*** |
| | (4.37) | (2.91) |
| *LAGRETURN* | 0.059 | 0.236** |
| | (0.59) | (2.44) |
| *VOLATILITY* | 0.067 | -0.726 |
| | (0.08) | (-0.78) |
| *TENURE* | 0.023 | -0.017 |
| | (0.93) | (-0.71) |
| *BIG4* | 1.054*** | 1.130*** |
| | (6.03) | (6.16) |
| *REPLAG* | 0.006*** | 0.005* |
| | (2.85) | (1.92) |
| *GDP* | 0.214 | 0.029 |
| | (1.29) | (0.18) |
| *CIVILLAW* | -0.105 | 0.024 |
| | (-0.49) | (0.12) |
| *RULEOFLAW* | -0.083 | -0.020 |
| | (-1.20) | (-0.32) |
| Constant | -19.213 | -2.715* |
| | (-0.01) | (-1.84) |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Observations | 4,677 | 4,675 |
| ROC | 0.696 | 0.698 |
| Subgroup | *FOREIGN SALES*<br>above median | *FOREIGN SALES*<br>below median |
| Difference on *MISSING_COUNTRY_RATIO* (1) – (2) | 0.606* | |

**Panel B Earnings response coefficient**

| VARIABLES | (1)<br>*STOCK PRICE* | (2)<br>*STOCK PRICE* |
|---|---|---|
| *BVPS* | 0.009*** | 0.188*** |
| | (2.79) | (14.55) |
| *EPS* | 6.314*** | 5.136*** |
| | (10.33) | (9.84) |
| *MISSING_COUNTRY_RATIO* | 0.287 | -0.641 |
| | (0.28) | (-0.74) |
| *MISSING_COUNTRY_RATIO * EPS* | -2.053*** | -0.942** |
| | (-4.38) | (-2.36) |
| *SUM_COUNTRY_NUM* | 0.000 | 0.039 |
| | (0.01) | (1.37) |
| *SUM_COUNTRY_NUM * EPS* | 0.018*** | 0.005 |
| | (2.73) | (0.60) |
| *FOREIGN SALES* | -0.355 | 0.599 |
| | (-0.34) | (0.42) |
| *FOREIGN SALES * EPS* | -0.582 | 1.082** |
| | (-1.52) | (2.16) |
| *SIZE* | 3.710*** | 3.960*** |
| | (21.70) | (22.89) |
| *SIZE * EPS* | -0.244*** | -0.337*** |
| | (-3.97) | (-5.47) |
| *LEV* | -3.485*** | -2.739** |
| | (-3.02) | (-2.35) |
| *LEV * EPS* | -2.416*** | -1.652*** |
| | (-4.87) | (-3.41) |
| *LOSS* | 5.525*** | 3.883*** |
| | (10.80) | (7.59) |
| *LOSS * EPS* | 2.575*** | 2.746*** |
| | (9.34) | (9.89) |
| Constant | -5.174*** | -7.725*** |
| | (-3.63) | (-6.82) |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Observations | 4,620 | 4,579 |
| adj. R-sq | 0.641 | 0.655 |
| Subgroup | *FOREIGN SALES*<br>above median | *FOREIGN SALES*<br>below median |
| Difference on *MISSING_COUNTRY_RATIO * EPS* (1) – (2) | -1.111* | |

**Note:**
This table examines the effect of missing PCAOB inspection conditioning on foreign sales ratio. Panels A and B report results from regressions estimating Equations (1) and (3), respectively. Results are partitioned into two parts based on the yearly industry median value of *FOREIGN SALES*. *FOREIGN SALES* is the ratio of foreign sales to total sales. All the OLS and logit regressions control for year and industry fixed effects. Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 6. Conditioning on intangible assets ratio**

**Panel A Restatement**

| VARIABLES | (1)<br>*RESTATE* | (2)<br>*RESTATE* |
|---|---|---|
| *MISSING_COUNTRY_RATIO* | 0.462* | 0.103 |
| | (1.73) | (0.43) |
| *SUM_COUNTRY_NUM* | 0.004 | -0.000 |
| | (0.90) | (-0.01) |
| *FOREIGN SALES* | 0.274* | -0.005 |
| | (1.74) | (-0.03) |
| *SIZE* | -0.172*** | -0.103** |
| | (-3.68) | (-2.39) |
| *MB* | -0.407*** | -0.235*** |
| | (-4.75) | (-3.27) |
| *LEV* | 1.000*** | 0.925*** |
| | (3.09) | (3.20) |
| *LOSS* | -0.085 | 0.068 |
| | (-0.66) | (0.53) |
| *GROWTH* | -0.161 | 0.001 |
| | (-1.03) | (0.15) |
| *GEOSEG* | 0.024 | 0.037*** |
| | (1.33) | (2.70) |
| *OPSEG* | 0.022* | 0.040*** |
| | (1.78) | (3.61) |
| *LAGRETURN* | 0.070 | 0.071 |
| | (0.84) | (1.12) |
| *VOLATILITY* | 0.176 | -0.777 |
| | (0.17) | (-0.88) |
| *TENURE* | -0.021 | 0.013 |
| | (-0.93) | (0.49) |
| *BIG4* | 0.933*** | 1.076*** |
| | (5.04) | (6.29) |
| *REPLAG* | 0.007*** | 0.004** |
| | (2.90) | (2.03) |
| *GDP* | 0.288 | -0.034 |
| | (1.62) | (-0.23) |
| *CIVILLAW* | 0.183 | -0.201 |
| | (0.85) | (-1.02) |
| *RULEOFLAW* | 0.003 | -0.046 |
| | (0.04) | (-0.74) |
| Constant | -5.618*** | -2.297 |
| | (-3.27) | (-1.57) |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Observations | 4,536 | 4,730 |
| ROC | 0.690 | 0.699 |
| Subgroup | Intangible assets ratio above median | Intangible assets ratio below median |
| Difference on *MISSING_COUNTRY_RATIO* (1) – (2) | 0.359 | |

**Panel B Earnings response coefficient**

| VARIABLES | (1)<br>*STOCK PRICE* | (2)<br>*STOCK PRICE* |
|---|---|---|
| *BVPS* | 0.860*** | 0.716*** |
| | (31.66) | (25.33) |
| *EPS* | 6.733*** | 2.478*** |
| | (10.63) | (4.61) |
| *MISSING_COUNTRY_RATIO* | -0.727 | -1.616* |
| | (-0.66) | (-1.72) |
| *MISSING_COUNTRY_RATIO * EPS* | -2.764*** | -1.282*** |
| | (-5.95) | (-2.78) |
| *SUM_COUNTRY_NUM* | -0.037 | 0.028 |
| | (-1.63) | (1.06) |
| *SUM_COUNTRY_NUM * EPS* | 0.039*** | 0.015* |
| | (5.21) | (1.84) |
| *FOREIGN SALES* | 1.577** | 1.256* |
| | (2.19) | (1.76) |
| *FOREIGN SALES * EPS* | -0.379 | -0.317 |
| | (-1.29) | (-1.06) |
| *SIZE* | 2.622*** | 2.546*** |
| | (12.88) | (14.10) |
| *SIZE * EPS* | -0.417*** | 0.029 |
| | (-5.64) | (0.45) |
| *LEV* | 8.002*** | 1.091 |
| | (6.04) | (0.90) |
| *LEV * EPS* | -0.934* | -1.828*** |
| | (-1.70) | (-3.59) |
| *LOSS* | 3.905*** | 3.948*** |
| | (6.97) | (7.35) |
| *LOSS * EPS* | 1.971*** | 3.424*** |
| | (6.31) | (11.99) |
| Constant | -9.944*** | -4.989*** |
| | (-7.38) | (-4.14) |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Observations | 4,473 | 4,643 |
| adj. R-sq | 0.707 | 0.68 |
| Subgroup | Intangible assets ratio above median | Intangible assets ratio below median |
| Difference on *MISSING_COUNTRY_RATIO * EPS* (1) – (2) | -1.482** | |

**Note:**
This table examines the effect of missing PCAOB inspection conditioning on intangible assets ratio. Panels A and B report results from regressions estimating Equations (1) and (3), respectively. Results are partitioned into two parts based on the yearly industry median value of the ratio of intangibles assets to total sales. All the OLS and logit regressions control for year and industry fixed effects. Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 7. Missing PCAOB in top 15 GDP countries**

| VARIABLES | (1)<br>*RESTATE* | (2)<br>*STOCK PRICE* |
|---|---|---|
| *TOP15_COUNTRY_RATIO* | 0.520** | 0.719 |
| | (2.23) | (0.87) |
| *TOP15_COUNTRY_RATIO * EPS* | | -2.354*** |
| | | (-5.84) |
| *NO_TOP15_COUNTRY_RATIO* | 0.250 | -0.447 |
| | (1.00) | (-0.49) |
| *NO_TOP15_COUNTRY_RATIO * EPS* | | -1.372*** |
| | | (-3.59) |
| *SUM_COUNTRY_NUM* | -0.001 | -0.010 |
| | (-0.33) | (-0.56) |
| *SUM_COUNTRY_NUM * EPS* | | 0.011** |
| | | (2.11) |
| *FOREIGN SALES* | 0.082 | 0.918* |
| | (0.63) | (1.86) |
| *FOREIGN SALES * EPS* | | -0.057 |
| | | (-0.29) |
| Constant | -3.404*** | -9.384*** |
| | (-2.91) | (-10.85) |
| Other control variables | Yes | Yes |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| Observations | 9,352 | 9,199 |
| ROC | 0.769 | |
| adj. R-sq | | 0.678 |
| Difference | | |
| *TOP15_COUNTRY_RATIO – NO_TOP15_COUNTRY_RATIO* | 0.270 | |
| *TOP15_COUNTRY_RATIO * EPS – NO_TOP15_COUNTRY_RATIO * EPS* | | -0.982** |

**Note:**
This table examines the effect of high GDP on the negative association between missing PCAOB inspection and audit quality. Columns (1) and (2) report results from regressions estimating Equations (1) and (3), respectively. *NO_TOP15_COUNTRY_RATIO* is the ratio of foreign countries that prohibit the PCAOB and whose GDP is not in the top 15. *TOP15_COUNTRY_RATIO* is the ratio of foreign countries that prohibit the PCAOB and whose GDP is in the top 15. All the OLS and logit regressions control for year and industry fixed effects. Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 8. Missing PCAOB inspection and local regulators**

**Panel A Restatement**

| VARIABLES | (1) *RESTATE* | (2) *RESTATE* | (3) *RESTATE* |
|---|---|---|---|
| *NO_LOCAL_REGULATOR_RATIO* | 0.570** | | |
| | (2.03) | | |
| *LOCAL_REGULATOR_RATIO* | 0.253 | | |
| | (1.28) | | |
| *NO_LOCAL_IFIAR_RATIO* | | 0.508* | |
| | | (1.92) | |
| *LOCAL_IFIAR_RATIO* | | 0.262 | |
| | | (1.29) | |
| *NO_LOCAL_INSPECTION_RATIO* | | | 0.545** |
| | | | (1.98) |
| *LOCAL_INSPECTION_RATIO* | | | 0.258 |
| | | | (1.30) |
| *SUM_COUNTRY_NUM* | 0.001 | 0.001 | 0.001 |
| | (0.28) | (0.34) | (0.30) |
| *FOREIGN SALES* | 0.106 | 0.105 | 0.106 |
| | (0.94) | (0.94) | (0.94) |
| Constant | -4.206*** | -4.119*** | -4.167*** |
| | (-3.62) | (-3.57) | (-3.60) |
| Other control variables | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |
| Observations | 9,352 | 9,352 | 9,352 |
| ROC | 0.672 | 0.672 | 0.672 |
| Difference | | | |
| *NO_LOCAL_REGULATOR_RATIO - LOCAL_REGULATOR_RATIO* | 0.317 | | |
| *NO_LOCAL_IFIAR_RATIO -LOCAL_IFIAR_RATIO* | | 0.246 | |
| *NO_LOCAL_INSPECTION_RATIO - LOCAL_INSPECTION_RATIO* | | | 0.287 |

**Panel B Earnings response coefficient**

| VARIABLES | (1)<br>*STOCK PRICE* | (2)<br>*STOCK PRICE* | (3)<br>*STOCK PRICE* |
|---|---|---|---|
| *NO_LOCAL_REGULATOR_RATIO* | -3.087*** | | |
| | (-2.90) | | |
| *NO_LOCAL_REGULATOR_RATIO * EPS* | -2.243*** | | |
| | (-5.46) | | |
| *LOCAL_REGULATOR_RATIO* | -0.872 | | |
| | (-1.28) | | |
| *LOCAL_REGULATOR_RATIO * EPS* | -0.745** | | |
| | (-2.29) | | |
| *NO_LOCAL_IFIAR_RATIO* | | -2.627*** | |
| | | (-2.63) | |
| *NO_LOCAL_IFIAR_RATIO * EPS* | | -2.004*** | |
| | | (-5.21) | |
| *LOCAL_IFIAR_RATIO* | | -0.925 | |
| | | (-1.32) | |
| *LOCAL_IFIAR_RATIO * EPS* | | -0.769** | |
| | | (-2.30) | |
| *NO_LOCAL_ INSPECTION_RATIO* | | | -2.736*** |
| | | | (-2.60) |
| *NO_LOCAL_ INSPECTION_RATIO * EPS* | | | -2.214*** |
| | | | (-5.48) |
| *LOCAL_INSPECTION_RATIO* | | | -0.969 |
| | | | (-1.41) |
| *LOCAL_ INSPECTION_RATIO * EPS* | | | -0.751** |
| | | | (-2.31) |
| *SUM_COUNTRY_NUM* | 0.021 | 0.019 | 0.019 |
| | (1.36) | (1.24) | (1.27) |
| *SUM_COUNTRY_NUM * EPS* | 0.024*** | 0.023*** | 0.023*** |
| | (4.81) | (4.65) | (4.80) |
| *FOREIGN SALES* | 0.694 | 0.698 | 0.706 |
| | (1.57) | (1.58) | (1.60) |
| *FOREIGN SALES * EPS* | -0.289 | -0.280 | -0.290 |
| | (-1.58) | (-1.53) | (-1.58) |
| Constant | -6.359*** | -6.264*** | -6.349*** |
| | (-8.21) | (-8.06) | (-8.19) |
| Other control variables | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |
| Observations | 9,199 | 9,199 | 9,199 |
| adj. R-sq | 0.687 | 0.687 | 0.687 |
| Difference | | | |
| *NO_LOCAL_REGULATOR_RATIO * EPS - LOCAL_REGULATOR_RATIO * EPS* | -1.498*** | | |
| *NO_LOCAL_IFIAR_RATIO * EPS - LOCAL_IFIAR_RATIO * EPS* | | -1.235*** | |
| *NO_LOCAL_INSPECTION_RATIO * EPS- LOCAL_INSPECTION_RATIO * EPS* | | | -1.463*** |

**Note:**
This table examines the effect of local audit regulator on the negative association between missing PCAOB inspection and audit quality. Panels A and B report results from regressions estimating Equations (1) and (3), respectively. Among all these local audit regulator measures: *NO_LOCAL_REGULATOR_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have NOT conducted their local auditor regulators. *LOCAL_REGULATOR_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have conducted their local auditor regulators. *NO_LOCAL_IFIAR_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have NOT conducted high quality local auditor regulators (membership in the International Forum of Independent Audit Regulators). *LOCAL_IFIAR_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have conducted high quality local auditor regulators (membership in the International Forum of Independent Audit Regulators). *NO_LOCAL_INSPECTION_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have NOT conducted high quality local auditor regulators (regulators who conduct their own audit inspections). *LOCAL_INSPECTION_RATIO* is the ratio of foreign countries that prohibit the PCAOB and have conducted high quality local auditor regulators (regulators who conduct their own audit inspections). All the OLS and logit regressions control for year and industry fixed effects. Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.

**Table 9. Alternative measures of audit quality**

| VARIABLES | (1)<br>*ABS_ACCRUAL* | (2)<br>*ABS_ACCRUAL* | (3)<br>*ABS_ACCRUAL* |
|---|---|---|---|
| *MISSING_COUNTRY_RATIO* | 0.044*** | 0.030** | 0.047*** |
| | (3.50) | (2.52) | (2.62) |
| *SUM_COUNTRY_NUM* | -0.001*** | -0.000 | 0.001 |
| | (-2.63) | (-0.95) | (1.05) |
| *FOREIGN SALES* | -0.010 | -0.001 | 0.002 |
| | (-1.26) | (-0.07) | (0.10) |
| *SIZE* | -0.003 | -0.004** | -0.005 |
| | (-1.52) | (-1.99) | (-0.54) |
| *MB* | 0.011*** | 0.010*** | 0.012* |
| | (2.90) | (2.79) | (1.81) |
| *LEV* | 0.067*** | 0.016 | 0.072** |
| | (4.54) | (1.08) | (2.27) |
| *LOSS* | 0.004 | 0.002 | -0.003 |
| | (0.63) | (0.33) | (-0.32) |
| *GROWTH* | 0.001** | 0.001** | -0.000 |
| | (2.13) | (2.48) | (-0.15) |
| *GEOSEG* | 0.002* | 0.002** | 0.000 |
| | (1.83) | (2.10) | (0.24) |
| *OPSEG* | 0.000 | -0.001 | 0.006** |
| | (0.28) | (-0.67) | (2.11) |
| *LAGRETURN* | -0.002 | -0.004 | 0.000 |
| | (-0.41) | (-0.83) | (0.05) |
| *VOLATILITY* | 0.193*** | 0.213*** | 0.131*** |
| | (4.59) | (5.29) | (2.72) |
| *TENURE* | -0.000 | 0.000 | -0.016 |
| | (-0.09) | (0.15) | (-0.43) |
| *BIG4* | -0.025*** | -0.020*** | -0.009 |
| | (-3.25) | (-2.73) | (-0.39) |
| *REPLAG* | 0.000* | 0.000* | 0.000 |
| | (1.93) | (1.87) | (0.16) |
| *GDP* | -0.005 | -0.002 | -0.015 |
| | (-0.58) | (-0.25) | (-1.00) |
| *CIVILLAW* | -0.019* | -0.009 | -0.025 |
| | (-1.88) | (-0.92) | (-1.09) |
| *RULEOFLAW* | -0.003 | -0.001 | 0.007 |
| | (-0.97) | (-0.37) | (1.08) |
| Constant | 0.133* | 0.109 | 0.247 |
| | (1.93) | (1.64) | (0.92) |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | | Yes | |
| Firm Fixed Effects | | | Yes |
| Observations | 8,885 | 8,885 | 8,885 |
| ROC | 0.022 | 0.136 | 0.222 |

**Note:**

This table examines the effect of missing PCAOB inspection on the alternative measure of audit quality, that is the abnormal accruals. *ABS_ACCRUAL* is the absolute value of abnormal accruals derived from the performance adjusted accruals model in Kothari et al. (2005). *MISSING_COUNTRY_RATIO* is the percentage of countries that prohibit the PACOB from inspecting their domestic auditors. The logit regressions control for year fixed effects in Column (1), control for year and industry fixed effects in Column (2), and control for year and firm fixed effects in Column (3). Variable definitions are provided in Appendix B. t-statistics are reported in parentheses. ***, ** and * indicate the difference is statistically significant at the 1%, 5% and 10% level, respectively.