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Determinants and Economic Consequences of Signing Auditor Turnover: A Large-Scale Study from China

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Abstract: This study investigates why auditors leave one audit firm (and bring their clients) to another and the consequences of such turnover. Using a Chinese sample of 470 auditor-years with turnovers and 7,485 auditor-years without such turnovers from 2001 to 2014, we find that auditors' professional competency is positively associated with a departure decision in additional to their demographics. Specifically, younger auditors, auditors who are industry specialists, and auditors who audit more clients and have better education background, are more likely to move, suggesting that "rising stars" in the accounting industry are more likely to move from one audit firm to another. However, female auditors, older auditors, and auditors with established status in the current audit firm are less likely to do so. Interestingly, Big 4 signing auditors in China are less likely to move relative to non-Big 4 auditors. We also find that auditors with lower audit quality are less likely to move from one audit firm to another, suggesting that the job market is penalizing auditors for bad quality audits.

In terms of consequences, we find that the audit firm is more likely to lose clients whose incumbent auditor moves to another audit firm and it tends to lower audit fees for clients that stay with the audit firm, assign better auditors to them, and treat them more leniently. Our study provides insights that should be of interest to the audit profession, audit firms, and regulators.

Keywords: auditor turnover, audit partners, individual auditors, audit fees, audit quality, audit switch.

JEL Classifications: M42, O15, E24

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1. Introduction

This study examines what kinds of signing auditors are more likely to leave one audit firm (and bring their audited clients) to another and the economic consequences of such turnover to their former employers.

This paper is motivated by several issues. High auditor turnover has been a great concern to audit firms, their clients, and regulators (Drew, 2015; PCAOB, 2015). Firstly, finding and retaining qualified staff has been the key concern for audit firms in the past 20 years (AICPA, 2006 & 2015). Turnover rate in audit firms could be close to 14-18% per survey data, which means that roughly one in five accounting staff will leave their current employer in a year (Biery, 2014). Replacing a departing audit staff is very costly and could cost a firm at least $32,500 based on the conservative estimates of the AICPA (Brundage and Koziel, 2010). The replacement cost could be even higher for more senior positions such as managers and partners and in situations when departing auditors bring their audited clients to their new employers when they leave.

Secondly, high turnover in audit firms has been on the radar of regulators who are considering audit personnel turnover as one indicator of audit quality because they are concerned that high turnover rate may adversely affect the quality of audits provided to clients (PCAOB, 2015). Anecdotal evidence suggests that a common complaint from clients of large audit firms is that the audit does not get easier after the first year due to frequent changes in the audit team members.[1][2]

Despite the importance of audit personnel turnover, very few studies examine this issue due to a lack of information on individual auditors or audit partners. The only few studies so far

[1] http://cricpa.com/Public_Company_Audit_Process.aspx
[2] http://pcaobus.org/Rules/Rulemaking/Docket%20041/002_Conway.pdf

examining auditors' job turnover use survey data from a few hundred accounting graduates (e.g., Hiltebeitel and Leauby, 2001) or proprietary data on audit staff from one audit firm (Chi et al., 2013). In this study, we use *a large-scale dataset of signing auditors* to answer two research questions: what kinds of signing auditors are more likely to leave audit firms (and bring their audited clients) to another and what might be the economic consequences to their former employers.

China provides a unique environment for us to investigate these questions. First, signing auditors' names are required to be disclosed in audit reports since 1990s and female auditors do not change their family names after they get married. This allows us to track thousands of auditors over several years. Second, signing auditors in China could be partners but also could be manager, senior managers, or even seniors in some situations. In this case, we can examine job turnover among different levels of auditors and not just partners, which is not available using data from other countries also disclosing signing auditors' names such as Australia because signing auditors in these countries are typically partners. In China, signing auditors' demographic information is also publicly available on the website of the Chinese Institute of Certified Public Accountants. Therefore, this unique setting allows us to examine the signing auditor's job turnover more broadly and deeply.

Using a sample of 470 auditor-years with turnovers from firm to firm and 7,485 auditor-years without such turnovers from 2001 to 2014, we find that younger auditors, auditors who are industry specialists, and auditors who audit more clients and have better education background, are more likely to move, suggesting that "rising stars" in the accounting industry are more likely to change jobs from one audit firm to another. However, female auditors, older auditors, and auditors with established status in the current audit firm (i.e., auditors contributing more

revenues to the current firm and auditors who are managers or partners) are less likely to do so. Interestingly, Big 4 auditors are less likely to move relative to non-Big 4 auditors, consistent with Knechel et al. (2017) that Big 4 signing auditors are less likely to depart from public accounting relative to non-Big 4 signing auditors[3]. We also find that auditors with lower audit quality are less likely to move from one audit firm to another, suggesting that the job market is penalizing auditors for bad quality audits and thus such auditors have lower mobility in the job market.

Additionally, we also examine what kinds of auditors are more likely to bring clients to their successor audit firms from predecessor firms, a situation that is more disastrous to audit firms and called "dysfunctional turnover" in our paper. We find that auditors auditing more clients, auditors who are industry specialists and have more years' auditing experience, and auditors with better education background, are more likely to have such dysfunctional turnover. Auditors in larger non-Big 4 firms are also more likely to do so relative to auditors in smaller non-Big 4 firms but Big 4 auditors do not have such tendency. It is likely that Big 4 individual auditors may have limited power and influence in gaining Big 4 clients, which are typically very large. It is the Big 4 firms' brand name rather than individual auditors' reputation that attracts clients to Big 4 firms while individual auditors in non-Big 4 firms may play more important roles in gaining clients. We also find that female auditors, older auditors, and auditors contributing more audit revenues are less likely to do so. Auditors providing lower quality audits are less likely to do so either, likely due to the limited influence these auditors could have on their clients.

In terms of consequences, we find that the audit firm is more likely to lose clients whose incumbent auditor moves to another audit firm and it tends to lower audit fees for clients that

[3] It is likely because Big 4 in China, as joint ventures of Big 4 International and local Chinese audit firms, are generally considered as one of the best employers for college students.

stay with the audit firm and assign better auditors to them. It also treats them more leniently as auditors are less likely to issue modified audit opinions, allows clients to have larger discretionary accruals, and their clients' financial statements later are more likely to be restated subsequently. Therefore, it seems that these loyal clients have more bargaining power and are able to negotiate a better deal when they stay with the predecessor firm after their signing auditors go to another firm.

Our study contributes to auditing literature in several ways. First, to the best of our knowledge it is among the first large-scale archival studies systematically examining signing auditor turnover behavior using a sample of thousands of signing auditors across 15 years. Even though prior studies and anecdotal evidence have demonstrated that demographics may affect the job turnover of accounting graduates or audit staff in one audit firm (e.g., Hiltebeitel and Leauby, 2001; Chi et al., 2013), our study specifically focuses on the *signing auditors* who are quite different from the groups examined in these prior studies (i.e., accounting graduates or audit staff). Our study reveals some interesting findings different from these prior studies. For example, even though female accounting graduates or auditors may be more likely to change jobs (Hiltebeitel and Leauby, 2001) or leave an audit firm (Chi et al., 2013) or eventually depart from public accounting (Kenchel et al., 2017), we find that female auditors are less likely to change jobs from one audit firm to another and especially are less likely to have dysfunctional turnovers (i.e., bring their audited clients to another audit firm when they leave).

Second, different from these prior studies using accounting graduates or audit staff (e.g., Hiltebeitel and Leauby, 2001; Chi et al., 2013), we can link audited clients to each signing auditor we examine and estimate his/her professional competency (i.e., the amount and quality of audits). Therefore, we can extend these prior studies by examining whether signing auditors'

professional competence will affect job turnover in addition to their demographic characteristics. We document that signing auditors providing lower quality audits have lower job mobility and are less likely to move from one audit firm to another and complete Knechel et al. (2017) who find that signing auditors providing lower quality audits are more likely to depart from pubic accounting. Knechel et al. (2017) and our paper together seem to suggest that lower quality audits result in lower mobility of these auditors in the audit profession and eventual departure from public accounting.

We also examine dysfunctional turnovers, which can only be tested using the sample of signing auditors because audit staffs (Chi et al., 2013) have limited power to take their audited clients with them to new employers. Identifying factors affecting auditor turnovers especially dysfunctional turnovers can help audit firms with staff retention, prevent dysfunctional turnover to some extent, and thus have practical implications for audit firms.

Finally, our study documents empirical evidence that auditor turnover is detrimental to predecessor audit firms since audit firms lose clients and charge lower audit fees/assign better signing auditors to these loyal clients. However, the negative effects to clients are minimal because loyal clients pay lower fees and are assigned seemingly higher-quality auditors and are treated more leniently.

The remainder of the paper is organized as follows. Section 2 describes the background on audit firms and signing auditors in China. Section 3 discusses prior literature and our research questions. Section 4 describes research designs. Section 5 presents the sample and the empirical results. Section 6 concludes.

2. Background

In this section, we provide some background information on audit firms and signing auditors in China.

Currently about 45 audit firms are qualified to audit public companies. To be qualified as an audit firm with such certification, an audit firm must meet the following requirements: (1) no fewer than 60 certified public accountants (CPAs) in total, no fewer than 50 CPAs who were certified by passing the CPA examinations, no fewer than 30 CPAs who have been consecutively performing public accounting in the past five years; (2) audit revenues of last fiscal year no less than 10,000,000 (RMBs[4]). Therefore, audit firms auditing public companies are typically very large in China, which is quite different from these in the U.S., where firms auditing public clients could be very small.

To be qualified as a signing auditor in China, a person must meet the following requirements: (1) earn a college degree or higher, (2) pass all six parts of the CPA exams, (3) work in an audit firm for at least two years, and (4) register with the CICPA. When a CPA registers with the CICPA, he/she must upload his/her personal profile information to the CICPA website. The personal profile information includes his/her name, gender, birth date, education, position in the audit firm, CPA qualification year, Chinese Communist Party (CCP) membership, etc. CPAs must regularly update their personal profiles with the CICPA (Kenchel et al., 2017) Therefore, a signing auditor could be a partner, but could also be lower levels of auditors such as managers or senior managers or even senior auditors, which is different from the U.S. that only partners can sign an audit report. This unique setting allows us to examine the turnover behavior of different levels of auditors, unlike other countries which only disclose audit partners' names.

In additional to the unique disclosure requirements regarding signing auditors, China also has a unique institutional environment. Su and Wu (2016) summarize a number of institutional

[4] RMB is the Chinese currency.

features in China relevant to an interesting phenomenon that clients follow turnover partners to another audit firms (i.e., "dysfunctional turnover"): (1) audit profit from a given clients in local audit firms (i.e., fee revenues minus various expenses) goes to signing auditors who bring the client into the firm and who are in charge of the audit[5]; (2) the Chinese audit market is highly competitive at the audit partner level and on average 1.5 individual auditors are competing for just one client; (3) Chinese audit firms rarely requires a non-compete contract which prevents partners from taking clients with them when they leave for another firm; and (4) successor audit firms welcome turnover signing auditors to bring their clients as long as there is no particular regulatory and public attention. Therefore, signing auditors in China have incentives to bring clients with them when they leave and such behavior does not incur any legal or financial liabilities.

From 2001 to 2014, 6,142 unique auditors have signed audit reports of public clients, 1,059 (17.24%) have moved from one audit firm to another during this period. Among the 1,059 turnovers, 628 (59.30%) are dysfunctional turnovers (i.e., departing auditors bring clients to successor audit firms).

<<<<< Insert Table 1 Here >>>>>

3. Prior Literature and Research Questions

In this section, we discuss prior literature relevant to the determinants and consequences of auditor turnovers and present our research questions.

3.1 Determinants of Auditor Turnover

3.1.1 Prior Literature

[5] Big 4 firms and a few non-Big 4 firms have different profit sharing policies and they pool engagement revenues each signing auditor generates and then divide profits among them using a broader range of performance measures such as client revenues generated by them (Su and Wu, 2016).

Very few studies examine factors affecting the *actual* job turnover of auditors/accounting graduates except for the two[6][7]. Using survey data of 573 accounting graduates, Hiltebeitel and Leauby (2001) find that of the male respondents, 18.9% had changed jobs while 21.5% of the female respondents had, suggesting that female accounting graduates are more likely to change jobs (they may move to another firm or depart from public accounting). Hiltebeitel and Leauby (2001) also find that the average GPA of accounting graduates changing jobs was 3.17 while the average GPA of those not changing jobs was 3.29, suggesting that better students tend to stay longer with their initial employers.

Using proprietary data from a Big 4 firm in Taiwan from 1996 to 2005, Chi et al. (2013) find that female professional employees who started as entry-level auditors are more likely to leave the audit firm (they may move to another firm or depart from public accounting) while higher performance ratings, high relative salary, and accounting background are associated with higher retention rate. They do not find evidence that CPAs with master's degrees are more likely to depart. Our study is different from Chi et al. (2013) in several ways: (1) we examine auditor turnovers among dozens of audit firms in China rather than auditor departure from one audit firm in Taiwan; (2) we examine signing auditors who could be partners, managers or senior managers who are qualified to sign an audit report and not just audit staff as Chi et al. (2013); (3) we include variables measuring each signing auditor' professional competence (the amount and

[6] Prior studies examining accounting graduates' job turnover mainly use survey data (e.g., Bullen and Flamholtz, 1985; Hiltebeitel and Leauby, 2001). They generally find that employees' perceptions of career development and extra-organizational job options (Bullen and Flamholtz, 1985), levels of stress inside and outside organizations (Collins and Killough, 1992), and organizational culture (Parker and Kohlmeyer, 2005; Sheridan, 1992) are the underlying factors that affect job satisfaction which then affect employee's *intention to leave*. These prior studies generally examine factors affecting the intention to leave not the actual departure.

[7] Knechel et al. (2017) examines the determinants and consequences of signing auditor departure from public accounting. It studies the signing auditor's departure from public accounting and our study complements Knechel et al. (2017) by examining auditor turnover from one audit firm to another using a sample of auditors staying in public accounting.

quality of the audit), which is unable to implement in Chi et al. (2013) because they only examine audit staff and are unable to link each client to audit staff.

3.1.2 Research Question

Factors affecting signing auditor turnover could vary case by case. In this study, we try to examine some factors that may systematically affect signing auditors' turnovers and like Knechel et al. (2017) we focus on two major groups of factors possibly affecting the turnover decision: auditors' professional competence and auditors' demographics.

For auditors' professional competence, we specifically examine the amount and quality of the audit work they provide (i.e., audit workload and audit quality). Audit workload has been considered as having the largest negative impact on morale, and understaffing and staff turnover based on survey data (Persellin, Schmidt, and Wilkins, 2014)[8]. Without empirical studies, it is difficult to infer whether job turnover of signing auditors is truly associated with their audit workload. On the one hand, higher audit workload might lead to lower job satisfaction (Chong and Monroe, 2015), which possibly results in intention to leave and may eventually lead to actual turnover from one audit firm to another if the auditor will receive lower audit workload in the successor audit firm. Or signing auditors auditing more clients may be more valuable and thus are in high demand in the job market and are more likely to move from one audit firm to another. On the other hand, relatively high audit workload may signify importance of this signing auditor to the current audit firm and accordingly leads to high compensation (Knechel, Niemi, and Zerni, 2013[9]). Higher compensation is found to be associated with higher auditor retention rate (Chi et al., 2013) and therefore such auditors may be less likely to leave current firms. In addition,

[8] Similarly, PwC, together with University of Southern California and London Business School, survey more than 40,000 PwC employees around the world and find that work/life balance is one of the most important drivers for employee retention (PwC, 2013).

[9] Knechel et al. (2013) finds that audit partner salaries are highly associated with the number of public clients they have audited, which means the more clients they audit, the higher salaries they have.

auditors may have a relatively high workload threshold as evidenced by Sweeney and Summer (2002), which may prevent us from finding the association between audit workload and job turnover because the current workload for Chinese auditors may not be as high to the point of resulting in auditors' departure without considering the possible costs associated with it. Therefore, it is an empirical question whether auditors with higher audit workload are more likely to change jobs from one audit firm to another.

Similarly, it is not clear whether auditors with higher audit quality are more likely to move. An auditor with lower quality audits may be more likely to depart from its current employer to another due to the bad performance and Chi et al. (2013) document that audit staffs with lower performance ratings are more likely to leave the audit firm. Alternatively, such auditor may be less likely to leave since he/she could not find a better position due to his/her bad reputation for lower quality audits. It is likely uncommon in China to fire auditors due to lower-quality audits because (1) audit quality is difficult to measure and two of the proxies we use to measure audit quality (restatements and modified audit opinions) typically do not occur often and (2) terminating employees in China may not be easy due to its Guanxi-based culture and labor contract laws[10].

For auditor demographics, we include age, gender, education background and others like Chi et al. (2013) and Knechel et al. (2017) and briefly discuss here. We expect that younger auditors are more likely to move from firm to firm because younger auditors tend to be less risk averse in terms of career change as documented in several turnover studies using general population (e.g., Rousseau and Schalk, 2000). We do not predict whether female auditors will be more likely or less likely to move from firm to firm, even though they may be more likely to depart from public accounting (Kenchel et al., 2017) or leave their initial employers (Hiltebeitel

[10] http://www.chinalawblog.com/2015/04/terminating-china-employees-the-basics.html

and Leauby, 2001; Chi et al., 2013). It is not clear that they will move from one audit firm to another because such turnover likely does not change their workload much if the major concern for females in pursuing public accounting is high workload. In addition, females tend to be risk averse in changing jobs and it may not be easy for them to change jobs[11]. We do not predict whether auditors with better education background are more likely to leave due to mixed evidence in prior studies as Hiltebeitel and Leauby (2001) find that auditors with better GPAs tend to stay while Chi et al. (2013) find no evidence that auditors with master's degrees are more likely or less likely to depart. Additionally, auditors with better education background may have more alternative job opportunities (Dalton and Todor, 1979, Pettman, 1973 and Sicherman, 1996) and thus are more likely to move to another firm for better positions.

3.2 Consequences of Auditor Turnover

3.2.1 Prior Literature

A few accounting papers have examined consequences on *follower clients*' audit quality and fees when clients follow their partners who move to another audit firm involuntarily due to the demise of Arthur Anderson (Blouin et al., 2007; Kohlbeck et al., 2008; Vermeer et al., 2008) or audit firm sanctions (Chen et al., 2009) [12]. In general, they find or imply that follower clients pay lower fees relative to non-follower clients even though both pay higher fees after switching

[11] Lyness and Judiesch (2001) find that female managers' voluntary turnover rates in a financial service organization were slightly lower than those of their male counterparts.

[12] Studies in other areas show that employee turnover has a negative impact on organization performance such as operating costs (Alexander, Bloom, & Nuchols, 1994), and firm profitability and market value (e.g., Batt, 2012; Huselid, 1995), mortality and quality of nursing homes (Antwi and Bowblis, 2015). The negative relation is even more pronounced if the departed employees have extensive social capital (Shaw et al., 1998 and Shaw et al., 2005). Human Resource Management (HRM) guidance (ACAS, 2012) suggests that in addition to the obvious costs of advertising, recruitment, and training, employee turnover could result in (1) unnecessarily high staffing levels and overtime payments, (2) missed deadlines, (3) interruptions to the flow of work, (4) higher levels of stress related absence, (5) long-term workers becoming unsettled and leaving, (6) low morale and resulting low productivity and customer service, (7) damage to the organization's local reputation.

to new firms (Vermeer et al., 2008[13]; Kohlbeck et al., 2008[14]). However, follower clients do not experience significant decrease in audit quality in the first year of switch (Blouin et al., 2007; Chen et al., 2009), even though they become more aggressive in the second and third post-switch years (Chen et al., 2009). Chen et al. (2009) also find that new audit firms are more likely to rotate former partners in the auditing of the follower clients in the first post-switch year.

Su and Wu (2016) examines a situation when partners voluntarily leave one firm to another and find that turnover partners are less likely to give modified audit opinions (MAO) to their *follower clients*, compared to other clients in the successor audit firm or to post-follow clients in the forced turnover situation, and they treat these followers leniently even before they move.

Chen and Wang (2016) examines unexpected auditor departure[15] from public accounting due to the incumbent auditor's sudden death or resignation because of health issues or a career change and find some evidence that such departures are associated with significant audit quality changes only for non-Big 4 audit firms but not for Big 4 firms.

Different from these prior studies that mainly focused on forced auditor change due to situations such as the demise of Arthur Anderson (Blouin et al., 2007; Kohlbeck et al., 2008; Vermeer et al., 2008) or audit firm sanctions (Chen et al., 2009), we investigate a context where audit partners voluntarily change jobs. Different from Su and Wu (2016) who also examine

[13] Vermeer et al. (2008) examine the former clients of Authur Anderson and find that follower clients have lower audit fees relative to non-follower clients but fees paid to new audit firms for both follower clients and non-follower clients are increased relative to those paid to Anderson (1.35 times for follower clients vs. 1.53 times for non-follower clients).

[14] *Purchase_Stay* and *Purchase_Change* have coefficients of 0.04 (non-sig) and 0.113 (sig), which means follower ex-Authur Anderson clients do not pay lower fees *relative to non-Authur Anderson clients that do not switch auditors* but non-follower ex-Authur Anderson clients pay higher fees. This may suggest that follower clients (Purchase_Stay) have lower audit fees than Purchase_Change. But without statistical testing, we could not make such conclusion.

[15] Different from Chen and Wang (2016) who examine the auditor departures from public accounting, we examine auditor turnovers from firm to firm.

voluntary job turnover but focus on the follower clients, we focus on *loyal clients who stay with the firm* after their audit partners leave to another firm. Other than the audit quality examined in Su and Wu (2016) and Chen and Wang (2016), we also examine signing auditors' turnover on clients' audit firm switch and audit fees and focus on the economic consequences on the *predecessor audit firms* caused by such turnover.

3.2.2 Research Questions

An auditor's turnover can have various consequences and prior studies have examined the impacts of such turnover on clients who follow departing auditors (Blouin et al., 2007; Kohlbeck et al., 2008; Vermeer et al., 2008; Chen et al., 2009; Su and Wu, 2016). In this study, we are more interested in clients that *do not follow departing auditors but stay with the predecessor firms* (i.e., "loyal clients" of predecessor firms): are clients more likely to switch audit firms, does audit firms charge lower fees, assign better auditors, and treat loyal clients more leniently?

Auditor Turnover and Audit Firm Switch

Whether clients will switch audit firms after their signing auditor moves to another audit firm is an empirical question. Clients may stay with the current audit firm because switching audit firms is costly, especially if the new audit firm that the signing auditor moves is not a local firm, and may attract unnecessary attention from investors or regulators (Fried and Schiff, 1981). Prior studies document several negative consequences of switching audit firms such as longer audit delays (Schwartz and Soo, 1996), downgraded bond ratings (Fisher and Fisher, 1993), negative market reactions (Fried and Schiff, 1981), and underpriced seasoned equity offers (Kim and Park, 2006), etc. Clients also have out-of-pocket costs due to the disruption of evaluating and hiring a new audit firm on the engagement (Fiolleau et al., 2013).

Alternatively, they may be more likely to switch to the audit firms where their signing auditors go because signing auditors are the ones who play an important role in providing audit service and maintain close relationship with clients (Ferguson et al., 2003). Therefore, clients may switch to another audit firm where their signing auditors move to maintain consistency in their audit work, as evidenced by the explanations provided in the annual reports by some clients when they switch audit firms. Or they may follow their auditors to another audit firm simply because their auditors may treat them more leniently as documented by Su and Wu (2016).

Finally, clients may switch to a totally different audit firm (not predecessor or successor audit firms that their auditors work for), which may be rare because it is more costly than the other two options mentioned above and prior studies demonstrate that clients that switch both audit firms and audit partners have deteriorated audit quality (Huang et al., 2015).

Auditor Turnover and Audit Fees and Quality for Non-Switching Clients

Per our discussion above, a client may switch or not switch its audit firm once their signing auditor leaves for another firm. Prior studies (Blouin et al., 2007; Kohlbeck et al., 2008; Vermeer et al., 2008; Chen et al., 2009; Su and Wu, 2016) have examined the audit quality of follower clients in both forced and unforced situations relative to different control samples (mainly other clients in the same successor audit firms as the follower clients). In this study, we are more interested in non-switching/non-follower clients (i.e., *loyal clients*).

We expect that audit firms will charge lower audit fees for these loyal clients because gaining new clients is typically more costly than retaining existing clients[16]. Prior studies have documented a common practice in public accounting: fee discounting in the initial engagement (Ettredge and Greenberg 1990) and it is one of the costs in first-time engagement. In addition to

[16] It costs five times as much to attract a new customer than to keep an existing one and increasing customer retention rates by 5% increases profits by 25% to 95%. https://www.invespcro.com/blog/customer-acquisition-retention/

the fee discounting, engaging new clients typically involves more hours getting familiar with clients' business practices and environment etc. Therefore, audit firms will be willing to give discounts to these loyal clients to keep them stay with the firm.

For the audit quality of loyal clients, we have a non-directional prediction. On the one hand, audit quality may be lower because clients have more bargaining power in this situation and may threaten to follow their audit partners to another audit firm. Therefore, clients may require more lenient treatment and thus have lower audit quality. On the other hand, audit quality may not be lower because audit firms have standardized audit procedures and strong internal quality controls. A recent study by Chen and Wang (2016) document that unexpected auditor turnover does not trigger any significant change in the audit quality of Big 4 firms, suggesting that audit firms' quality control procedures can mitigate the potential risk of reduced audit quality when engagement partners suddenly leave. Additionally, to retain these clients, firms may be more likely to assign better auditors who may likely provide better quality audits.

Auditor Turnover and Auditor Assignment for Non-Switching Clients

Since gaining new clients is more costly than keeping existing clients, audit firms are more likely to allocate better resources such as better auditors to these loyal clients as long as such cost is lower than engaging new clients. Therefore, we expect that better auditors will be assigned to these loyal clients to provide better services or even higher quality audits.

4. Research Models

4.1 Model for Determinants of Auditor Turnover Decision

Our first research question examines the determinants of auditor turnover decision and use auditor-year observations for the logistic regression analysis.

Prob (*TURNOVER=1*) = *f* (*auditor competency, auditor demographics, control variables, city effects, year effects, audit firm fixed effects*) (1)

The dependent variable is *TURNOVER,* coded as 1 if an auditor changes job from one audit firm to another in year t and 0 otherwise. Working for a seemingly different audit firm simply due to either firm name changes or firm mergers is not considered as a turnover.

The first group of variables, *auditor competency,* measures the two aspects of auditors' professional competence: the amount and quality of their audits (auditor workload and audit quality). An auditor' workload is measured using the average of yearly number of clients audited by an individual auditor three years before turnover (*AVG_CLIENTS*) and the average of yearly total audit fees earned by an auditor three years before turnover (*AVG_FEE*). Auditors' audit quality is measured using three proxies: *AVG_REST_RATIO* (the average of yearly percentage of an auditor's clients that restated their reported earnings three years before turnover), *AVG_MAO_RATIO* (the average of yearly proportion of the number of modified audit opinions issued by an auditor three years before turnover), and *AVG_ACCRUALS* (the average of absolute abnormal discretionary accruals of the clients audited by an auditor three years before turnover).

The second group of variables, *auditor demographics,* includes several variables commonly used in prior studies (Chi et al., 2013; Knechel et al., 2017). We include auditors' industry expertise (*IND_EXPERTISE*), *EXPERIENCE,* and *RANK* to see if industry experts, auditors with more years' auditing experience, and auditors in higher-level positions are more likely to leave for another audit firm. Auditors' education background is measured using *MAJOR*, *SCHOOL*, and *DEGREE*. We include *FEMALE*, *AGE30* and *AGE50*, *PARTY* to see if gender, age, and communist party membership will affect an auditor's decision to leave one firm for another. We also control the size of the firm by including *BIG4* and *AF_FEE*.

4.2 Model for Consequences of Auditor Turnover

4.2.1 Audit Firm Switch Model

To investigate whether clients are more likely to switch audit firms after their signing auditors leave for another firm, we follow Knechel et al. (2017) and use a matched sample to address the concern that clients whose auditors move to another firm and those whose auditors stay may not be comparable.[17] Specifically, each client whose auditor moves is matched with another client of the same audit firm whose auditors stay. They are also matched by industry affiliation, firm size, profitability (measured by return on assets), leverage, and ownership type (i.e., state-owned or non-state-owned). All matching criteria are based on the last year before the auditor turnover (i.e., the last year that the turnover auditor signs the audit report). We then run the following logistic regression.

Prob (*SWITCH=1*) *= f* (*TURNOVER, control variables, city effects, industry effects, year effects, audit firm fixed effects*)

The dependent variable is *SWITCH*, coded as 1 if the client hires a different audit firm in the post-turnover year (i.e., the year right after the auditor changes job), and 0 otherwise. *TURNOVER* is the variable of interest and equals 1 for a client whose auditor changes job to another audit firm after signing the current year' audit report and 0 otherwise.

We control other factors likely affecting audit firm switch decision following prior studies (e.g., Mande and Son, 2012). The first set of control variables is related to clients' operating risks (*M&A, CLIENT_SIZE, EQUITY_FIN, LOSS, LEV, and INV*) and financial reporting risk (*AUDIT_FEE, RESTATEMENT, MAO,* and *DIS_ACC*). The second set of control variables is related to departing signing auditors (*RANK, IND_EXPERTISE, FEMALE, MAJOR,*

[17] We also use the full sample and reach similar conclusions.

SCHOOL, DEGREE, EXPERIENCE, AGE30, AGE50, and *PARTY, CLIENT_N*). We also include *BIG4* and *AF_FEE* to control the effect of audit firm size.

4.2.2 Audit Fees and Audit Quality Models

To investigate whether non-switching clients have lower audit fees and quality after their signing auditors leave, we use a matched sample and adopt a different-in-difference research design following Knechel et al. (2017). For each observation in our sample with an auditor turnover (i.e., our treatment firm), we identify a control firm audited by the same audit firm but whose signing auditors stay in the profession. The match is done such that in the year prior to the treatment firm's auditor turnover (i.e., the last year that the turnover auditor signs the audit report of this client), the treatment firm and the control firm are in the same industry and close in firm size and profitability (measured by return on assets), leverage, and ownership type (i.e., state-owned or non-state-owned).

We use the following model to examine the consequences of auditor turnovers on the audit quality of loyal clients.

AUDIT_FEE = f (*TURNOVER, POST, TURNOVER*POST, control variables, city effects, industry effects, year effects, audit firm fixed effects*) (2)

The dependent variable is *AUDIT_FEE*, which is the natural logarithm of audit fees that a client pays in a year. *TURNOVER* equals 1 for a client whose auditor changes job and 0 otherwise. *POST* equals 1 if the year refers to the post-turnover year (i.e., the year right after a signing auditor changes job) and 0 if the year is the pre-turnover year (i.e., the last year that the departing auditor signs an audit report of this client). *TURNOVER*POST* is the interaction between *TURNOVER* and *POST* and is the main variable of interest. A negative sign associated with the interaction term suggests that audit firms charge significantly lower audit fees for clients

whose auditor leaves for another firm but they stay. Following prior studies, we control for various audit firm and client characteristics that affect audit fees.

We use the following model to examine the consequences of auditor turnovers on the audit quality of loyal clients.

AUDIT_QUALITY = f (*TURNOVER, POST, TURNOVER *POST, control variables, city effects, industry effects, year effects, audit firm fixed effects*) (3)

The dependent variable is *AUDIT_QUALITY*, measured by the absolute value of performance-adjusted discretionary accruals (*ABS_DA*) (Kothari, Leone, and Wasley 2005) and the probability of a restatement (*FIN_REST*) or auditors' likelihood of issuing a modified audit opinion (MAO). Again, *TURNOVER *POST* is the variable of interest. A positive (negative) sign associated with the interaction term in the accrual/restatement (MAO) models suggests that audit firms treat loyal clients more leniently.

In the audit quality models, we control several variables commonly used in prior studies. Detailed definitions for the variables in audit firm switch, audit fee, and audit quality models are in the Appendix A.

5. Sample and Results

5.1 Sample

Our sample period is from 2001 to 2014. We start with year 2001 since audit fees used to calculate individual auditors' workload are only available since 2001. In addition, all audit firms became financially separated from the local government agencies as of 2001 and therefore the institutional environment possibly affecting auditor job turnover before 2001 is quite different because audit firms are affiliated to the government agencies (DeFond, Wong, and Li 2000; Chen, Chen, and Su 2001; Haw, Park, Qi, and Wu 2003; Chan, Lin, and Mo 2006). We begin with 26,166 client-year observations from China Stock Market & Accounting Research

(CSMAR) from 2001 to 2014 with auditor names available. Our first main research question examines the determinants of individual auditors' job turnover and thus the analyses should be based on auditor-years rather than client-years. After the data transformation, we have 21,599 auditor-year observations. We calculate the following variables (*AVG_CLIENTS, AVG_FEE, AVG_REST_RATIO, AVG_MAO_RATIO, AVG_ACCRUALS, and IND_EXPERTISE*) for each auditor-year before we remove any observations because the calculations may be biased after we remove some of their clients.

Next, we identify each auditor's job turnover. If the same auditor works for a different audit firm in year t from year t-i, then the auditor is considered as having changed the job. We remove the following auditor-year observations because the nature of the turnover in these situations is quite different from that of the voluntary turnover from firm to firm we intend to examine in this paper: (1) those involved in audit firm mergers; (2) those involved in auditor sanctions; (3) those involved in auditor departure from public accounting. We further remove auditor-years with missing auditor personal profiles or auditor-years with missing model variables and have a final sample of 7,955 auditor-years, 470 of which have turnovers and 7,485 do not. Specifically, 140 turnovers occur from non-Big 4 to Big 4, 192 from non-Big 4 to another non-Big 4, 104 from one Big 4 to another Big 4, and 34 from Big 4 to non-Big 4. Among 470 auditor turnovers from 2001-2014, 149 (31.7%) of them are dysfunctional turnover (i.e., auditors bring their clients to new audit firms when they leave predecessor firms).

Our second research question examines the consequences of individual auditor turnover on clients' audit fees and quality and uses client-year observations for analyses. We start with 26,166 client-years from 2001-2014, the same as our determinant analyses. We then delete

several groups of observations[18] and have 7,932 usable client-year observations, of which 743 have auditors change jobs. Since we use a matched sample in our audit switch analyses, among the 743 client-years whose auditors leave for another audit firm, we successfully find a matched client-year for 715 of them. Therefore, our final sample in audit firm switch has 715*2=1,430 client-years. We use a matched sample and a difference-in-difference research design for our audit fee and quality analyses and our final sample in audit fee and quality analyses have 715*4=2,860 client-years. Please see our detailed sample selection process in Table 2.

<<<<< Insert Table 2 Here >>>>>

4.2 Empirical Results of Determinants of Auditor Turnover

4.2.1 Descriptive Statistics

Table 3 presents the descriptive statistics of variables used in our determinant analyses. Each auditor's audit workload (*AVG_CLIENTS* and *AVG_FEE*) and audit quality (*AVG_REST_RATIO*, *AVG_MAO_RATIO*, and *AVG_ACCRUALS*) are measured as an average of three-year data. Each Chinese auditor in our sample audits about four clients (*AVG_CLIENTS*) and contributes about ¥829,020 (RMBs) to their firms. In general, 7% of each auditor's clients have a subsequent restatement (*AVG_REST_RATIO*) and a similar proportion receive a modified audit opinion (*AVG_MAO_RATIO*). The average of clients' discretionary accruals for each auditor is 0.059, which account for about 6% of the total assets of each client (*AVG_ACCRUALS*).

Only 28.6% of signing auditors in our sample are female auditors (*FEMALE*), suggesting that female auditors are under-represented in China. Referring to their education background,

[18] We delete (1) 5,016 Firm-year observations involved in audit firm mergers; (2) 163 firm-year observations involved in auditor sanctions; (3) 2,592 firm-year observations related to auditor turnover caused by auditor departure; (4) 3,125 client-year observations with missing personal characteristics information of the auditors or other missing control variables; (5) 6,849 firm-year observations with missing data to calculate control variables; and (5) 489 client-year observations in financial industries.

51.1% of them are majored in accounting (*MAJOR*), 33.9% of them graduate from top-tier universities in China (*SCHOOL*), and only 7.4% of them have graduate degrees (*DEGREE*). As we state earlier, signing auditors in China are not necessarily partners and only 64.7% of them are managers or partners (*RANK*). On average, each auditor has 12 years' auditing experience (*EXPERIENCE*) and 13% of them have expertise in certain industries (*IND_EXPERTISE*). Most of the signing auditors (88%) in our sample are mid-aged and only about 3% are under 30 and 9% are over 50 (*AGE30* and *AGE50*). Additionally, only 5% of them work for Big 4 firms.

In Table 3, we also compare the characteristics of auditors who change jobs subsequently vs. those who do not change (Turnover=1 vs. Turnover=0). In summary, auditors that change jobs from one firm to another, tend to audit more clients and contribute more audit revenues to their firms. They tend to provide higher-quality audits to their clients since their clients have smaller discretionary accruals and are less likely to have restatements. However, such auditors are also less likely to issue modified audit opinions to their clients. Female auditors, auditors with higher positions, and auditors graduating from top schools are less likely to change jobs but auditors with graduate degrees are more likely to do so. In addition, younger auditors are more likely to leave while older auditors tend to stay. On a univariate basis, auditors with longer years of auditing experience and more industry expertise tend to stay. Interestingly, the univariate analysis also indicates that among the 470 turnovers, 2.1% occur in Big 4 firms and among 7,485 non-turnovers, 5.3% occur in Big 4 firms, suggesting that Big 4 auditors tend to stay rather than leave. These differences are statistically significant, but are obtained without controlling for other factors.

We also compare characteristics of auditor-years with dysfunctional turnovers and those without any turnover. Following are some observations: relative to auditors that stay with its

current firm, auditors with dysfunctional turnovers tend to audit more clients but contribute smaller revenues to their firms and they are also more likely to have graduate degrees. Such auditors seem to provide higher quality audits because their clients have lower likelihood of restatements and smaller discretionary accruals). However, they also tend to be less likely to issue modified audit opinions to their clients. Female auditors, older auditors, higher-ranked auditors, more experienced auditors, and auditors graduating from top schools tend to stay rather than depart and bring clients to successor audit firms. It seems that a larger proportion of Big 4 auditors and auditors in bigger audit firms tend to stay rather than have dysfunction turnovers. These differences are statistically significant, but are obtained without controlling for other factors.

4.2.2 Main Results

Table 3 Panel B presents the logistic regression results for Model (1) addressing our first research question (i.e., determinants of auditor turnovers) using auditor-year observations from 2001-2014. The second column reports the results for overall turnover while the last column reports the results for dysfunctional turnover. All continuous variables in the model have been winsorized at 1% and 99% to reduce the influence of outliers or influential observations. All variance inflation factors (VIFs) are below 5, suggesting no evidence of multicollinearity among the model variables.

The logistic regression results examining overall turnover demonstrate that younger auditors, auditors who are industry specialists, and auditors who audit more clients and have better education background, are more likely to move, suggesting that "rising stars" in the accounting industry are more likely to change jobs from one audit firm to another. However, female auditors, older auditors, and auditors with established status in the current audit firm (i.e.,

auditors contributing more revenues to the current firm and auditors who are managers or partners) are less likely to do so. Interestingly, Big 4 auditors are less likely to move relative to non-Big 4 auditors[19], consistent with Knechel et al. (2017) that Big 4 signing auditors are less likely to depart from public accounting relative to non-Big 4 signing auditors. We also find that auditors with lower audit quality are less likely to move from one audit firm to another, suggesting that the job market is penalizing auditors for bad quality audits and thus such auditors have lower mobility in the job market. Our study and Knechel et al. (2017) together demonstrate that auditors with lower audit quality are less likely to change jobs from firm to firm and are more likely to depart from public accounting eventually, suggesting that the job market is penalizing auditors providing lower-quality audits.

Additionally, we also examine what kinds of auditors are more likely to bring clients to their successor audit firms from predecessor firms ("dysfunctional turnover"). We find that auditors auditing more clients, auditors who are industry specialists and have more years' auditing experience, and auditors with better education background, are more likely to have such dysfunctional turnover. Auditors in larger non-Big 4 firms are also more likely to do so relative to auditors in smaller non-Big 4 firms but Big 4 auditors do not have such tendency. It is likely that Big 4 individual auditors may have limited power and influence in gaining clients that are typically very large. It is the Big 4 firms' brand name rather than individual auditors' reputation that attracts clients to Big 4 firms while individual auditors in non-Big 4 firms may play more important roles in gaining clients. We also find that female auditors, older auditors, and auditors contributing more audit revenues are less likely to do so. Finally, auditors providing lower

[19] It could be that Big 4 in China are considered as one of the best employers for college graduates so Big 4 auditors tend to stay and not to move to a non-Big 4. Or it could be that even though lower level employees in Big 4 may be more likely to move or depart but signing auditors in Big 4 auditors, who are usually managers or partners, are less likely to do so.

quality audits are less likely to do so either, likely due to the limited influence these auditors could have on their clients.

<<<<< Insert Table 3 Here >>>>>

4.3 Empirical Results of Consequences of Auditor Turnover

Table 4 presents the regression results examining our second research question: what are the consequences of signing auditor turnovers on audit firm switch, and the audit fees and quality of clients that stay with the audit firm when their signing auditors leave?

Table 4 Panel A presents the logistic regression results for audit firm switches. The positive coefficient associated with $TRUNOVER_{t-1}$, suggests that clients are more likely to switch to a new audit firm if their signing auditors leave for another firm. Control variables (auditor demographics) also reveal the following interesting observations: (1) clients hiring older auditors and auditors with more auditing experience, industry expertise, or holding higher positions are less likely to change audit firms; (2) clients of female auditors are less likely to do so; and (3) clients whose signing auditors have graduate degrees are more likely to do so. Additional interactions in the last column of Panel A ($TRUNOVER* RANK_{t-1}$ and $TRUNOVER*IND\_EXPERTISE_{t-1}$) reveal that if the departing auditors are industry experts and have higher ranks (managers or partners) in the firm, clients are more likely to switch audit firms.

Table 4 Panel B presents the regression results for audit fee analyses. The negative coefficient associated with $TRUNOVER*POST_t$ suggests that audit firms charge significantly lower audit fees after a client's signing auditor leaves but the client stays. Control variables (auditor demographics) reveal the following insight: higher-ranked auditors and Big 4 auditors charge higher fees but younger auditors charge lower fees.

Table 4 Panel C presents the regression/logistic regression results for audit quality analyses. The positive sign associated with $TRUNOVER*POST_t$ when audit quality is measured using the likelihood of restatements or discretionary accruals suggests that audit firms' loyal clients (i.e., clients who stay with their audit firms after their signing auditor leaves) are more likely to have higher likelihood of restatements and higher levels of discretionary accruals. The negative sign on $TRUNOVER*POST_t$, when audit quality is measured using MAO, demonstrate that these loyal clients are less likely to be issued modified audit opinions. Therefore, in a word, clients are treated more leniently after their signing auditors move to another audit firm. Control variables (auditor demographics) reveal the following insight: it seems that auditors with more auditing experience have higher quality audits but younger auditors have lower ones.

<<<<< Insert Table 4 Here >>>>>

4.4 Additional Analysis

Auditor Assignment

So far, we find that loyal firms pay lower audit fees and are treated more leniently as they are less likely to receive modified audit opinions and have higher levels of discretionary accruals and their audit reports are more likely to be restated subsequently. This result seems to suggest that these clients may be assigned lower-quality auditors after their signing auditors leave. However, this seems contrary to the intuition that audit firms will exert their best effort (including assigning their best auditors) to keep clients who may likely follow their departing auditors to another firm.

In additional analyses, we examine what kinds of auditors are more likely to be assigned to these loyal clients relative to other existing clients in the same firm. We document that auditors assigned to them tend to provide higher-quality audits (*AVG_REST_RATIO*). They are more likely to be industry specialists (*IND_EXPERTISE*) and have better education background

(*SCHOOL* and *DEGREE*). They are also more likely to be older auditors and auditors holding higher-level positions in the firm (*AGE50* and *RANK*). Therefore, the lower audit quality associated with these loyal clients seems not caused by the inferior quality of the auditors assigned but rather by the low incentives of these loyal clients in China for high-quality audits.

<<<<< Insert Table 5 Here >>>>>

Different Types of Turnover

Recall that among the 470 turnovers we examine in our main analyses, 140 turnovers occur from non-Big 4 to Big 4, 192 from non-Big 4 to another non-Big 4, 104 from one Big 4 to another Big 4, and 34 from Big 4 to non-Big 4. In our main analyses, we focus on the overall turnover and dysfunctional turnover and do not differentiate the turnover from Big 4 to non-Big 4 or other situations, which may have different underlying mechanism. In the following additional analyses, we examine the determinants and consequences of the different types of turnovers.

Table 6 Panel A presents results of the determinants for different types of turnovers. Here are some observations related to auditors' professional competence: (1) auditors with more audited clients (*AVG_CLIENTS*) are less likely to move down from Big 4 to non-Big 4 and they are more likely to turnover among the same level of firms (Big 4 to Big 4, and non-Big 4 to non-Big 4); (2) auditors contributing more revenues to their firms (*AVG_FEE*) tend to stay and are less likely to turnover in all situations; (3) Auditors issuing more MAOs are less likely to have turnovers from firm to firm in all situations, possibly due to the unique institutional environment in China that audit firms face a lot pressure from clients when such reports are issued; and (4) auditors whose clients have more restatements are less likely to move up to Big 4 from non-Big 4.

Table 6 Panel B-D presents results analyzing the consequences of these different types of turnovers on audit firm switch as well as audit fees and quality of loyal clients. Panel B shows that the higher likelihood of audit firm switch associated with auditor turnovers mainly occur when the auditors move between two firms at similar levels, i.e., Big 4 to Big 4, or non-Big 4 to non-Big 4. Panel C shows that lower audit fees associated with such clients occur more often when turnover auditors move from non-Big 4 to Big 4. Panel D and F mainly demonstrate that lower audit quality (more discretionary accruals and higher likelihood of restatements) associated with loyal clients mainly occur in non-Big 4 firms' auditor turnovers, consistent with Chen and Wang (2016) who find that lower audit quality associated with auditor turnover only occur in non-Big 4 firms due to their inferior quality control mechanism. Additionally, Panel E documents that audit firms are less likely to issue modified audit opinions to their loyal clients in all turnover situations.

<<<<< Insert Table 6 Here >>>>>

6. Conclusions

Auditor turnover is a great concern to audit firms, clients, and regulators since frequent auditor turnover could have negative consequences. However, limited studies examine this issue empirically due to the data restrictions on signing auditors. China provides a good setting for us to systematically investigate auditor turnover behavior because signing auditors' names are disclosed in audit reports and their demographic information is also publicly available. Therefore, we can track thousands of signing auditors (which could be partners, managers, or seniors) over 15 years.

In the determinant analyses analyzing what kinds of signing auditors are more likely to turnover, we find that signing auditors that change jobs tend to be younger. They provide higher quality audits, audit more clients, and have better education background, suggesting that "rising

stars" in the audit firm are more likely to move. We also find that female auditors, older auditors and auditors with established status in the firm are less likely to do so. Examining dysfunctional turnovers (i.e., auditors bring clients to new employers when they leave), we find some different determinants even though most of these determinants are the same. For example, even though younger auditors are more likely to change jobs they are no more likely to have dysfunctional turnover as mid-aged auditors. Even though whether an auditor is more likely to issue MAOs is not a significant determinant in overall turnover, it is a significant determinant in dysfunctional turnover, i.e., auditors who are more likely to issue MAOs are less likely to have dysfunctional turnovers.

In the consequence analyses analyzing the impacts of auditor turnover, we document evidence that clients of turnover auditors are more likely to switch auditors after their auditors leave for another firm. Auditor firms are also more likely to charge lower audit fees, assign better clients, and treat clients more leniently after their auditors leave. Therefore, our study demonstrates that auditor turnovers have significantly negative economic consequences on the predecessor audit firms since after these auditors leave, these firms are more likely to lose clients and charge lower fees for non-switching clients. Given that audit firms treat these non-switching clients more leniently, it should also raise regulators' concerns about their audit quality.

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Appendix A

Variables		Definition
Dependent variables used in turnover determinants analysis		
$TURNOVER_t$	=	1 when an auditor changed her/his job from one audit firm to another unrelated audit firm in year t, and 0 otherwise.
$TURNOVER\_DYS_t$	=	1 when an auditor changed her/his job from one audit firm to another unrelated audit firm and also take the clients to the new audit firm in year t, and 0 otherwise.
$TURNOVER\_BN_t$	=	1 when an auditor changed her/his job from one Big 4 audit firm to another non- Big 4 audit firm in year t, and 0 otherwise.
$TURNOVER\_NB_t$	=	1 when an auditor changed her/his job from one non-Big 4 audit firm to another Big 4 audit firm in year t, and 0 otherwise.
$TURNOVER\_BB_t$	=	1 when an auditor changed her/his job from one Big 4 audit firm to another Big 4 audit firm in year t, and 0 otherwise.
$TURNOVER\_NN_t$	=	1 when an auditor changed her/his job from one non-Big 4 audit firm to another non-Big 4 audit firm in year t, and 0 otherwise.
Dependent variables used in auditor switch analysis		
AUDITOR_SWITCH	=	1 when a firm hired a different audit firm to provide audit service in year t, and 0 otherwise.
Dependent variables used in audit fee analysis		
AUDIT_FEE	=	The natural logarithms of total audit fee for a firm in year t.
Dependent variables used in audit quality analyses		
ABS_ACC	=	The absolute of discretionary accruals calculated by performance adjusted modified Jones model developed by Kothari et al. (2005).
MAO	=	1 when a firm got non-clean audit opinion in year t, and 0 otherwise.
FIN_RESTATE	=	1 when a firm restated its reported earnings in year t, and 0 otherwise.
Independent Variables used in turnover determinants analysis		
AVG_CLIENTS	=	The average of yearly number of clients audited by an individual auditor three years before turnover.
AVG_FEE	=	The average of yearly total audit fees earned by an auditor three years before turnover.
AVG_REST_RATIO	=	The average of yearly percentage of an auditor's clients that restated their reported earnings three years before turnover.
AVG_MAO_RATIO	=	The average of yearly proportion of the number of modified opinions issued by an auditor three years before turnover.
AVG_ACCRUALS	=	The average of absolute abnormal discretionary accruals of the clients audited by an auditor three years before turnover.
Independent Variables used in auditor switch, audit fee, and audit quality analyses		
$TURNOVER_{t-1}$	=	1 when an auditor changed her/his job from one audit firm to another unrelated audit firm in year t-1, and 0 otherwise.
$TURNOVER\_DYS_{t-1}$	=	1 when an auditor changed her/his job from one audit firm to another unrelated audit firm and also take the clients to the new audit firm in year t-1, and 0 otherwise.
$TURNOVER\_BN_{t-1}$	=	1 when an auditor changed her/his job from one Big 4 audit firm to another non-Big 4 audit firm in year t-1, and 0 otherwise.
$TURNOVER\_NB_{t-1}$	=	1 when an auditor changed her/his job from one non-Big 4 audit firm to another Big 4 audit firm in year t-1, and 0 otherwise.
$TURNOVER\_BB_{t-1}$	=	1 when an auditor changed her/his job from one Big 4 audit firm to another Big 4 audit firm in year t-1, and 0 otherwise.
$TURNOVER\_NN_{t-1}$	=	1 when an auditor changed her/his job from one non-Big 4 audit firm to another non-Big 4 audit firm in year t-1, and 0 otherwise.
Control variables		
FEMALE	=	1 if an auditor is a female, and 0 otherwise.
MAJOR	=	1 if an auditor majored in accounting in college, and 0 otherwise.

SCHOOL	=	1 if an auditor graduated from a top university in China, and 0 otherwise.
DEGREE	=	1 if an auditor holds a graduate (i.e., master or higher) degree, and 0 otherwise.
RANK	=	1 if an auditor is ranked as a manager or a partner in the audit firm, and 0 otherwise.
EXPERIENCE	=	The number of years since an auditor got the CPA license.
IND_EXPERTISE	=	1 is an auditor is an industry expertise in year t, and 0 otherwise. We code an auditor as industry expertise if her/his audit fees earned from one industry are ranked as top 10%.
AGE30	=	1 if an auditor is less than 30 years old, and 0 otherwise.
AGE50	=	1 if an auditor is more than 50 years old, and 0 otherwise.
PARTY	=	1 if an auditor is a member of the Chinese Communist Party, and 0 otherwise.
BIG4	=	1 if the auditor is affiliated to one of the Big 4 audit firms when he/she quits the public accounting, and 0 otherwise.
AF_FEE	=	The natural log of the total audit fees of the audit firm that an auditor affiliated three years before turnover.
CLIENT_SIZE	=	The natural logarithms of a firm's total assets.
BTM	=	A firm's book to market value in year t.
LOSS	=	1 when a firm reported negative earnings in year t, and 0 otherwise.
LEV	=	The leverage of a firm, which equals total debt divided by total assets in year t.
INV	=	The inventory of a firm, which equals inventory divided by total assets in year t.
M&A	=	1 is a firm involved in merge and acquisition in year t, and 0 otherwise.
ROE	=	The Rate of Return on Common Stockholders' Equity in year t.
CLIENT_AGE	=	The number of years since a firm IPO to year t.
CURRENT_RATIO	=	current assets divided by current liabilities of the client firm in year t.

Table 1 The Distribution of Engagement Auditors and Turnovers by Year

Year	Number of Auditors	Number of Turnovers	Turnover Ratio	Number of Dysfunctional Turnovers	Dysfunctional Turnover Ratio
2001	865	67	7.75%	44	65.67%
2002	950	46	4.84%	27	58.70%
2003	1041	37	3.55%	36	97.30%
2004	1231	39	3.17%	26	66.67%
2005	1319	55	4.17%	38	69.09%
2006	1458	49	3.36%	37	75.51%
2007	1578	91	5.77%	54	59.34%
2008	1711	75	4.38%	62	82.67%
2009	1796	198	11.02%	146	73.74%
2010	2166	97	4.48%	87	89.69%
2011	2362	174	7.37%	130	74.71%
2012	2601	252	9.69%	179	71.03%
2013	2708	188	6.94%	149	79.26%
2014	2869	109	3.80%	58	53.21%
Total	24,655	1,477	5.76%	1073	72.58%
Total Distinct Auditors	6,142	1,059	17.24%	628	59.30%

Table 2 Sample Selection

	Number of
Auditor-year observations in the CSMAR over period 2001-2014	21,599
Less:	
Auditor-year observations involved in audit firm mergers	(3,961)
Auditor-year observations involved in auditor sanctions	(119)
Auditor-year observations with missing auditor profiles	(2,537)
Auditor-year observations related to auditor turnover caused by	(1,945)
Auditor-year observations with missing data to calculate control	(5,082)
Final auditor-year observations used in auditor turnover	7,955
Include:	
Distinct individual auditors	2,197
Distinct individual clients (Publicly-traded Firms)	1,962
Auditor- year observations related to auditor turnover	470
Auditor-year observations turnover from non-Big4 to Big4	140
Auditor-year observations turnover from non-Big4 to non-Big4	192
Auditor-year observations turnover from Big4 to Big4	104
Auditor-year observations turnover from Big4 to non-Big4	34
Auditor- year observations who's auditors do not turnover	7,485
Firm-year observations used in auditor switch analysis	1,430
Include:	
Firm-year observations that involved in auditor turnover	715
Firm-year observations that do not involved in auditor turnover	715
Firm-year observations used in audit fee and audit quality analyses	2,860
Firm-year observations that involved in auditor turnover	1,430
Firm-year observations that do not involved in auditor turnover	1,430

Table 3 The Determinants of Auditor Turnover

Panel A: Descriptive Statistics of Overall and Dysfunctional Auditor Turnover

	Overall sample		Turnover=1 (1)		Dysfunctional=1 (2)		Turnover=0 (3)		Mean diff. (1) vs. (3)	(2) vs.
	Mean	Std	Mean	Std	Mean	Std	Mean	Std	P-Value	P-Value
AVG_CLIENTS	3.762	2.827	3.952	2.652	4.213	2.571	3.746	2.835	0.001	0.000
AVG_FEE	13.628	1.257	12.843	1.092	13.016	1.195	13.677	1.353	0.000	0.072
AVG_REST_RATIO	0.071	0.186	0.063	0.206	0.056	0.199	0.072	0.185	0.060	0.046
AVG_MAO_RATIO	0.069	0.174	0.059	0.189	0.064	0.182	0.070	0.173	0.056	0.071
AVG_ACCRUALS	0.059	0.194	0.052	0.059	0.047	0.062	0.060	0.198	0.065	0.058
FEMALE	0.286	0.452	0.261	0.439	0.249	0.449	0.288	0.452	0.012	0.007
MAJOR	0.511	0.499	0.510	0.500	0.504	0.507	0.511	0.499	0.855	0.871
SCHOOL	0.339	0.474	0.289	0.435	0.325	0.456	0.343	0.475	0.000	0.039
DEGREE	0.074	0.262	0.115	0.319	0.127	0.283	0.071	0.258	0.000	0.000
RANK	0.647	0.478	0.525	0.429	0.563	0.461	0.657	0.476	0.000	0.000
EXPERIENCE	12.016	4.947	11.614	6.215	11.935	5.663	12.048	4.871	0.000	0.082
IND_EXPERTISE	0.130	0.336	0.105	0.307	0.129	0.318	0.132	0.337	0.008	0.284
AGE30	0.034	0.184	0.041	0.197	0.031	0.192	0.033	0.181	0.048	0.351
AGE50	0.093	0.290	0.044	0.204	0.049	0.268	0.097	0.294	0.002	0.009
PARTY	0.270	0.444	0.271	0.275	0.274	0.327	0.270	0.444	0.820	0.803
BIG4	0.050	0.218	0.021	0.144	0.037	0.169	0.053	0.221	0.000	0.025
AF_FEE	18.114	1.409	17.216	1.274	17.597	1.354	18.185	1.416	0.019	0.047
CLIENT_SIZE	21.566	1.337	21.494	1.221	21.568	1.276	21.572	1.344	0.093	0.415
Observations	7955		470		149		7485			

Panel B: The Determinants of Overall and Dysfunctional Auditor Turnover

	Overall Turnover		Dysfunctional turnover	
	Coeff.	P-Value	Coeff.	P-Value
Intercept	2.610	0.000	0.960	0.153
AVG_CLIENTS	0.019	0.047	0.078	0.042
AVG_FEE	-0.076	0.000	-0.310	0.000
AVG_REST_RATIO	-0.231	0.000	-0.138	0.000
AVG_MAO_RATIO	0.015	0.249	-0.244	0.000
AVG_ACCRUALS	-0.138	0.014	-0.236	0.000
FEMALE	-0.134	0.000	-0.377	0.000
MAJOR	0.102	0.000	0.076	0.135
SCHOOL	0.322	0.000	0.321	0.000
DEGREE	0.357	0.000	0.447	0.000
RANK	-0.084	0.035	-0.032	0.298
EXPERIENCE	0.003	0.773	0.019	0.032
IND_EXPERTISE	0.135	0.017	0.401	0.000
AGE30	0.181	0.000	-0.452	0.255
AGE50	-0.815	0.000	-0.893	0.000
PARTY	-0.123	0.329	-0.149	0.325
BIG4	-0.368	0.000	-0.054	0.699
AF_FEE	0.051	0.245	0.126	0.034
City fixed effects	Yes		Yes	
Audit firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Pseudo R^2	13.20%		10.24%	
Observation	7,955		7,806	

Table 4 The Consequences of Auditor Turnover

Panel A: The Consequences of Auditor Turnover on Audit Firm Switch

	(1)		(2)	
	Coeff.	P-Value	Coeff.	P-Value
Intercept	0.427	0.591	0.429	0.589
TURNOVER$_{t-1}$	0.299	0.037	0.530	0.033
CLIENT_N$_{t-1}$	-0.013	0.300	-0.013	0.292
AUDIT_FEE $_{t-1}$	-0.042	0.560	-0.044	0.537
RESTATEMENT $_{t-1}$	0.656	0.000	0.652	0.000
MAO $_{t-1}$	0.644	0.000	0.640	0.000
DIS_ACC $_{t-1}$	0.009	0.942	0.103	0.108
FEMALE $_{t-1}$	-0.331	0.000	-0.330	0.000
MAJOR $_{t-1}$	0.103	0.106	0.102	0.108
SCHOOL $_{t-1}$	-0.003	0.969	-0.005	0.943
DEGREE $_{t-1}$	0.460	0.000	0.454	0.000
RANK $_{t-1}$	-0.204	0.004	-0.229	0.002
TURNOVER RANK* $_{t-1}$			0.518	0.000
IND_EXPERTISE $_{t-1}$	-0.138	0.092	-0.146	0.087
*TURNOVER*IND_EXPERTISE* $_{t-1}$			0.965	0.043
EXPERIENCE $_{t-1}$	-0.013	0.047	-0.014	0.045
AGE30 $_{t-1}$	-0.208	0.307	-0.210	0.303
AGE50 $_{t-1}$	-0.380	0.002	-0.379	0.002
PARTY $_{t-1}$	-0.051	0.496	-0.050	0.499
BIG4 $_{t-1}$	-0.748	0.000	-0.744	0.000
AF_FEE $_{t-1}$	-0.079	0.030	-0.048	0.082
M&A $_{t-1}$	0.081	0.241	0.083	0.230
CLIENT_SIZE $_{t-1}$	-0.079	0.030	-0.077	0.033
EQUITY_FIN $_{t-1}$	0.172	0.041	0.170	0.042
LOSS $_{t-1}$	0.470	0.000	0.472	0.000
LEV $_{t-1}$	-0.007	0.600	-0.006	0.602
INV $_{t-1}$	0.220	0.332	0.218	0.335
Industry fixed effects	Yes		Yes	
Audit firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Pseudo R^2	12.76%		12.96%	
Observation	1,430		1,430	

Panel B: The Consequences of Auditor Turnover on Audit Fees

	Overall Turnover		Dysfunctional Turnover	
	Coeff.	P-Value	Coeff.	P-Value
Intercept	4.606	0.000	4.518	0.000
$TURNOVER_t$	-0.021	0.323	-0.049	0.182
$POST_t$	0.024	0.190	0.019	0.228
$TURNOVER*POST_t$	-0.039	0.042	-0.088	0.015
$IND\_EXPERTISE_t$	-0.010	0.365	0.229	0.000
FEMALE	-0.006	0.361	0.018	0.233
MAJOR	0.008	0.160	-0.001	0.932
SCHOOL	0.007	0.261	0.023	0.143
DEGREE	-0.016	0.108	0.029	0.313
RANK	0.049	0.026	0.101	0.000
EXPERIENCE	-0.001	0.775	0.002	0.075
AGE30	-0.034	0.010	-0.048	0.072
AGE50	-0.006	0.536	0.042	0.241
PARTY	-0.004	0.436	-0.002	0.896
$BIG4_t$	0.024	0.046	0.568	0.000
AF_FEE_t	-0.002	0.850	0.092	0.000
$CLIENT\_SIZE_t$	-0.004	0.161	0.325	0.000
BTM_t	-0.006	0.088	-0.004	0.106
$LOSS_t$	-0.022	0.018	0.090	0.000
LEV_t	0.016	0.004	0.101	0.000
INV_t	0.221	0.000	-0.307	0.000
$M\&A_t$	0.004	0.552	0.046	0.000
ROE_t	-0.009	0.003	-0.008	0.209
$CLIENT\_AGE_t$	0.002	0.010	0.004	0.001
CURRENT_RATIO	0.001	0.472	0.001	0.495
Industry fixed effects	Yes		Yes	
Audit firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Adjusted R^2	0.430		0.420	
Observation	2,860		2,544	

Panel C: The Consequences of Auditor Turnover on Audit Quality

	Overall Turnover						*Dysfunctional Turnover*					
	ABS_ACC		*MAO*		*FIN_RES*		*ABS_ACC*		*MAO*		*FIN_RES*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	0.031	0.643	3.633	0.000	3.439	0.000	0.238	0.000	4.038	0.000	3.243	0.000
$TURNOVER_t$	0.013	0.150	0.108	0.252	0.030	0.859	0.005	0.685	0.076	0.398	0.135	0.159
$POST_t$	0.005	0.316	-0.189	0.135	0.098	0.257	-0.008	0.210	-0.212	0.262	0.092	0.296
$TURNOVER*POST_t$	**0.028**	**0.042**	**-0.286**	**0.054**	**0.252**	**0.046**	**0.032**	**0.043**	**-0.388**	**0.049**	**0.303**	**0.027**
$IND\_EXPERTISE_t$	-0.010	0.365	0.208	0.217	-0.437	0.014	-0.012	0.335	0.197	0.245	-0.431	0.015
FEMALE	-0.006	0.361	0.361	0.126	-0.200	0.095	-0.007	0.354	0.354	0.132	-0.203	0.094
MAJOR	0.008	0.160	-0.040	0.855	-0.105	0.312	0.010	0.149	-0.038	0.861	-0.103	0.304
SCHOOL	0.007	0.261	-0.247	0.334	-0.145	0.200	0.008	0.252	-0.251	0.320	-0.147	0.194
DEGREE	-0.016	0.108	0.363	0.343	-0.041	0.833	-0.013	0.121	0.355	0.372	-0.040	0.839
RANK	-0.049	0.026	0.713	0.043	-0.084	0.469	-0.047	0.028	0.708	0.044	-0.086	0.451
EXPERIENCE	-0.001	0.775	0.017	0.540	-0.079	0.000	-0.001	0.771	0.019	0.517	-0.077	0.000
AGE30	0.034	0.010	-0.090	0.866	0.401	0.031	0.032	0.011	-0.088	0.873	0.396	0.034
AGE50	-0.006	0.536	0.064	0.879	-0.334	0.235	-0.005	0.564	0.065	0.870	-0.330	0.245
PARTY	-0.004	0.436	-0.345	0.172	-0.024	0.845	-0.004	0.427	-0.338	0.179	-0.025	0.837
$BIG4_t$	-0.024	0.046	1.112	0.005	-0.184	0.079	-0.027	0.045	1.104	0.006	-0.181	0.079
AF_FEE_t	-0.002	0.850	0.101	0.334	-0.594	0.000	-0.002	0.855	0.098	0.341	-0.590	0.000
$CLIENT\_SIZE_t$	-0.004	0.161	-0.755	0.000	0.023	0.636	-0.004	0.167	-0.751	0.000	0.025	0.615
BTM_t	-0.006	0.088	0.266	0.008	0.195	0.019	-0.007	0.080	0.262	0.008	0.198	0.019
$LOSS_t$	-0.022	0.018	1.685	0.000	1.043	0.000	-0.023	0.018	1.672	0.000	1.038	0.000
LEV_t	0.016	0.004	5.128	0.000	-0.033	0.676	0.015	0.004	5.105	0.000	-0.032	0.679
INV_t	0.221	0.000	0.363	0.562	0.294	0.390	0.209	0.000	0.357	0.568	0.290	0.395
$M\&A_t$	0.004	0.552	0.168	0.473	0.347	0.002	0.003	0.577	0.163	0.479	0.340	0.003
ROE_t	-0.009	0.003	-0.056	0.420	-0.062	0.053	-0.010	0.003	-0.052	0.439	-0.060	0.052

CLIENT_AGE$_t$	0.002 0.010	0.053 0.039	0.006 0.601	0.002 0.010	0.055 0.038	0.005 0.609
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Audit firm fixed	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.167			0.155		
Pseudo R^2		49.61	13.60		0.487	0.129
Observation	2,860	2,860	2,860	2,544	2,544	2,544

Table 5 Additional Analyses on Auditor Assignment

What kinds of auditors are assigned to loyal clients once their partners leave?

	Non-Dysfunctional Turnover	
	Coeff.	P-Value
Intercept	0.036	0.000
AVG_REST_RATIO	-0.014	0.022
AVG_MAO_RATIO	0.011	0.098
AVG_ACCRUALS	0.005	0.525
IND_EXPERTISE	0.009	0.000
FEMALE	-0.291	0.044
MAJOR	-0.004	0.290
SCHOOL	0.007	0.000
DEGREE	0.019	0.000
RANK	0.020	0.000
EXPERIENCE	-0.013	0.481
AGE30	0.011	0.099
AGE50	-0.017	0.000
PARTY	-0.001	0.771
Industry fixed effects	Yes	
Audit firm fixed effects	Yes	
Year fixed effects	Yes	
Pseudo R^2	4.28%	
Observation	1,304	

Note: This table shows what kinds of auditors are assigned to loyal clients once their partners leave but they keep using the same audit firm. There are 666 firm-year observations that chose to stay with the same audit firm after their engagement partners' turnover. We matched these 666 firm-year observations on the following conditions: the same firm-year, the same audit office, the similar firm size, and the similar firm performance (ROE). We successfully matched 652 firm pairs observations.

Table 6 The Effect of Different Types of Auditor Turnover

Panel A: The Determinants of Engagement Auditor Turnover between Big 4 and Non-Big 4 Audit Firms

	Big4 to Non-Big4 *TURNOVER_BN$_t$*		Non-Big4 to Big4 *TURNOVER_NB$_t$*		Big4 to Big4 *TURNOVER_BB$_t$*		Non-Big4 to Non-Big4 *TURNOVER_NN$_t$*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	2.829	0.000	3.548	0.000	0.024	0.991	0.165	0.917
AVG_CLIENTS	-0.235	0.019	0.051	0.362	0.107	0.041	0.182	0.038
AVG_FEE	0.086	0.731	-0.097	0.053	-0.275	0.000	-0.086	0.023
AVG_REST_RATIO	-0.080	0.925	-0.734	0.000	0.063	0.911	-0.113	0.347
AVG_MAO_RATIO	-0.263	0.015	-0.629	0.000	-0.957	0.000	-0.142	0.301
AVG_ACCRUALS	1.527	0.232	0.110	0.178	-0.009	0.985	-0.603	0.184
IND_EXPERTISE	-1.470	0.045	0.757	0.000	0.247	0.163	0.140	0.325
FEMALE	-0.523	0.000	-0.112	0.171	-0.013	0.951	-0.129	0.456
MAJOR	0.541	0.000	-0.053	0.379	-0.141	0.490	0.342	0.031
SCHOOL	0.082	0.835	0.154	0.262	-0.125	0.582	0.707	0.000
DEGREE	0.506	0.000	0.538	0.000	0.106	0.781	0.310	0.308
RANK	-0.197	0.000	-0.211	0.022	-0.140	0.046	-0.849	0.000
EXPERIENCE	-0.174	0.000	-0.002	0.909	-0.014	0.562	0.017	0.142
AGE30	-2.080	0.072	0.029	0.944	-0.628	0.000	0.675	0.034
AGE50	-0.706	0.504	-0.543	0.018	-0.603	0.000	-1.112	0.000
PARTY	0.446	0.287	0.117	0.395	-0.112	0.664	-0.380	0.071
AF_FEE	-0.670	0.000	-0.637	0.000	-0.023	0.796	-0.271	0.000
Industry fixed effects	Yes		Yes		Yes		Yes	
Audit firm fixed effects	Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes	
Pseudo R^2	17.07%		17.51%		13.70%		13.43%	
Observation	7,519		7,625		7,589		7,677	
	Turnover=34		Turnover=140		Turnover=104		Turnover=192	

Panel B: The Effect of Different Types of Auditor Turnover on Auditor Switch

	TURNOVER_BN$_t$		*TURNOVER_NB$_t$*		*TURNOVER_BB$_t$*		*TURNOVER_NN$_t$*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	0.661	0.406	0.654	0.411	0.642	0.421	0.727	0.361
TURNOVER$_{t-1}$	**0.173**	**0.124**	**0.132**	**0.215**	**0.351**	**0.000**	**0.464**	**0.000**
Control variables	Included		Included		Included		Included	
Industry, Year, Audit Firm fixed effects	Yes		Yes		Yes		Yes	
Pseudo R^2	6.20%		6.87%		7.43%		7.59%	
Observation	68		280		208		384	

Panel C: The Consequences of Auditor Turnover on Audit Fees

	TURNOVER_BN$_t$		*TURNOVER_NB$_t$*		*TURNOVER_BB$_t$*		*TURNOVER_NN$_t$*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	4.492	0.000	4.509	0.000	4.352	0.000	4.138	0.000
Turnover	-0.038	0.290	-0.042	0.213	-0.025	0.458	0.033	0.259
POST$_t$	0.015	0.358	0.013	0.822	0.014	0.364	0.016	0.313
Turnover*POST$_t$	**-0.065**	**0.200**	**-0.096**	**0.005**	**-0.021**	**0.359**	**-0.028**	**0.512**
Control variables	Included		Included		Included		Included	
Industry, Year, Audit Firm fixed	Yes		Yes		Yes		Yes	
Adjusted R^2	0.418		0.423		0.411		0.439	
Observation	136		560		416		768	

Panel D: The Effect of Different Types of Auditor Turnover on Audit Quality Measured by Absolute Discretionary Accruals

	TURNOVER_BN$_t$		*TURNOVER_NB$_t$*		*TURNOVER_BB$_t$*		*TURNOVER_NN$_t$*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	0.229	0.001	0.207	0.002	0.234	0.000	0.211	0.002
TURNOVER$_t$	0.010	0.162	0.014	0.208	-0.004	0.753	0.012	0.316
POST$_t$	-0.005	0.438	-0.003	0.503	-0.003	0.673	-0.006	0.428
TURNOVER*POST$_t$	**0.019**	**0.106**	**0.027**	**0.055**	**0.017**	**0.149**	**0.029**	**0.043**
Control Variables	Included		Included		Included		Included	
Industry, Year, Audit Firm fixed	Yes		Yes		Yes		Yes	
Adjusted R^2	0.135		0.139		0.148		0.143	
Observation	136		560		416		768	

Panel E: The Effect of Different Types of Auditor Turnover on Audit Quality Measured by Issuance of Modified Audit Opinions (MAO)

	TURNOVER_BN$_t$		*TURNOVER_NB$_t$*		*TURNOVER_BB$_t$*		*TURNOVER_NN$_t$*	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	4.059	0.000	4.208	0.000	3.564	0.000	3.583	0.000
TURNOVER$_t$	-0.561	0.130	0.836	0.021	-0.369	0.234	0.247	0.157
POST$_t$	-0.106	0.526	-0.068	0.398	0.164	0.242	-0.113	0.235
TURNOVER*POST$_t$	**-0.279**	**0.089**	**-0.832**	**0.047**	**-1.381**	**0.040**	**-0.271**	**0.075**
Control Variables	Included		Included		Included		Included	
Industry, Year, Audit Firm fixed	Yes		Yes		Yes		Yes	
Pseudo R^2	0.460		0.475		0.482		0.469	
Observation	136		560		416		768	

Panel F: The Effect of Different Types of Auditor Turnover on Audit Quality Measured by Financial Restatement

	$TURNOVER\_BN_t$		$TURNOVER\_NB_t$		$TURNOVER\_BB_t$		$TURNOVER\_NN_t$	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Intercept	3.230	0.000	3.354	0.000	2.976	0.000	3.210	0.000
$TURNOVER_t$	0.135	0.432	0.564	0.072	-0.638	0.180	0.032	0.595
$POST_t$	0.074	0.317	0.161	0.259	-0.170	0.220	0.166	0.261
***TURNOVER*POST*$_t$	**0.148**	**0.195**	**0.278**	**0.062**	**0.508**	**0.230**	**0.280**	**0.045**
Control Variables	Included		Included		Included		Included	
Industry, Year, Audit Firm fixed	Yes		Yes		Yes		Yes	
Pseudo R^2	0.121		0.132		0.127		0.469	
Observation	136		560		416		768	