

# Does Mandatory Rotation of Audit Partners Improve Audit Quality?

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**ABSTRACT:** Opponents of mandatory rotation argue that a change of partner is bad for audit quality, as it results in a loss of client-specific knowledge. On the other hand, proponents argue that a change of partner is beneficial, as it results in a positive peer review effect and a fresh perspective on the audit. We test the impact of mandatory partner rotation on audit quality using a unique dataset of audit adjustments in China. Our results suggest that mandatory rotation of engagement partners results in higher quality audits in the years immediately surrounding rotation. Specifically, we find a significantly higher frequency of audit adjustments during the departing partner's final year of tenure prior to mandatory rotation and during the incoming partner's first year of tenure following mandatory rotation.

**Keywords:** *mandatory rotation; audit partners; audit quality; audit adjustment.*

## I. INTRODUCTION

Many jurisdictions impose limitations on the length of audit partner tenure, but they impose no limitations on the length of audit firm tenure. For example, audit partners are subject to mandatory rotation in Argentina, Australia, Belgium, China, Denmark, France, Germany, Hong Kong, Mexico, The Netherlands, New Zealand, Norway, Russia, Taiwan, the United Kingdom, and the United States, but none of these jurisdictions require the rotation of audit firms. Despite the

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We thank Michael L. Ettredge (editor), John Harry Evans III (senior editor), and two anonymous reviewers for their helpful comments. We also appreciate comments received from Linda Bamber, Joe Carcello, Chih-Ying Chen, Agnes Cheng, Terry Neal, Qianwei Ying, and workshop participants at Hong Kong Baptist University, Lingnan University, Nanyang Technological University, The University of Georgia, The University of Tennessee, and the 2013 Massachusetts Institute of Technology Asia Conference in Accounting (Shanghai). Xi Wu thanks the Inspection Bureau of the Chinese Ministry of Finance for providing data support. Clive Lennox thanks Singapore's Ministry of Education for providing research funding (MOE2012-T2-2-039).

Editor's note: Accepted by Michael L. Ettredge.

*Submitted: November 2012*

*Accepted: April 2014*

*Published Online: April 2014*

widespread prevalence of this practice, there is very little evidence on the consequences of mandatory partner rotation when audit firms do not have to be rotated. This is primarily because most countries do not require partners' names to be disclosed and so researchers are unable to identify when partner rotation occurs. When only the audit partner is rotated and the audit firm remains the same, the audit methodology, procedures, and other engagement personnel do not necessarily change (E. Bamber and L. Bamber 2009; Chi, Huang, Liao, and Xie 2009; Bedard and Johnstone 2010; Fitzgerald, Thompson, and Omer 2012). Therefore, it is an open question whether mandatory partner rotation can really improve audit quality. This question is important because if mandatory partner rotation does not help to improve audit quality, then regulators are likely to call for alternative and more restrictive policies, such as mandatory rotation of the entire audit firm.

We are aware of only one study on the consequences of mandatory partner rotation. Chi et al. (2009) use abnormal accruals and earnings response coefficients (ERCs) as proxies for audit quality and find little evidence that these variables are affected by mandatory partner rotation. In their discussion of Chi et al. (2009), Bamber and Bamber (2009) point out that these earnings quality metrics may be poor proxies for audit quality, which may explain why Chi et al. (2009) obtain insignificant results. Bamber and Bamber (2009, 397 and 399) state that “[P]roxies such as abnormal accruals and earnings response coefficients may be among the more popular measures used to date, but they are nonetheless noisy measures of earnings quality, much less audit quality . . . development of sharper measures of audit quality would provide a major breakthrough. This will require imagination and creativity.”

We respond to this challenge by using a proprietary dataset of audit adjustments to test how mandatory partner rotation affects audit quality. An adjustment occurs when two conditions are met: (1) the client's pre-audit financial statements are misstated, and (2) the auditor detects the misstatement and requires the client to correct the misstatement through an adjustment to the financial statements. The second of these conditions is exactly equivalent to DeAngelo's (1981) conceptual definition of audit quality; i.e., the probability that an existing misstatement is discovered by the auditor and then corrected. The key to our identification strategy is that mandatory rotation can affect condition #2; i.e., rotation can affect audit quality, but rotation would not directly affect condition #1. In other words, *holding audit quality constant*, we have no reason to believe that mandatory rotation would directly affect the quality of the client's pre-audit financial statements.<sup>1</sup> Accordingly, any association between mandatory rotation and audit adjustments is through condition #2, which reflects audit quality. Thus, we assess how mandatory rotation affects audit quality by examining how mandatory rotation affects the incidence of audit adjustments.

The effect of mandatory partner rotation on audit quality is far from obvious. On one hand, a change of partner may worsen audit quality because of the loss of partners who have gained more knowledge from longer tenure with their clients. Rotation may result in the incoming partner being less well informed about the client and, therefore, less likely to identify a financial reporting problem. On the other hand, a change of audit partner may improve audit quality by bringing a fresh perspective. Indeed, the requirement to periodically rotate audit partners was introduced in the United States “for the specific purpose of periodically bringing a fresh perspective to each audit” (American Institute of Certified Public Accountants [AICPA] 1992, 4). Further, it has been argued that a change of partner can provide a powerful peer review effect because the incoming partner

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<sup>1</sup> Partner rotation could affect a client's pre-audit financial reporting quality indirectly, through a change to audit quality. For example, suppose that partner rotation causes audit quality to be higher in the incoming partner's first year following mandatory rotation. If a client rationally anticipates this increase in audit quality, then the client may choose to prepare higher-quality financial statements. However, the key is that this effect on pre-audit reporting occurs only when there is a change to audit quality. Mandatory rotation does not affect the quality of the client's pre-audit financial reporting if there is no impact on audit quality.

assesses the work carried out by the departing partner in the previous year (Seidman 2001; Biggs 2002; Public Oversight Board [POB] 2002). This can motivate the departing partner to conduct a higher quality audit before the engagement is handed over to the new partner. Accordingly, mandatory rotation can improve audit quality in the year before rotation and in the year that the new partner is appointed.

We choose China as our empirical setting for two reasons. First, just as in the U.S., in China, the engagement and review partners have to be rotated every five years. However, unlike the U.S., audit reports in China disclose the names of both partners. This allows us to identify cases in which one or both of the partners are switched due to the mandatory rotation requirements. Second, since 2006, audit firms in China must report the pre-audit annual profits of all publicly traded clients to the Ministry of Finance. The Ministry provided these proprietary data to us for the purposes of academic research. Using these data, we are able to identify which engagements had audit adjustments to reported profits; i.e., an audit adjustment occurs when pre-audit profits  $\neq$  post-audit profits. This allows us to test how mandatory partner rotation affects the incidence of audit adjustments.

We begin by examining whether the departing partner conducts a higher quality audit during the final year of tenure before mandatory rotation. When an incumbent partner is scheduled for mandatory rotation at the end of the year  $t$  audit, the partner knows that a new partner will take over the audit in year  $t+1$ . If a newly appointed partner finds the audit in the prior year was unsatisfactory, then this is likely to impair the reputation of the departing partner. For example, if the incoming partner finds that the previous year's audit was not in accordance with auditing standards, the new partner may inform other partners in the audit firm. A partner who is scheduled for mandatory rotation would take this into account when deciding how to conduct the audit in the partner's final year of tenure. In particular, the departing partner has an incentive to conduct a higher quality audit in his/her final year  $t$  in order to avoid the embarrassment of the audit deficiencies being found by the incoming partner in year  $t+1$ . Accordingly, the incumbent partner is more likely to detect and correct client misstatements in the final year of tenure prior to mandatory rotation. If mandatory rotation has this beneficial peer review effect, then we hypothesize that audit adjustments occur more frequently in the partner's final year of tenure prior to mandatory rotation (H1). The proponents of mandatory rotation also argue that a new partner can bring a fresh perspective, resulting in a higher quality audit. For example, a new partner may spot financial reporting problems that were missed by the previous partner. Consequently, we hypothesize that audit adjustments occur more often in the replacement partner's first year of tenure following mandatory rotation (H2).

In short, we expect that if mandatory rotation leads to higher audit quality, then there would be more audit adjustments during the departing partner's final year of tenure (H1) and during the incoming partner's first year of tenure (H2) than in other years. We test these predictions using a sample of 6,341 audits conducted between 2006 and 2010. Our first major finding is that audit adjustments occur more often when the engagement partner is scheduled for mandatory rotation at the end of the year. Consistent with a beneficial peer review effect, this suggests that the departing partner anticipates the arrival of a new partner in year  $t+1$  and this motivates the departing partner to conduct a higher quality audit in year  $t$ . Our second major finding is that audit adjustments occur more often during the incoming partner's first year of tenure than in other years. This is consistent with mandatory rotation generating a fresh perspective, such that a newly appointed partner is more likely to detect and correct financial reporting problems during the first year of tenure.

Overall, our results suggest that mandatory partner rotation has a beneficial effect in the partner's final year of tenure before rotation occurs and in the subsequent year when the new partner is appointed. Interestingly, these results are found to be statistically significant for: (1) large and small adjustments, and (2) downward and upward adjustments. The results are statistically significant for engagement partners, but not for review partners, which makes sense given that the engagement partner has a more important role in the audit fieldwork.

Our study makes four contributions. First, we contribute to the literature on mandatory partner rotation by showing that it has a beneficial impact on audit quality even in the absence of mandatory audit firm rotation. Our findings are important given that many countries currently require partner rotation, but not audit firm rotation.

Second, prior studies have examined regimes in which audit firm rotation and audit partner rotation are strictly voluntary. An important issue for these studies is that voluntary rotations are—by definition—endogenous. Consequently, it can be problematic to use voluntary rotation events for drawing inferences about the consequences of mandatory rotation. Further, although some studies have examined regimes in which partner rotation is mandatory, they have not distinguished between mandatory versus voluntary rotations. Thus, the endogenous voluntary rotations in those studies are intermingled with the exogenous mandatory rotations. We contribute by showing that inferences about mandatory partner rotation would be very different if we were to look only at voluntary rotations. Our results underscore the importance of examining mandatory rather than voluntary rotations in order to draw reliable inferences about the consequences of mandatory rotation.

Third, we infer how mandatory rotation affects audit quality by examining the impact on audit adjustments. Using the adjustments data allows us to respond to [Bamber and Bamber's \(2009\)](#) concern that prior studies have attempted to measure audit quality using earnings quality metrics. It is also consistent with [DeAngelo's \(1981\)](#) definition of audit quality, which focuses on audit corrections to financial statements.

Finally, we contribute to the existing literature on the determinants of audit adjustments by showing that mandatory partner rotation increases the frequency of adjustments during the partner's final year of tenure and during the replacement partner's first year of tenure.

Next, Section II discusses the prior literature and develops two hypotheses. Section III explains the research design and introduces the sample. Section IV presents the main results, while Section V reports supplementary analyses. Section VI concludes by discussing the study's policy implications and limitations.

## II. PRIOR LITERATURE AND HYPOTHESES

### Voluntary Audit Firm Rotation and Audit Firm Tenure

Most of the literature focuses on voluntary audit firm rotation decisions and the consequences of having longer periods of audit firm tenure in regimes where audit firm changes are strictly voluntary. This is probably because there are few developed countries that require audit firms to be rotated.<sup>2</sup>

Voluntary audit firm rotation occurs when either an audit firm resigns from the client or a client dismisses the incumbent audit firm and appoints a different audit firm. Audit firms tend to resign from clients that pose a high risk of misreporting and litigation; moreover, investors perceive auditor resignations as being negative signals of corporate value ([Shu 2000](#); [Johnstone and Bedard 2004](#); [Whisenant, Raghunandan, and Sankaraguruswamy 2003](#)). Studies of client dismissals find a variety of reasons why companies change audit firms. These include switching to a cheaper audit firm, moving to a firm that can provide better services, and dismissing an audit firm that is relatively conservative or previously issued an unfavorable audit report ([DeFond and Subramanyam 1998](#); [Lennox 2000](#); [Sankaraguruswamy and Whisenant 2004](#)).

While the above studies examine auditor-client realignments, another stream of the literature looks at how audit firm tenure affects financial reporting quality. Studies have measured actual

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<sup>2</sup> Countries that currently have a mandatory audit firm rotation policy for publicly traded companies and other public interest entities include Bangladesh, Brazil, Costa Rica, Indonesia, Italy, Oman, Paraguay, Serbia, Tunisia, and Uzbekistan.

financial reporting quality using abnormal accruals, accounting restatements, and alleged accounting frauds (Johnson, Khurana, and Reynolds 2002; J. Myers, L. Myers, and Omer 2003; Davis, Soo, and Trompeter 2009; Carcello and Nagy 2004; Stanley and DeZoort 2007), and they have measured perceived financial reporting quality using the cost of debt, credit ratings, and earnings response coefficients (Mansi, Maxwell, and Miller 2004; Ghosh and Moon 2005). Overall, most studies find that longer audit firm tenure is not associated with lower perceived or actual financial reporting quality. In fact, many studies report that financial reporting quality is significantly lower in the early years of audit firm tenure.

### **Mandatory Audit Firm Rotation**

Because only a few countries have experimented with mandatory audit firm rotation, there are relatively few studies examining this issue. Ruiz-Barbadillo, Gomez-Aguilar, and Carrera (2009) examine Spain, where audit firm rotation was mandatory from 1988 to 1995. Their sample covers a period of mandatory audit firm rotation (1991–1994) and a subsequent period when rotation was no longer mandatory (1995–2000). Comparing the frequency of going-concern opinions in these two periods, Ruiz-Barbadillo et al. (2009) find no evidence that the abandonment of mandatory rotation affected audit quality. However, the mandatory rotation policy was never actually enforced in Spain because the first rotation events would have been required nine years after the policy was first introduced in 1988, but the policy was abandoned after only seven years in 1995. Therefore, it remains unclear how mandatory rotation affects audit quality.

Recent working papers examine countries where the policy of mandatory rotation has actually come into force. Kwon, Lim, and Simnett (2010) examine the introduction of mandatory audit firm rotation in South Korea and find mixed results. Consistent with a negative impact on audit quality, they find larger income-increasing accruals during the audit firm's initial year of tenure following mandatory rotation. However, they find insignificant results when measuring audit quality based on the issuance of going-concern opinions to financially distressed companies and the incidence of just meeting or beating the zero earnings benchmark.

Livne and Pettinicchio (2012) examine earnings quality in Italy, where mandatory rotation has been in force since 1975. They find no significant difference in abnormal accruals during the replacement audit firm's first year following rotation, compared with other years. In another study of Italy, Cameran, Francis, Mara, and Pettinicchio (2014) find that earnings quality, measured using abnormal accruals, is lower during the first three years following mandatory audit firm rotation than in other years.

Harris and Whisenant (2012) examine earnings management in the periods before versus after mandatory audit firm rotation is introduced. Using data from Brazil and South Korea, they find less earnings management following the switch to a mandatory rotation regime. In addition, they examine earnings management in the years before and after audit firms are rotated using data from Brazil, Italy, and South Korea. They find no significant change in earnings management between the year immediately after audit firm rotation and the year before.

### **Voluntary Audit Partner Rotation and Audit Partner Tenure**

In most jurisdictions, it is difficult for researchers to identify when partners rotate because audit partner names are not publicly disclosed.<sup>3</sup> Australia and Taiwan are two notable exceptions, which is where most studies have focused.

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<sup>3</sup> Jurisdictions that currently require audit partner names to be publicly disclosed include Australia, China, Finland, Germany, Japan, Sweden, Taiwan, and the United Kingdom.

Carey and Simnett (2006) examine a sample of Australian companies in 1995, a year when partner rotation and audit firm rotation were both voluntary. Consistent with longer partner tenure leading to lower audit quality, they find clients are less likely to receive going-concern opinions and are more likely to meet or beat earnings benchmarks when partner tenure exceeds seven years. However, they find no evidence that signed or absolute abnormal accruals are associated with partner tenure.

A limitation of the Carey and Simnett (2006) study is that it cannot distinguish between the effect of audit firm tenure and audit partner tenure. Fargher, Lee, and Mande (2008) remedy this by jointly examining audit firm tenure and audit partner tenure using data from Australia. They find absolute abnormal accruals are significantly smaller during the first few years of audit partner tenure, but only when the new partner is from the same audit firm as the departing partner, so there is no rotation of the audit firm. Absolute abnormal accruals are significantly larger in the initial years of partner tenure when the new partner is from a different audit firm. Similar to Fargher et al. (2008), Chen, C. Lin, and Y. Lin (2008) jointly examine audit partner tenure and audit firm tenure using data from Taiwan during a period in which partner rotation and audit firm rotation were voluntary.<sup>4</sup> They find abnormal accruals decrease significantly with partner tenure and audit firm tenure.

### The Hybrid Case: Voluntary and Mandatory Audit Partner Rotation

Because the U.S. does not require the public disclosure of audit partner names, U.S. researchers have had to use proprietary data to identify partner rotations. Bedard and Johnstone (2010) find planned engagement effort increases following partner rotation, indicating that new partners invest additional effort during their first year of tenure in order to acquire client knowledge. Using proprietary data from three U.S. audit firms, Manry, Mock, and Turner (2008) find abnormal accruals are negatively associated with engagement partner tenure among small clients. Fitzgerald et al. (2012) examine how audit partner and audit firm rotation affect the reporting of internal control deficiencies for a sample of large U.S. not-for-profit organizations. They find a significant increase in reported deficiencies during the first year of audit firm tenure, but no significant association between partner rotation and the reporting of deficiencies.

Unlike the aforementioned studies of Australia and Taiwan, where all partner rotation events were voluntary, the above U.S. studies examine a regulatory regime in which partner rotation is mandatory. In a mandatory regime, some rotations are mandatory, while others occur voluntarily before the partner reaches the maximum allowable length of tenure. Unfortunately, prior U.S. studies have been unable to distinguish between voluntary and mandatory partner rotations due to inherent data limitations. Therefore, it remains unclear from these studies how mandatory partner rotation affects audit quality. We address this issue by coding each partner rotation as either voluntary or mandatory.

### Mandatory Audit Partner Rotation

Chi et al. (2009), the only previous study to identify *mandatory* partner rotation events, examine Taiwan, where partner rotation became mandatory in 2004. They find that abnormal accruals are not significantly different during the partner's first year of tenure following mandatory rotation. Moreover, the ERC is not significantly different during the partner's first year of tenure following mandatory rotation. Bamber and Bamber (2009) characterize the Chi et al. (2009) study as essentially a "no-results" paper. They note that the lack of significant results could be because

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<sup>4</sup> In Taiwan, audit partner rotation became mandatory in 2004. The sample period of Chen et al. (2008) ends in 2001, implying that all partner rotations in their study were voluntary.

mandatory partner rotation truly has no impact on audit quality, or the tests may lack power due to the abnormal accruals and ERC measures being noisy proxies for audit quality.

### Limitations of the Prior Literature

In this section, we discuss two key limitations of the prior literature and explain how we address those limitations.

#### *Voluntary Rotation Events are Endogenous*

The vast majority of studies examine regimes in which both audit firm rotation and audit partner rotation are strictly voluntary. Further, although some studies examine regimes in which audit partner rotation is mandatory, they do not distinguish between partner rotations that are mandatory versus those that are voluntary. An important issue for both streams of the literature is that audit firm or audit partner voluntary rotations are—by definition—endogenous, making it problematic to draw inferences about mandatory rotation from these studies. For example, it is difficult to interpret the often-reported finding that financial reporting quality is significantly lower in the early years of audit firm tenure. One interpretation is that audit firm rotation *causes* low reporting quality because newly appointed auditors have less client-specific knowledge. An alternative interpretation is that the auditor-client relationship is more likely to be terminated when the client's financial reporting quality is low. Thus, it is unclear from studies of voluntary rotation whether rotation affects reporting quality, or reporting quality affects the likelihood of rotation, or both.

To assess the potential importance of reverse causality, we compare and contrast the results for mandatory partner rotation with those obtained for voluntary partner rotation. As mandatory rotations are exogenously imposed by regulatory policy, reverse causality is unlikely to be an issue. In contrast, reverse causality is a potential issue for the voluntary rotation sample because audit adjustments may affect an audit firm's decision to voluntarily rotate the partner. Finding markedly different results for voluntary rotation compared with mandatory rotation would support the contention that reverse causality is a potential problem for studies examining voluntary rotation.

#### *Limitations of the Proxies for Audit Quality*

In the only previous study of mandatory partner rotation, [Chi et al. \(2009\)](#) find that abnormal accruals and ERCs are not significantly different in the years surrounding mandatory rotation than in other years. However, this could be due to abnormal accruals and ERCs being noisy measures of audit quality.<sup>5</sup>

We argue that using audit adjustment data allows us to provide a better test for the impact of mandatory partner rotation on audit quality. An audit adjustment occurs when: (1) a manager misstates the pre-audit financial statements, *and* (2) the misstatement is detected and corrected by the auditor. While the second part of this condition is equivalent to [DeAngelo's \(1981\)](#) definition of audit quality, the first part is not. Nevertheless, mandatory partner rotation cannot directly cause a

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<sup>5</sup> It has become standard in the literature to measure financial reporting quality using the residuals from accrual models. However, models of nondiscretionary accruals explain only 10–12 percent of the total variation in accruals, raising concerns that the residuals may capture nondiscretionary factors. For example, estimates of discretionary accruals are likely to suffer from the confounding effects of fundamental performance and shocks to the business cycle rather than accounting discretion ([Dechow, Ge, and Schrand 2010](#); [Owens, Wu, and Zimmerman 2013](#)). Moreover, even if one accepts that discretionary accruals can be used to measure financial reporting quality, it does not necessarily follow that discretionary accruals is a good measure of audit quality. For example, financial reporting quality can be high when audit quality is low if the company's management does a good job in preparing the pre-audit financial statements ([Bamber and Bamber 2009](#)).

manager to misstate the *pre-audit* financial statements; i.e., mandatory rotation cannot affect condition #1. This means that any association between mandatory partner rotation and audit adjustments must operate through condition #2; i.e., through audit quality. In short, we infer how mandatory rotation affects audit quality by examining how mandatory rotation affects the incidence of audit adjustments.

Prior audit adjustment studies largely focus on the decision to waive or not waive a proposed adjustment. For example, [A. Wright and S. Wright \(1997\)](#) find that approximately 50 percent of proposed audit adjustments are waived. Proposed adjustments are more likely to be waived if they require subjective judgment or if the adjustments offset each other. [Braun \(2001\)](#) finds that proposed adjustments are more likely to be waived for clients that are less risky. [Keune and Johnstone \(2012\)](#) find adjustments are more likely to be waived when audit fees are lower and audit committees lack financial expertise. [Hatfield, Agoglia, and Sanchez \(2008\)](#) find that auditors sometimes propose, and subsequently waive, unnecessary adjustments in order to encourage management to agree to more significant adjustments that are not waived. The dependent variable in our study is different because we examine the incidence of *non-waived* audit adjustments. [Kinney and Martin \(1994\)](#) find that non-waived adjustments occur on between 60–90 percent of U.S. audits. Moreover, they show that income-reducing adjustments are far more common than income-increasing adjustments. As discussed in Section IV, we find similar results for our sample of non-waived audit adjustments in China.

## Hypotheses

### *Audit Quality during the Departing Partner's Final Year Prior to Mandatory Rotation (H1)*

Auditors often look back to the prior year's working papers when planning the audit for the current year ([Wright 1988](#); [Tan 1995](#)).<sup>6</sup> Because the incoming partner is likely to examine the work undertaken by the former partner in the previous year, the proponents of mandatory rotation argue that a change of partner can provide a powerful peer review effect, incentivizing the departing partner to provide a higher quality audit in the partner's final year of tenure ([Seidman 2001](#); [Biggs 2002](#); [Public Oversight Board 2002](#)). If an incoming partner finds that the audit in the prior year was unsatisfactory, then this is likely to damage the reputation of the departing partner within the audit firm. For example, if the incoming partner finds that the audit in the prior year was not in accordance with auditing standards, then the incoming partner may inform others in the audit firm. A replacement partner is particularly likely to find financial reporting problems if the replacement partner brings a fresh approach to the audit. We expect that a departing partner would take this into account when a new partner is scheduled to be rotated onto the engagement in the following year. In particular, the departing partner has incentives to make necessary adjustments in his/her final year of tenure because, otherwise, the replacement partner may find reporting problems, such as overstated assets, carrying over from the previous year. The discovery of such problems would reflect badly on the departing partner and tarnish his/her reputation within the audit firm. We, therefore, expect that the departing partner conducts a more thorough audit during the final year of tenure prior to mandatory rotation. Our first hypothesis is that audit adjustments are more likely to occur in year  $t$  when a new partner is scheduled to be rotated onto the audit in year  $t+1$ :

**H1:** Audit adjustments are more frequent during the departing partner's final year of tenure prior to mandatory partner rotation than in years when audit partners are not affected by mandatory rotation.

<sup>6</sup> Auditors do not generally go back beyond the most recent year because the prior year is most relevant to the current year.

On the other hand, the data will not support H1 if there is no peer review effect. For example, the replacement partner may adopt an unquestioning approach when assessing how the audit was conducted in the previous year under the former partner. Further, the financial reporting issues that were pertinent in year  $t$  may be less relevant to the audit in year  $t+1$ . Thus, a new partner may not find it necessary to evaluate the work done by the former partner in the previous year.

### ***Audit Quality during the Replacement Partner's First Year Following Mandatory Rotation (H2)***

Proponents of mandatory rotation argue that a replacement partner brings a fresh perspective to the audit and is, therefore, more likely to detect and correct financial reporting problems. Consistent with this, [Tan \(1995\)](#) provides experimental evidence that auditors with involvement in the prior year's audit are less likely than newly appointed auditors to pay attention to factual inconsistencies between the current year and the previous year. Similarly, [Favere-Marchesi and Emby \(2005\)](#) show in an experimental study that new partners are more likely than continuing partners to recognize an impairment of goodwill. Both studies suggest that audit partner rotation can result in a beneficial fresh-eyes effect.

This fresh-eyes argument has been a key factor influencing the decision to introduce mandatory partner rotation in many countries. For example, the Cadbury Committee in the U.K. argued that mandatory partner rotation enhances the rigor of an audit by encouraging a fresh viewpoint ([Committee on the Financial Aspects of Corporate Governance 1992](#)). In the U.S., the AICPA introduced mandatory partner rotation every seven years in order to periodically bring a new perspective to audits ([AICPA 1992](#)). After the Sarbanes-Oxley Act of 2002 reduced the mandatory rotation period from seven years to five years, the AICPA submitted a comment supporting the change, stating that partner rotation provides "a periodic fresh look at an issuer's financial statements" ([AICPA 2003](#)).

In addition to the fresh-eyes benefit, the proponents of mandatory rotation argue that a newly appointed partner is more independent of the client because the new partner would not have had time to develop close personal relationships with management. In contrast, a partner who has been with a client for several years may be overly trusting of the client's management or unwilling to challenge management's reporting assertions. For example, the Code of Ethics of the International Federation of Accountants (IFAC) claims that "using the same lead engagement partner on an audit over a prolonged period may create a familiarity threat" ([IFAC 2003](#), para. 8.151).

These arguments were seemingly influential in China's decision to introduce mandatory partner rotation in 2003. Explaining its decision to introduce mandatory partner rotation, the [China Securities Regulatory Commission \(CSRC 2003\)](#) stated that:

A number of international and domestic corporate scandals indicate that technical incompetence might not be the reason for audit failure. Rather, extended audit tenure may impair auditor independence . . . Besides, long auditor tenure can also be detrimental to the discovery of new problems. The rotation of lead engagement partners can enhance auditor independence and bring in a fresh perspective. Therefore, the new policy may lead to improved audit quality and better protection of investors.

If mandatory rotation does, in fact, enhance the discovery of financial reporting problems, then we would expect the replacement partner to find more audit adjustments during his/her first year of tenure. Therefore, our second hypothesis is as follows:

**H2:** Audit adjustments are more frequent during the replacement partner's first year of tenure following mandatory partner rotation than in years when audit partners are not affected by mandatory rotation.

On the other hand, the data may not support H2 for two reasons. First, a newly appointed partner may have less client-specific knowledge and, therefore, be less likely to find financial reporting problems. This would mean a lower likelihood of audit adjustments in the replacement partner's first year of tenure, which is opposite to H2. Second, our first hypothesis is that the departing partner makes more adjustments in the year before handing over the engagement to a new partner. To the extent that financial reporting problems are resolved *before* the handover, the new partner may not require more audit adjustments during his/her first year of tenure.

### III. RESEARCH METHODS

#### Institutional Setting

Audit reports in China disclose the names of both the review partner and engagement partner. Unless there is contrary evidence, the two partners share the same legal liability and are subject to the same rules on mandatory rotation.<sup>7</sup> Under Articles 3 and 5 issued by the CSRC and the Ministry of Finance (October 8, 2003), the review and engagement partners have to be rotated every five years or, in the case of newly listed companies, at the end of the second year following the initial public offering (IPO).<sup>8</sup> These rules are essentially the same as those found in the U.S., where the review and engagement partners have to be rotated after five years of continuous service.<sup>9</sup> When rotation occurs at the end of the partner's maximum allowable length of tenure, we code it as mandatory; all other partner rotations are treated as voluntary.

In addition, the name of the review partner is disclosed in the audit report above the name of the engagement partner in China.<sup>10</sup> This enables us to identify rotation events affecting each type of partner, which is important because engagement partners are expected to have greater influence over audit adjustments than review partners.

Starting in 2006, on every public company audit in China, the audit firm is required to report the company's pre-audit earnings privately to the Ministry of Finance. Using the pre-audit earnings number, the Inspection Bureau of the Ministry of Finance is able to identify whether a company had an audit adjustment to its earnings number. The Inspection Bureau obtains this information from audit firms in order to target the audit engagements that it feels warrant close scrutiny in its regular inspections of audit firms. Similarly, the Public Company Accounting Oversight Board (PCAOB) looks for signs of potential misreporting when it decides which audit engagements should be sampled in its inspections of U.S. audit firms. During an inspection, the Bureau selects a sample of

<sup>7</sup> We use the term "audit partner" to describe the signing auditor, even though audit firms in China are allowed to organize as limited liability companies or as partnerships.

<sup>8</sup> The rule for newly listed companies requires that the IPO prospectus contains three years of audited financial statements, and so the second year post-IPO is counted as the partner's fifth year of tenure. Similarly, in the U.S., the Securities and Exchange Commission (SEC) Office of the Chief Accountant states that the length of continuous service must include the years for which audited financial statements are included in the company's IPO filing (SEC 2004, "Audit Partner and Partner Rotation" section, question 3).

<sup>9</sup> Section 203 of the Sarbanes-Oxley Act of 2002 states, "It shall be unlawful for a registered public accounting firm to provide audit services to an issuer if the lead (or coordinating) audit partner (having primary responsibility for the audit), or the audit partner responsible for reviewing the audit, has performed audit services for that issuer in each of the five previous fiscal years of that issuer" (U.S. House of Representatives 2002).

<sup>10</sup> The signatures of the two partners appear on the audit report with one signature above the other. Based on interviews with senior audit partners, we learned that the top signature is signed by the review partner and the bottom one by the engagement partner. Untabulated tests support what the partners told us. We find that the partners identified in the top signatures are significantly more experienced compared with the partners identified in the bottom signatures. Specifically, the top signing partners are significantly older (t-stat. = 29.14), have significantly more years of service since their CPA qualification (t-stat. = 36.21), and sign audit reports for more listed clients (t-stat. = 25.50).

audit engagements for examination. Any inconsistency between the adjustments reported to the Ministry and the adjustments recorded in an audit firm's working papers would result in further investigation and possible regulatory action. Further, an audit firm is not given advance notice of the working papers that will be examined by the inspectors. Consequently, it would be risky for an audit firm to report the audit adjustments to the Ministry of Finance in a strategic or dishonest way. Consistent with this, we understand from the Ministry that no audit firm has so far had to be disciplined for misreporting the pre-audit earnings of its clients. We obtained access to the audit adjustments data through one of the study's authors, who worked for the Chinese Institute of Certified Public Accountants (CICPA) under the Ministry of Finance from 2002–2006.<sup>11</sup> The data were provided to us with the understanding that it would be used only for academic research.

## Research Design

We test H1 and H2 by estimating the following logistic model of audit adjustments:

$$ADJUST_{it} = \alpha_0 + \alpha_1 MROT\_FINAL_{it} + \alpha_2 MROT\_FIRST_{it} + CONTROLS + u_{it}. \quad (1)$$

The dependent variable ( $ADJUST_{it}$ ) equals 1 if there is an audit adjustment to company  $i$  profits in year  $t$ , and 0 otherwise. The  $MROT\_FINAL_{it}$  variable equals 1 if the partner is in the final year of tenure in year  $t$  because the partner is scheduled for mandatory rotation at the end of the audit, and 0 otherwise. The  $MROT\_FIRST_{it}$  variable equals 1 if the partner is in the first year of tenure in year  $t$  due to mandatory rotation of the former partner at the end of year  $t-1$ , and 0 otherwise. Under H1, we predict that audit adjustments are more frequent during the final year of tenure prior to mandatory partner rotation, implying a positive coefficient on  $MROT\_FINAL_{it}$ . Under H2, audit adjustments are more frequent during the replacement partner's first year of tenure, implying a positive coefficient on  $MROT\_FIRST_{it}$ .

## Control Variables

An audit adjustment takes place under two conditions: (1) the client's pre-audit financial statements are misstated, and (2) the auditor detects the misstatement and requires the client to make a correction through an adjustment to the financial statements. Therefore, we control for other factors that explain the likelihood that a misstatement exists (condition #1) and audit quality (condition #2).

Concerning condition #1, there is evidence that company size, profitability, and leverage explain managers' tendency to misstate the financial statements (Kinney and McDaniel 1989; DeFond and Jiambalvo 1994). Therefore, we control for company size ( $Size_{it}$  = the natural log of sales), profitability ( $ROS_{it}$  = net income divided by sales), and leverage ( $Leverage_{it}$  = total liabilities divided by total assets). Because mergers and acquisitions can increase the incidence of misstatements (Kinney, Palmrose, and Scholz 2004), we use a dummy variable ( $M\&A_{it}$ ) that takes the value 1 if company  $i$  acquires more than 20 percent of the equity of another company in year  $t$ , and 0 otherwise. Large corporate groups are likely to have more complicated accounting issues that could raise the probability of misstatement. We control for this using the natural log of (1 plus) the number of consolidated subsidiaries ( $Subsidiaries_{it}$ ).

<sup>11</sup> This person was responsible for drafting Chinese auditing standards and other technical and policy matters relating to the Chinese public accounting profession. He has had an extensive working relationship with regulatory agencies within and outside the Ministry of Finance. After joining academia, he has remained actively involved in auditing-related professional activities and research programs initiated by the CICPA and the Inspection Bureau, among others.

Prior research suggests that earnings management is negatively associated with the strength of corporate governance (Klein 2002). Corporate governance could also affect an auditor's ability to detect managerial misstatements and could affect the outcome of auditor-client negotiations over audit adjustments (Keune and Johnstone 2012). We, therefore, include several controls for corporate governance. We control for board size ( $Board\ Size_{it}$  = the natural log of the number of board directors at company  $i$  in year  $t$ ) and the number of board meetings ( $Board\ Meetings_{it}$  = the natural log of the number of board meetings held by company  $i$  in year  $t$ ). We control for whether the CEO chairs the board of directors ( $Duality_{it}$  = 1 if company  $i$ 's CEO in year  $t$  concurrently serves as chair of the board, and 0 otherwise). We control for the presence of an audit committee, which is not compulsory for Chinese companies ( $Audit\ Com_{it}$  = 1 if company  $i$  has an audit committee in year  $t$ , and 0 otherwise).

Concerning condition #2, we include various controls for audit characteristics. We control for the size of the audit firm ( $Big4_{it}$  = 1 if company  $i$  is audited by a Big 4 firm in year  $t$ , and 0 otherwise). Chan and Wu (2011) show that audit firm mergers in China result in higher audit quality, so we also control for this ( $Auditor\ M\&A_{it}$  = 1 if company  $i$ 's audit firm merges with another audit firm in year  $t$ , and 0 otherwise). If management refuses to accept a proposed audit adjustment, then an audit firm may respond by issuing a modified or qualified audit opinion. We, therefore, include an audit opinion variable ( $Unclean\ Opinion_{it}$  = 1 if company  $i$  receives a qualified or modified audit opinion in year  $t$ , and 0 otherwise). Keune and Johnstone (2012) find that audit adjustments are less likely to be waived when audit fees are higher and analyst following is lower. The audit fee variable ( $Fee_{it}$ ) is the natural log of the audit fee paid by company  $i$  in year  $t$ . Many sample companies have no analyst following, so we use an indicator variable ( $Analyst_{it}$  = 1 if there is at least one analyst following company  $i$  in year  $t$ , and 0 otherwise). We control for audit firm tenure, as prior studies suggest that this can affect audit quality ( $Tenure_{it}$  = the natural log of audit firm tenure at company  $i$  in year  $t$ ). However, we draw no causal inferences about the tenure variable because it is endogenously determined by auditor-client realignment decisions (Section II). Finally, we include indicators for each industry and year.

## Sample

We start with 8,087 company-year observations from the Inspection Bureau's audit adjustments database for the period 2006–2010. We require partner names for years  $t$  and  $t-1$  in order to identify whether the partner in year  $t$  is new to the engagement. We require partner names for years  $t$  and  $t+1$  to identify whether the partner in year  $t$  will be rotated in the following year. Further, for each partner rotation event, we trace partners' names for up to five years prior to the change in order to determine whether the rotation is mandatory or voluntary. We lose 651 observations as a result of these data requirements. We also lose 338 observations where data are missing for one or more variables in year  $t$ .

Audit firm rotations generally result in audit partner rotation. To address this interdependency between audit firm rotation and audit partner rotation, we drop 621 partner switches that occur at the same time as audit firm rotation. This means that all the partner rotations in our sample occur on audit firms' *continuing* engagements. Finally, we drop 136 observations where a client's financial statements are audited by two firms.<sup>12</sup> This leaves a final sample of 6,341 company-year

<sup>12</sup> Between April 1, 2002 and March 8, 2007, dual audits were required when a company in China made an Initial Public Offering or a Seasoned Equity Offering. Dual audits are also common among companies that offer B or H shares to foreign investors. The B and H share companies are required to prepare one set of financial statements for domestic investors under Chinese accounting standards and another set of financial statements for foreign investors under international accounting standards, and these two sets of financial statements are often audited separately by two audit firms.

observations. In all regressions, the standard errors are clustered by company, as there are multiple yearly observations for each company (2006–2010).

## IV. MAIN RESULTS

### Descriptive Statistics for Mandatory Partner Rotation and Audit Adjustments

Table 1 presents descriptive statistics by year (Panel A) and industry (Panel B). For the sample as a whole ( $n = 6,341$ ), we find that 5.16 percent of engagement partners are in their final year of tenure prior to mandatory rotation, while 4.59 percent are in their first year of tenure following mandatory rotation. Similarly, 6.56 percent of review partners are in their final year of tenure prior to mandatory rotation, while 5.03 percent are in their first year of tenure following mandatory rotation. Audit adjustments occur on 67.09 percent of engagements. Panels A and B show that the rates of mandatory partner rotation and audit adjustments do not vary much across the five sample years (2006–2010) and across the 13 industry sectors.

Table 2, Panel A, reports the direction of the adjustments to profits. There are 2,858 audits with net downward adjustments (45.07 percent), 2,087 audits with no adjustments (32.91 percent), and 1,396 audits with net upward adjustments (22.02 percent). This is consistent with Kinney and Martin (1994), who find that adjustments are required in 60–90 percent of U.S. audits. An untabulated test finds the frequency of downward adjustments is significantly higher than the frequency of upward adjustments (i.e., 45.07 percent > 22.02 percent,  $p$ -value < 0.001). This is consistent with audit adjustments generally having a negative impact on profits (Kinney and Martin 1994; Nelson, Elliott, and Tarpley 2002).

Panel B of Table 2 reports the magnitudes of audit adjustments. The magnitude is measured as the dollar amount of the adjustment scaled by the absolute dollar amount of pre-audit profits. As shown in Panel B, the mean downward adjustment reduces reported profits by –16.2 percent, whereas the mean upward adjustment increases reported profits by 9.8 percent. An untabulated test shows that the downward adjustments are significantly larger than the upward adjustments ( $p$ -value < 0.001). Therefore, downward adjustments are more frequent and larger than upward adjustments.<sup>13</sup>

### Univariate Tests of H1 and H2

Table 3 presents univariate tests. H1 and H2 predict that audit adjustments are more frequent during the partner's final year of tenure prior to mandatory rotation and during the partner's first year of tenure following mandatory rotation, respectively.

The audit adjustment frequencies are 77.06 percent during the engagement partner's final year of tenure prior to mandatory rotation ( $MROT\_FINAL_{it} = 1$ ) and 74.91 percent in the following year ( $MROT\_FIRST_{it} = 1$ ). In contrast, the audit adjustment frequency is 66.12 percent in the years not affected by mandatory rotation ( $MROT\_FINAL_{it} = MROT\_FIRST_{it} = 0$ ). Consistent with H1 and H2, 77.06 percent is significantly greater than 66.12 percent ( $p$ -value < 0.001), and 74.91 percent is significantly higher than 66.12 percent ( $p$ -value = 0.002). In contrast, Panel B finds that the results for H1 are insignificant for review partners. For H2, the audit adjustment frequency is 71.79 percent during the review partner's first year of tenure following mandatory rotation, compared with

<sup>13</sup> Although an adjustment to reported profits may be immaterial when measured on a net basis, this does not mean that the adjustments to individual components of the income statement are immaterial. For example, a material downward adjustment to reported sales, together with a material downward adjustment to the reported cost of sales, can result in a small net adjustment to bottom-line profits. Auditors are required to judge materiality with respect to individual components of the income statement, as well as bottom-line profits.

**TABLE 1**  
**Descriptive Statistics for the Sample**  
**(n = 6,341)**

**Panel A: Breakdown by Sample Year**

Year	n	Engagement Partners		Review Partners		Audit Adjustments (ADJUST <sub>it</sub> = 1) %
		Final Year Prior to Mandatory Rotation (MROT_FINAL <sub>it</sub> = 1) %	First Year After Mandatory Rotation (MROT_FIRST <sub>it</sub> = 1) %	Final Year Prior to Mandatory Rotation (MROT_FINAL <sub>it</sub> = 1) %	First Year After Mandatory Rotation (MROT_FIRST <sub>it</sub> = 1) %	
2006	756	5.03%	6.75%	7.41%	6.48%	65.48%
2007	1,198	4.34%	3.59%	4.34%	5.93%	72.45%
2008	1,347	6.68%	3.27%	6.53%	3.19%	67.71%
2009	1,428	5.67%	5.53%	6.37%	5.39%	65.55%
2010	1,612	4.09%	4.59%	8.00%	4.90%	64.70%
Total	6,341	5.16%	4.59%	6.56%	5.03%	67.09%

**Panel B: Breakdown by Industry**

Industry	n	Engagement Partners		Review Partners		Audit Adjustments (ADJUST <sub>it</sub> = 1) %
		Final Year Prior to Mandatory Rotation (MROT_FINAL <sub>it</sub> = 1) %	First Year After Mandatory Rotation (MROT_FIRST <sub>it</sub> = 1) %	Final Year Prior to Mandatory Rotation (MROT_FINAL <sub>it</sub> = 1) %	First Year After Mandatory Rotation (MROT_FIRST <sub>it</sub> = 1) %	
Agriculture	132	4.55%	4.55%	6.82%	6.82%	80.30%
Mining	151	1.99%	0.66%	4.64%	5.96%	53.64%
Manufacturing	3,539	4.86%	4.78%	5.54%	4.13%	69.94%
Energy and Water	278	8.99%	5.76%	8.99%	5.76%	55.76%
Construction	123	6.50%	4.88%	7.32%	4.88%	64.23%
Transportation	258	5.81%	4.26%	7.75%	5.43%	55.43%
IT and Computing	380	3.42%	2.89%	5.79%	5.00%	67.63%

(continued on next page)

TABLE 1 (continued)

Industry	n	Engagement Partners		Review Partners			Audit Adjustments ( $ADJUST_{it} = 1$ ) %
		Final Year Prior to Mandatory Rotation ( $MROT\_FINAL_{it} = 1$ ) %	First Year After Mandatory Rotation ( $MROT\_FIRST_{it} = 1$ ) %	Final Year Prior to Mandatory Rotation ( $MROT\_FINAL_{it} = 1$ ) %	First Year After Mandatory Rotation ( $MROT\_FIRST_{it} = 1$ ) %		
Wholesale and Retail Trade	433	5.31%	4.39%	9.93%	7.85%	65.82%	
Finance	102	0.98%	0.00%	3.92%	2.94%	54.90%	
Real Estate	409	4.65%	4.89%	8.31%	7.82%	58.68%	
Public Utilities	201	6.47%	4.98%	5.47%	3.98%	60.20%	
Entertainment	59	5.08%	5.08%	8.47%	6.78%	59.32%	
Conglomerates	276	9.42%	6.88%	11.23%	6.88%	80.07%	
Total	6,341	5.16%	4.59%	6.56%	5.03%	67.09%	

Variable Definitions:

$MROT\_FINAL_{it} = 1$  if the partner is in his/her final year of tenure in year  $t$  due to being scheduled for mandatory rotation at the end of the audit, and 0 otherwise;  
 $MROT\_FIRST_{it} = 1$  if the partner is newly appointed to the audit in year  $t$  due to the former partner being rotated off the audit in the previous year due to the rules on mandatory rotation, and 0 otherwise; and  
 $ADJUST_{it} = 1$  if there is an audit adjustment in year  $t$ , and 0 otherwise.

**TABLE 2**  
**The Direction and Magnitudes of Audit Adjustments**  
**(n = 6,341)**

**Panel A: The Relative Frequency of Audit Adjustments**

Downward Adjustments		No Adjustments		Upward Adjustments		Total	
n	%	n	%	n	%	n	%
2,858	45.07%	2,087	32.91%	1,396	22.02%	6,341	100%

**Panel B: The Magnitudes of Audit Adjustments**

Downward Adjustments (n = 2,858)			No Adjustments (n = 2,087)			Upward Adjustments (n = 1,396)		
Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
-16.2%	-6.4%	22.4%	0.000	0.000	0.000	9.8%	3.4%	12.8%

The downward adjustments sample comprises observations where the audit results in lower reported profits (i.e., *pre-audit profits* > *post-audit profits*). The no adjustments sample comprises observations where there is no audit adjustment to reported profits (i.e., *pre-audit profits* = *post-audit profits*). The upward adjustments sample comprises observations where the audit results in higher reported profits (i.e., *pre-audit profits* < *post-audit profits*). The magnitude of the audit adjustment is defined as the net value of the audit adjustment scaled by the absolute value of pre-audit profits.

66.84 percent in the years not affected by mandatory rotation. The difference between 71.79 percent and 66.84 percent is marginally significant (p-value = 0.067).

Overall, the univariate results suggest that audit quality is higher during the engagement partner's final year of tenure prior to mandatory rotation and during the engagement partner's first year of tenure following mandatory rotation.

**Control Variables**

Table 4 provides descriptive statistics for the control variables. The mean value of the log of sales (*Size<sub>it</sub>*) is 20.995 and ranges from 16.117 to 25.102. The mean return on sales (*ROS<sub>it</sub>*) is 6.8 percent, and the mean value of leverage (*Leverage<sub>it</sub>*) is 53.0 percent. We find 24.3 percent of clients are involved in a merger or acquisition transaction during the year (*M&A<sub>it</sub>*). The natural log of (1 plus) the total number of subsidiaries (*Subsidiaries<sub>it</sub>*) ranges from 0.000 to 3.892. Only 6.7 percent of companies are audited by a Big 4 firm (*Big4<sub>it</sub>*), which is consistent with the low frequency of Big 4 audits in other China studies such as H. Chen, J. Chen, Lobo, and Wang (2011). We find 20.0 percent of clients are audited by a firm that merges with another audit firm (*Auditor M&A<sub>it</sub>*), while 4.8 percent receive qualified or modified audit opinions (*Unclean Opinion<sub>it</sub>*). Descriptive statistics for the other control variables are also consistent with expectations and prior studies.

**Regression Results for H1 and H2**

Table 5 reports the regression results. Consistent with H1, we find a highly significant positive coefficient on *MROT\_FINAL<sub>it</sub>* in the model for engagement partners (z-stat. = 3.364). Therefore, audit adjustments are significantly more frequent when the engagement partner is scheduled for mandatory rotation at the end of the audit. This is consistent with a peer review effect whereby the

**TABLE 3**  
**Audit Adjustments in the Years Before and After Mandatory Partner Rotation**  
**(n = 6,341)**

**Panel A: Audit Adjustments in the Years Immediately Surrounding Mandatory Rotation of the Engagement Partner**

	Audit Adjustment ( $ADJUST_{it} = 1$ )		No Audit Adjustment ( $ADJUST_{it} = 0$ )	
	n	%	n	%
Engagement partner's final year prior to mandatory rotation.	252	77.06%	75	22.94%
Engagement partner's first year following mandatory rotation.	218	74.91%	73	25.09%
Neither the engagement partner's final year of tenure prior to mandatory rotation nor the engagement partner's first year of tenure following mandatory rotation.	3,784	66.12%	1,939	33.88%

H1: The audit adjustment frequency is significantly higher during the engagement partner's final year prior to mandatory rotation compared with all years not affected by mandatory rotation (i.e., 77.06 percent versus 66.12 percent). Chi-square = 16.686; p-value < 0.001.

H2: The audit adjustment frequency is significantly higher during the engagement partner's first year following mandatory rotation compared with all years not affected by mandatory rotation (i.e., 74.91 percent versus 66.12 percent). Chi-square = 9.621; p-value = 0.002.

**Panel B: Audit Adjustments in the Years Immediately Surrounding Mandatory Rotation of the Review Partner**

	Audit Adjustment ( $ADJUST_{it} = 1$ )		No Audit Adjustment ( $ADJUST_{it} = 0$ )	
	n	%	n	%
Review partner's final year prior to mandatory rotation.	278	66.83%	138	33.17%
Review partner's first year following mandatory rotation.	229	71.79%	90	28.21%
Neither the review partner's final year of tenure prior to mandatory rotation nor the review partner's first year of tenure following mandatory rotation.	3,747	66.84%	1,859	33.16%

H1: The audit adjustment frequency is significantly higher during the review partner's final year prior to mandatory rotation compared with all years not affected by mandatory rotation (i.e., 66.83 percent versus 66.84 percent). Chi-square = 0.000; p-value = 0.996.

H2: The audit adjustment frequency is significantly higher during the review partner's first year following mandatory rotation compared with all years not affected by mandatory rotation (i.e., 71.79 percent versus 66.84 percent). Chi-square = 3.347; p-value = 0.067.

departing engagement partner works harder to detect necessary audit adjustments prior to handing over the engagement to a new partner. In contrast, we find no such effect for review partners, as the coefficient on the  $MROT\_FINAL_{it}$  variable is small and insignificant (z-stat. = -0.147). We conclude that H1 holds for engagement partners, but not review partners.

**TABLE 4**  
**Descriptive Statistics for the Control Variables (n = 6,341)**

	Mean	Min.	P10	P25	P50	P75	P90	Max.
<i>Size<sub>it</sub></i>	20.995	16.117	19.223	20.089	20.952	21.865	22.881	25.102
<i>ROS<sub>it</sub></i>	0.068	-1.400	-0.013	0.019	0.057	0.125	0.236	1.288
<i>Leverage<sub>it</sub></i>	0.530	0.050	0.230	0.366	0.518	0.656	0.768	2.529
<i>M&amp;A<sub>it</sub></i>	0.243	0.000	0.000	0.000	0.000	0.000	1.000	1.000
<i>Subsidiaries<sub>it</sub></i>	1.944	0.000	0.693	1.386	1.946	2.565	3.178	3.892
<i>Board Size<sub>it</sub></i>	2.204	1.609	1.946	2.197	2.197	2.303	2.398	2.708
<i>Board Meetings<sub>it</sub></i>	2.138	1.386	1.609	1.946	2.079	2.398	2.565	3.091
<i>Duality<sub>it</sub></i>	0.154	0.000	0.000	0.000	0.000	0.000	1.000	1.000
<i>Audit Com<sub>it</sub></i>	0.946	0.000	1.000	1.000	1.000	1.000	1.000	1.000
<i>Big4<sub>it</sub></i>	0.067	0.000	0.000	0.000	0.000	0.000	0.000	1.000
<i>Auditor M&amp;A<sub>it</sub></i>	0.200	0.000	0.000	0.000	0.000	0.000	1.000	1.000
<i>Unclean Opinion<sub>it</sub></i>	0.048	0.000	0.000	0.000	0.000	0.000	0.000	1.000
<i>Fee<sub>it</sub></i>	13.234	12.044	12.612	12.821	13.122	13.501	13.998	16.013
<i>Analyst<sub>it</sub></i>	0.823	0.000	0.000	1.000	1.000	1.000	1.000	1.000
<i>Tenure<sub>it</sub></i>	1.737	0.000	0.693	1.099	1.792	2.303	2.565	2.833

The continuous variables are winsorized at the top and bottom 1 percent in order to address outliers.

Variable Definitions:

*Size<sub>it</sub>* = the natural log of sales for company *i* in year *t*;

*ROS<sub>it</sub>* = company *i*'s return on sales in year *t*, defined as net income divided by sales;

*Leverage<sub>it</sub>* = total liabilities divided by total assets for company *i* in year *t*;

*M&A<sub>it</sub>* = 1 if company *i* has a merger or acquisition transaction that involves the purchase of more than 20 percent of the target company in year *t*, and 0 otherwise;

*Subsidiaries<sub>it</sub>* = the natural log of (1 plus) the total number of consolidated subsidiaries;

*Board Size<sub>it</sub>* = the natural log of the number of board directors at company *i* in year *t*;

*Board Meetings<sub>it</sub>* = the natural log of the number of board meetings held by company *i* in year *t*;

*Duality<sub>it</sub>* = 1 if company *i*'s CEO in year *t* concurrently serves as chair of the board, and 0 otherwise;

*Audit Com<sub>it</sub>* = 1 if company *i* has an audit committee in year *t*, and 0 otherwise;

*Big4<sub>it</sub>* = 1 if company *i* is audited by a Big 4 firm in year *t*, and 0 otherwise;

*Auditor M&A<sub>it</sub>* = 1 if company *i*'s audit firm merges with another audit firm in year *t*, and 0 otherwise;

*Unclean Opinion<sub>it</sub>* = 1 if company *i* receives a qualified or modified audit opinion in year *t*, and 0 otherwise;

*Fee<sub>it</sub>* = the natural log of the audit fee paid by company *i* in year *t*;

*Analyst<sub>it</sub>* = 1 if there is at least one analyst following company *i* in year *t*, and 0 otherwise; and

*Tenure<sub>it</sub>* = the natural log of audit firm tenure at company *i* in year *t*.

Consistent with H2, we find a significant positive coefficient on *MROT\_FIRST<sub>it</sub>* in the model for engagement partners (z-stat. = 2.214). This is consistent with a fresh-eyes effect whereby the incoming engagement partner detects more financial reporting problems and, therefore, requires more audit adjustments in the first year following mandatory rotation.<sup>14</sup> In

<sup>14</sup> In an untabulated test, we examine whether there are more audit adjustments during a partner's second year of tenure following mandatory rotation. The *MROT\_SECOND<sub>it</sub>* variable equals 1 for the new partner's second year of tenure following mandatory rotation, and 0 otherwise. Including the *MROT\_SECOND<sub>it</sub>* variable causes the sample size to shrink from 6,341 to 4,523 observations because it requires an additional consecutive year of data. The *MROT\_SECOND<sub>it</sub>* variable is statistically insignificant, whereas the *MROT\_FIRST<sub>it</sub>* and *MROT\_FINAL<sub>it</sub>* variables remain significant for engagement partners in the smaller sample (z-stats. = 1.975 and 3.989, respectively). All three variables (*MROT\_FIRST<sub>it</sub>*, *MROT\_SECOND<sub>it</sub>*, and *MROT\_FINAL<sub>it</sub>*) are insignificant for review partners. These results suggest that the fresh-eyes effect does not extend to the second year of tenure.

**TABLE 5**  
**Audit Adjustments in the Years Before and After Mandatory Rotation**  
**(n = 6,341)**

<u>Dep. Var. = <math>ADJUST_{it}</math></u>	<u>Rotation of the Engagement Partner</u>	<u>Rotation of the Review Partner</u>
$MROT\_FINAL_{it}$	0.456 (3.364)***	-0.017 (-0.147)
$MROT\_FIRST_{it}$	0.311 (2.214)**	0.145 (1.119)
$Size_{it}$	-0.123 (-3.196)***	-0.123 (-3.186)***
$ROS_{it}$	0.178 (1.341)	0.180 (1.360)
$Leverage_{it}$	-0.328 (-2.159)**	-0.335 (-2.197)**
$M\&A_{it}$	-0.047 (-0.682)	-0.049 (-0.720)
$Subsidiaries_{it}$	0.041 (0.955)	0.039 (0.902)
$Board\ Size_{it}$	-0.319 (-1.599)	-0.325 (-1.587)
$Board\ Meetings_{it}$	0.157 (1.520)	0.155 (1.502)
$Duality_{it}$	-0.067 (-0.593)	-0.073 (-0.645)
$Audit\ Com_{it}$	0.154 (1.218)	0.157 (1.244)
$Big4_{it}$	-1.643 (-7.367)***	-1.662 (-7.848)***
$Auditor\ M\&A_{it}$	0.357 (4.374)***	0.339 (4.182)***
$Unclean\ Opinion_{it}$	0.239 (1.298)	0.241 (1.307)
$Fee_{it}$	0.162 (1.711)*	0.166 (1.754)*
$Analyst_{it}$	0.145 (1.409)	0.153 (1.487)
$Tenure_{it}$	0.272 (4.329)***	0.292 (4.647)***
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Wald Chi-square	230.30	221.32
Prob. > Chi-square	0.000	0.000

\*, \*\*, \*\*\* Denote statistically significant at the 10 percent, 5 percent, and 1 percent levels, respectively.

In each model, the standard errors are estimated with clustering on each company.

z-statistics are reported in parentheses.

Definitions for the control variables are given in Table 4.

(continued on next page)

TABLE 5 (continued)

## Variable Definitions:

$ADJUST_{it}$  = 1 if there is an audit adjustment in year  $t$ , and 0 otherwise;

$MROT\_FINAL_{it}$  = 1 if the partner is in his/her final year of tenure in year  $t$  due to being scheduled for mandatory rotation at the end of the audit, and 0 otherwise; and

$MROT\_FIRST_{it}$  = 1 if the partner is newly appointed to the audit in year  $t$  due to the former partner being rotated off the audit in the previous year due to the rules on mandatory rotation, and 0 otherwise.

contrast, we find an insignificant coefficient on  $MROT\_FIRST_{it}$  in the model for review partners (z-stat. = 1.119).<sup>15</sup>

To evaluate the economic significance of these results, we compute how mandatory rotation affects the likelihood of an audit adjustment, holding constant all other independent variables at their mean values. The mean predicted audit adjustment probability is 67.1 percent when the engagement partner is not in the final year of tenure prior to mandatory rotation and not in the first year of tenure following mandatory rotation. When the engagement partner is in the final year of tenure prior to mandatory rotation (i.e.,  $MROT\_FINAL_{it} = 1$ ,  $MROT\_FIRST_{it} = 0$ ), the mean audit adjustment probability is substantially higher at 76.4 percent. When the engagement partner is in the first year of tenure following mandatory rotation (i.e.,  $MROT\_FINAL_{it} = 0$ ,  $MROT\_FIRST_{it} = 1$ ), the mean audit adjustment probability is again relatively high at 73.6 percent. Therefore, the impact of mandatory rotation is economically significant, as well as statistically significant.<sup>16</sup>

In terms of the control variables, we find significant negative coefficients on  $Size_{it}$  and  $Leverage_{it}$ , indicating that audit adjustments are less common among larger companies and companies with higher leverage. Further, we find highly significant negative coefficients on  $Big4_{it}$ , indicating that adjustments are less common among Big 4 clients. This is consistent with these companies having higher quality pre-audit financial statements. Audit adjustments are more common among audit firms that merge ( $Auditor\ M\&A_{it}$ ), which is consistent with these firms providing higher quality audits (Chan and Wu 2011). We also find that audit adjustments occur more frequently when audit fees are higher ( $Fee_{it}$ ) and when audit firm tenure is longer ( $Tenure_{it}$ ). The remaining control variables are not statistically significant.

<sup>15</sup> While the rules in China allow for simultaneous rotation of both the engagement partner and the review partner, such cases are rare within our sample. There are only 23 observations in which both the engagement partner and review partner are in their first year of tenure following mandatory rotation of the previous partners. Further, there are only 40 observations in which both the engagement partner and review partner are in their final year of tenure prior to mandatory rotation. In untabulated analysis, we find that rotation of both partners is not incrementally significant, beyond the effect of rotating just the engagement partner.

<sup>16</sup> When a departing partner cleans up the financial statement errors in the final year of tenure, this may involve the discovery of prior years' mistakes, which could result in more restatements of prior-year financials. On the other hand, the quality of restatement disclosures is likely worse in China than in the U.S. because Chinese companies are not required to file 8-K forms or disclose restatements in press releases. Instead, the restatements are typically shown in the company's annual report as an alteration to prior years' financials. Given the relatively lax disclosure requirements in China, we would not necessarily expect to see more restatement announcements in the partner's final year of tenure. To test this, we identify restatements for Chinese companies from the CSMAR and WIND databases. The dependent variable takes the value 1 if there is a restatement in year  $t$  of financials pertaining to years  $t-1$  or before (0 otherwise). Consistent with departing partners being motivated to clean up the financial statement errors in the final year of tenure, we find positive coefficients on both  $MROT\_FINAL_{it}$  and  $MROT\_FIRST_{it}$ . However, the coefficients are not statistically significant.

## V. SUPPLEMENTARY ANALYSES

### Voluntary Partner Rotation and the Endogeneity Problem

Section II argued that there is a potential endogeneity problem with voluntary rotations, making it problematic to draw inferences about the likely consequences of mandatory rotation. In particular, there is a potential reverse causality problem, which makes it hard to make clear predictions for voluntary rotations.

On one hand, voluntary rotation might result in a higher frequency of audit adjustments, for the same reasons as outlined in H1 and H2 for mandatory partner rotation. In particular, voluntary rotation may result in a higher frequency of audit adjustments during the incumbent partner's final year of tenure and during the newly appointed partner's first year of tenure. On the other hand, there will be a reverse causality problem if audit adjustments affect the decision to voluntarily rotate the partner. For example, if there was an audit adjustment in the prior year, then the audit firm is likely to assess the client as being of high risk. In this situation, the audit firm may prefer to retain the same partner on the engagement rather than switch to a new partner who has less client-specific knowledge. This would result in a lower frequency of audit adjustments during the partner's final year of tenure prior to voluntary rotation. Another possibility is that clients attempt to influence an audit firm's decision about which partner to assign to the engagement. For example, if a partner upset a client's management in the previous year by requiring an audit adjustment, then the company's management may request a change of audit partner. This would result in a higher frequency of audit adjustments during the partner's final year of tenure prior to voluntary rotation. Again, in this case, causality would run from audit adjustments to the voluntary rotation decision, rather than the other way round. Moreover, an audit firm's voluntary decision to retain or rotate the partner could be made in anticipation of the likely financial reporting issues that will arise at the client in the current year. For example, an audit firm may anticipate that a client has a strong incentive to misstate the financial statements in the current year. As this would be a high-risk client, the audit firm may decide to retain the same partner on the engagement rather than switch to a new partner who has less client-specific knowledge. This would result in finding a lower frequency of audit adjustments during the partner's first year of tenure following voluntary rotation.

In short, it is difficult to make clear predictions because causality between audit adjustments and voluntary partner rotation could run in both directions. Therefore, the results for voluntary partner rotations may be very different from those found for mandatory partner rotations. To assess whether this is the case, we compare and contrast the results for voluntary rotations with those found for mandatory rotations.

Per the rules in China, a rotation is assumed to be voluntary if it occurs when the partner has less than five years of tenure at the audit client. We construct two voluntary rotation variables: (1)  $VROT\_FINAL_{it}$  equals 1 if the partner is in the final year of tenure in year  $t$  due to being voluntarily rotated in the following year, and 0 otherwise; (2)  $VROT\_FIRST_{it}$  equals 1 if the partner is newly appointed in year  $t$  as a result of the former partner being voluntarily rotated off the audit at the end of year  $t-1$ , and 0 otherwise. There are 2,348 (2,190) observations where the engagement partner (review partner) is in the final year of tenure prior to voluntary rotation ( $VROT\_FINAL_{it} = 1$ ). There are 2,108 (1,936) observations in which the engagement partner (review partner) is in the first year of tenure following voluntary rotation ( $VROT\_FIRST_{it} = 1$ ).

**TABLE 6**  
**Audit Adjustments in the Years Before and After Mandatory Partner Rotation**  
**(*MROT\_FINAL<sub>it</sub>* and *MROT\_FIRST<sub>it</sub>*) and in the Years Before and After Voluntary Partner**  
**Rotation (*VROT\_FINAL<sub>it</sub>* and *VROT\_FIRST<sub>it</sub>*)**  
**(n = 6,341)**

<u>Dep. Var. = <i>ADJUST<sub>it</sub></i></u>	<u>Rotation of the Engagement Partner</u>	<u>Rotation of the Review Partner</u>
<i>MROT_FINAL<sub>it</sub></i>	0.376 (2.770)***	-0.073 (-0.634)
<i>MROT_FIRST<sub>it</sub></i>	0.315 (2.226)**	0.127 (0.979)
<i>VROT_FINAL<sub>it</sub></i>	-0.206 (-3.376)***	-0.107 (-1.809)*
<i>VROT_FIRST<sub>it</sub></i>	-0.011 (-0.180)	-0.075 (-1.227)
Control variables	Yes	Yes
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes

\*, \*\*, \*\*\* Denote statistically significant at the 10 percent, 5 percent, and 1 percent levels, respectively.

In each model, the standard errors are estimated with clustering on each company.

z-statistics are reported in parentheses.

Definitions for the control variables are given in Table 4.

Variable Definitions:

*ADJUST<sub>it</sub>* = 1 if there is an audit adjustment in year *t*, and 0 otherwise;

*MROT\_FINAL<sub>it</sub>* = 1 if the partner is in his/her final year of tenure in year *t* due to being rotated off the audit at the end of the year due to the rules on mandatory rotation, and 0 otherwise;

*MROT\_FIRST<sub>it</sub>* = 1 if the partner is newly appointed in year *t* due to the former partner being rotated off the audit in the previous year due to the rules on mandatory rotation, and 0 otherwise;

*VROT\_FINAL<sub>it</sub>* = 1 if the partner is in his/her final year of tenure in year *t* due to being voluntarily rotated off the audit at the end of the year, and 0 otherwise; and

*VROT\_FIRST<sub>it</sub>* = 1 if the partner is newly appointed in year *t* due to the former partner being voluntarily rotated off the audit in the previous year, and 0 otherwise.

Consistent with studies from other countries, this means that voluntary rotation is far more common than mandatory rotation.<sup>17</sup>

In Table 6, we add *VROT\_FINAL<sub>it</sub>* and *VROT\_FIRST<sub>it</sub>* to the models originally estimated in Table 5 (results for the control variables are not reported for the sake of brevity). We find significant negative coefficients on *VROT\_FINAL<sub>it</sub>* for both engagement partners and review partners (z-stats. = -3.376, -1.809). Therefore, engagement partners and review partners are less likely to be voluntarily rotated following prior-year audit adjustments. This is consistent with audit firms preferring partner continuity rather than partner rotation when clients had financial reporting problems requiring audit adjustments in the previous year. Similarly, the results for *VROT\_FIRST<sub>it</sub>*

<sup>17</sup> For example, Gold, Lindscheid, Pott, and Watrin (2012) find that the mean length of engagement partner tenure (review partner tenure) in Germany is just 2.68 (2.80) years during a period in which partners were not subject to mandatory rotation. In Australia, Carey and Simnett (2006) report that 44 percent of companies have no more than two years of partner tenure, while only 15 percent have more than seven years. These results imply that partner tenure is usually quite short even when partner rotation is not mandatory. In the U.S., Bedard and Johnstone (2010) find that only 12.2 percent of partners had tenure exceeding five years during 2002, a year in which partner rotation was required every seven years.

are very different from those obtained for  $MROT\_FIRST_{it}$ . Whereas the audit adjustment frequency is significantly higher during the engagement partner's first year of tenure following mandatory rotation (z-stat. = 2.226), it is not significantly higher during the engagement partner's first year of tenure following voluntary rotation (z-stat. = -0.180).<sup>18</sup>

Overall, these findings suggest that researchers need to examine cases of mandatory rotation rather than voluntary rotation in order to draw valid inferences about the consequences of mandatory rotation.

### Alternative Proxies for Audit Quality

As discussed in Section II, Chi et al. (2009) find insignificant results for mandatory partner rotation when they measure audit quality using abnormal accruals and ERCs. One reason for this could be that these are rather noisy measures of audit quality (Bamber and Bamber 2009). If that is indeed the reason, then we are also likely to find insignificant results using abnormal accruals and earnings response coefficients.

To investigate this, we replicate the tests of Chi et al. (2009). Consistent with their study, we find insignificant results for both abnormal accruals and ERCs (untabulated). Chi et al. (2009) estimate a long-window ERC (i.e., the association between the abnormal *annual* return and the change in *annual* earnings), and we extend their analysis by also estimating a short-window ERC (i.e., five trading days centered on the annual earnings announcement date) using either lagged earnings or the most recent analyst consensus forecast to measure the market's expected earnings. In all these tests, we continue to find insignificant results. These findings indicate that our conclusions are different from Chi et al. (2009) because we use audit adjustments rather than abnormal accruals and ERCs to measure audit quality.

### Upward and Downward Adjustments

Consistent with managers usually intending to overstate rather than understate profits, Table 2 shows that downward adjustments occur more than twice as often as upward adjustments. In this section, we examine whether mandatory partner rotation is equally effective in correcting overstatements and understatements. We construct a trichotomous variable ( $ADJUST\_SIGN_{it}$ ) that equals 0 when there is no adjustment, 1 when there is an upward adjustment, and 2 when there is a downward adjustment. As  $ADJUST\_SIGN_{it}$  takes three possible values, the models are estimated using multinomial logit, with the benchmark comparison being the no-adjustment observations ( $ADJUST\_SIGN_{it} = 0$ ).

Table 7 tests how mandatory rotation affects the frequency of upward and downward adjustments. We find significant positive coefficients for  $MROT\_FINAL_{it}$  in both models (z-stats. = 2.104, 3.510), indicating that engagement partners require more upward adjustments and more downward adjustments in their final years of tenure prior to mandatory rotation. Consistent with H1, this suggests that engagement partners are more likely to correct both overstatements and understatements during their final years of tenure. Further, we find significant positive coefficients for  $MROT\_FIRST_{it}$  in both models (z-stats. = 1.827, 2.070). Therefore, engagement partners require more upward adjustments and more downward adjustments in their initial years of tenure following mandatory rotation. Consistent with H2, this suggests that new engagement partners bring a fresh perspective and,

<sup>18</sup> There are 237 observations where one partner is rotated off the audit due to the rules on mandatory rotation and, in the same year, the other partner is rotated voluntarily. These concurrent rotation observations are included in the primary estimation sample, but as a sensitivity test, we drop them from the sample. Consistent with H1 and H2, we continue to find significant positive coefficients on the  $MROT\_FINAL_{it}$  and  $MROT\_FIRST_{it}$  variables for the mandatory rotation of engagement partners.

TABLE 7

**Mandatory Rotation of Engagement Partners and the Incidence of Upward and Downward Audit Adjustments**  
(n = 6,341)

Dep. Var. = $ADJUST\_SIGN_{it}$	Upward Adjustment ( $ADJUST\_SIGN_{it} = 1$ )	Downward Adjustment ( $ADJUST\_SIGN_{it} = 2$ )
$MROT\_FINAL_{it}$	0.356 (2.104)**	0.505 (3.510)***
$MROT\_FIRST_{it}$	0.320 (1.827)*	0.308 (2.070)**
Control variables	Yes	Yes
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes

\*, \*\*, \*\*\* Denote statistically significant at the 10 percent, 5 percent, and 1 percent levels, respectively.

In each model, the standard errors are estimated with clustering on each company.

z-statistics are reported in parentheses.

The models are estimated using multinomial logit as the dependent variable takes three possible values (the no-adjustment case is used as the benchmark comparison). We include the same control variables as in Table 5, but results for the control variables are not reported for the sake of brevity.

Definitions for the control variables are given in Table 4.

Variable Definitions:

$ADJUST\_SIGN_{it} = 0$  when there is no audit adjustment, 1 when there is an upward adjustment, and 2 when there is a downward adjustment;

$MROT\_FINAL_{it} = 1$  if the partner is in his/her final year of tenure in year  $t$  due to being scheduled for mandatory rotation at the end of the audit, and 0 otherwise; and

$MROT\_FIRST_{it} = 1$  if the partner is newly appointed to the audit in year  $t$  due to the former partner being rotated off the audit in the previous year due to the rules on mandatory rotation, and 0 otherwise.

consequently, are more likely to correct both overstatements and understatements. In untabulated tests, we find insignificant results when the models in Table 7 are estimated for review partners.

### Audit Adjustment Reversals

We have found that audit adjustments occur more often in the first year of tenure following mandatory partner rotation. Although this is consistent with H2, an alternative explanation is that the new partner disagrees with the adjustments made by the departing partner in the previous year. If this alternative explanation is correct, then we would expect prior-year adjustments to be partially or fully reversed during the first year under the new partner. For example, if the departing partner required a downward adjustment during his/her final year of tenure, then the new partner might feel that this was too conservative and partially or fully reverse this with an upward adjustment in the following year.

To test this alternative explanation, we examine whether mandatory rotation increases the frequency with which audit adjustments reverse from one year to the next. We create a new dependent variable ( $REVERSAL_{it}$ ) that equals 0 if there is no adjustment reversal across consecutive years (i.e., the sign of the adjustment in year  $t$  is not opposite to that of year  $t-1$ );  $REVERSAL_{it}$  equals 1 if the adjustment in year  $t-1$  is fully reversed in year  $t$ .<sup>19</sup> To take account of partial

<sup>19</sup> For example,  $REVERSAL_{it}$  would take the value 1 if the company's earnings are adjusted downward by \$2 million in year  $t-1$  and the company's earnings are subsequently adjusted upward by \$3 million in year  $t$ . This is a "full reversal," as the upward adjustment more than offsets the downward adjustment in the previous year.

reversals,  $REVERSAL_{it}$  equals the absolute magnitude of the year  $t$  adjustment divided by the absolute magnitude of the year  $t-1$  adjustment if the sign of the adjustment in year  $t$  is different from the sign of the adjustment in year  $t-1$  and the absolute magnitude of the year  $t$  adjustment is smaller than the absolute magnitude of the year  $t-1$  adjustment. For example,  $REVERSAL_{it}$  equals 0.5 if there is a downward adjustment of \$2 million in year  $t-1$  and an upward adjustment of \$1 million in year  $t$ .<sup>20</sup>

As the  $REVERSAL_{it}$  variable is truncated at 0 and 1, we employ tobit regression, using the same control variables as in Table 5. In untabulated tests, we find insignificant coefficients on  $MROT\_FINAL_{it}$  and  $MROT\_FIRST_{it}$ . Thus, we find no evidence that mandatory partner rotation increases the tendency for audit adjustments to reverse from year  $t-1$  to year  $t$ .<sup>21</sup> This is inconsistent with the argument that audit adjustments are more frequent during the first year following mandatory partner rotation because the new partner disagrees with the adjustments made in the previous year by the departing partner.

### Large and Small Audit Adjustments

In this section, we examine whether mandatory partner rotation affects both large and small audit adjustments. Large adjustments are clearly significant because they have a big impact on reported profits. Therefore, it is important to test whether mandatory rotation increases the incidence of large adjustments. However, this is by no means obvious. For example, it could be that large misstatements are easy to detect and mandatory rotation is not necessary for correcting these more obvious misstatements. Mandatory rotation might be more helpful for correcting relatively small misstatements that are harder to detect.<sup>22</sup>

We construct a trichotomous variable ( $ADJUST\_SIZE_{it}$ ) that equals 0 when there is no audit adjustment, 1 when there is a small adjustment, and 2 when there is a large adjustment. Following Keune and Johnstone (2012), we code an adjustment as being large if it changes pre-audit profits by more than 5 percent.<sup>23</sup> This yields 2,137 cases of large adjustments, 2,117 small adjustments, and 2,087 cases of no adjustment. As  $ADJUST\_SIZE_{it}$  takes three possible values, the models are estimated using multinomial logit, with the benchmark group being the case of no adjustment ( $ADJUST\_SIZE_{it} = 0$ ).

The results are reported in Table 8. We find significant positive coefficients for  $MROT\_FINAL_{it}$  in both models (z-stats. = 3.285, 2.814). Therefore, engagement partners require more small adjustments and more large adjustments in their final years of tenure prior to mandatory rotation. Similarly, we find significant positive coefficients for  $MROT\_FIRST_{it}$  in both models (z-stats. = 1.674, 2.313). Therefore, engagement partners require more small adjustments and more large

<sup>20</sup> In this test, we do not assume that all reversals occur due to conflicting audit judgments. Rather, we assume that there would be more reversals during the partner's first year of tenure if the new partner disagrees with the adjustment made in the previous year.

<sup>21</sup> The associations between  $REVERSAL_{it}$  and our mandatory rotation variables are also insignificant in univariate tests. The mean value of  $REVERSAL_{it}$  is 0.174 during the engagement partner's first year of tenure following mandatory rotation and 0.147 in all other years; the difference is insignificant. Similarly, we find an insignificant association between reversals and the mandatory rotation of review partners (the mean values of  $REVERSAL_{it}$  are 0.169 and 0.147, respectively).

<sup>22</sup> Auditors have to consider qualitative factors when determining whether misstatements are material and in need of correction. According to Article 5 of Chinese Auditing Standard (CAS) No. 10 (effective since January 1, 1997), auditors should consider both the quantitative magnitude and the qualitative nature of misstatements when implementing the materiality principle. Similarly, Staff Accounting Bulletin No. 99 requires U.S. auditors to consider qualitative factors when determining whether a misstatement needs to be corrected. Therefore, we do not assume that small adjustments are immaterial.

<sup>23</sup> Our results are not sensitive to using this threshold. For example, we obtain similar results if we classify adjustments as being large when they exceed the sample median or exceed 1 percent of total assets.

**TABLE 8**  
**Mandatory Rotation of Engagement Partners and the Incidence of Large and Small Audit Adjustments**  
**(n = 6,341)**

<b>Dep. Var. = <math>ADJUST\_SIZE_{it}</math></b>	<b>Small Adjustment (<math>ADJUST\_SIZE_{it} = 1</math>)</b>	<b>Large Adjustment (<math>ADJUST\_SIZE_{it} = 2</math>)</b>
$MROT\_FINAL_{it}$	0.491 (3.285)***	0.440 (2.814)***
$MROT\_FIRST_{it}$	0.267 (1.674)*	0.362 (2.313)**
Control variables	Yes	Yes
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes

\*, \*\*, \*\*\* Denote statistically significant at the 10 percent, 5 percent, and 1 percent levels, respectively.

In each model, the standard errors are estimated with clustering on each company.

z-statistics are reported in parentheses.

The models are estimated using multinomial logit as the dependent variable takes three possible values (the no-adjustment case is used as the benchmark comparison). We include the same control variables as in Table 5, but results for the control variables are not reported for the sake of brevity.

Definitions for the control variables are given in Table 4.

Variable Definitions:

$ADJUST\_SIZE_{it} = 0$  when there is no audit adjustment, 1 when there is a small adjustment, and 2 when there is a large adjustment. An adjustment is coded as large if it causes pre-audit profits to change by more than 5 percent. That is, the adjustment is large if  $|Post-Audit Profit - Pre-Audit Profit| > 0.05 \times |Pre-Audit Profit|$ . The adjustment is small if  $|Post-Audit Profit - Pre-Audit Profit| \leq 0.05 \times |Pre-Audit Profit|$ ;

$MROT\_FINAL_{it} = 1$  if the partner is in his/her final year of tenure in year  $t$  due to being scheduled for mandatory rotation at the end of the audit, and 0 otherwise; and

$MROT\_FIRST_{it} = 1$  if the partner is newly appointed to the audit in year  $t$  due to the former partner being rotated off the audit in the previous year due to the rules on mandatory rotation, and 0 otherwise.

adjustments in their first year of tenure following mandatory rotation.<sup>24</sup> These findings suggest that mandatory rotation helps engagement partners to detect and correct both small and large misstatements.<sup>25</sup>

## VI. CONCLUSIONS

This study investigates how mandatory partner rotation affects audit quality and addresses two key limitations of prior literature. First, we avoid the problem that voluntary rotations are endogenous by focusing our analysis on rotation events that are mandatory. Second, the audit

<sup>24</sup> For the sake of brevity, Table 8 focuses on engagement partners because—consistent with Tables 5 and 6—we generally find insignificant results for review partners.

<sup>25</sup> In an untabulated test, we also examine how mandatory rotation affects the absolute magnitude of audit adjustments; i.e.,  $|Post-audit profit - Pre-audit profit|/|Pre-audit profit|$ . We use absolute values in the denominator, as well as the numerator, because pre-audit profits can be either positive or negative. (We also find that the results are robust to dropping the observations with negative pre-audit profits.) We find that the coefficients on  $MROT\_FINAL_{it}$  and  $MROT\_FIRST_{it}$  remain significantly positive for engagement partners (z-stats. = 1.677 and 2.147, respectively). However, these results are weaker than for the incidence of audit adjustments (Table 5) because mandatory rotation increases the incidence of both large and small adjustments (see Table 8).

quality proxies used in prior research (e.g., accruals, ERCs) are notoriously noisy. We argue that the audit adjustments data allow us to provide more powerful tests for the impact of mandatory rotation on audit quality.

Our results indicate that mandatory rotation results in higher audit quality. First, an engagement partner is more likely to require an audit adjustment when the partner is scheduled for mandatory rotation at the end of the year. This suggests that the departing engagement partner has motivation to clean up the client's financial statements before handing over the audit to the new partner. This is consistent with a positive peer review benefit, whereby engagement partners perform higher quality audits when they are scheduled for mandatory rotation. Second, we find that a newly appointed engagement partner is more likely to require an adjustment during the partner's first year of tenure following mandatory rotation. This is consistent with newly appointed engagement partners bringing a fresh perspective to the audit that can identify more financial reporting problems. Our findings have significant implications for public policy because many countries rely on mandatory audit partner rotation rather than mandatory audit firm rotation to ensure high-quality audits.

At the same time, it is important not to overstate the impact of mandatory partner rotation. In our sample, as well as other studies, mandatory partner rotation occurs relatively infrequently because audit partner tenure often does not reach five years. Moreover, although we document that audit quality benefits from mandatory audit partner rotation in a regime where audit firm rotation is voluntary, we are not able to test whether mandatory audit firm rotation would yield incremental benefits for audit quality beyond those that we detect from mandatory partner rotation.

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