# What Determines Auditors' Career Outcomes?

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## Abstract

**ABSTRACT:** Taking advantage of a unique data set from China about individual auditors' personal backgrounds, we examine the factors that affect auditors' demotion and promotion outcomes. We find that ability, accounting knowledge, and on-the-job performance all matter in auditors' demotions and promotions, but ability, which is largely determined by the time of an individual's entry into the audit profession, matters twice as much as knowledge or performance in auditors' career outcomes. There is evidence that auditors' career outcomes are less likely based on meritocracy for audit firms domiciled in provinces with weaker institutional environments. An auditor's political connection matters in promotion to the partner rank but not in demotion or promotion below the partner rank. Female auditors are less likely to be promoted to the partner rank and more likely to be demoted but the gender effect disappears for audit firms whose top management is dominated by female audit partners.



**Key words: auditors; promotion; demotion; gender; China**

**JEL: J63; J71; M49**

## 1. Introduction

Auditing plays an important role in assuring the financial reporting quality of publicly listed firms and the efficient functioning of capital markets (Watts and Zimmerman 1986). Recognizing the importance of human capital, audit firms invest significant company resources each year in staff recruiting, training and monitoring. Recent archival auditing research shows that individual auditor characteristics matter in determining audit quality (DeFond and Francis 2005; Chen, Sun and Wu 2010; Lennox, Wu and Zhang 2013; Gul et al. 2013). However, it remains a black box on how audit firms manage their human capital, the most precious asset of audit firms. This question carries additional significance in weak investor protection countries because audit clients in such countries tend to have low demand for high quality audits (DeFond, Wong, and Li 2000; Ball, Robin and Wu 2003) and therefore competent and independent auditors may fail to reach the top of their respective audit firms.

The objective of this study is to attempt to open this black box by examining the factors that influence individual auditors' career outcomes, including both demotions and promotions. Because the determinants of promotions below the partner rank and the determinants of promotions to the partner rank could be fundamentally different, we examine these two types of promotions separately.[1] We test our research questions using a longitudinal data set of all auditors who signed the audit reports of publicly listed Chinese firms over the period 1992-2009. Chinese audit firms, including the Big Four, are required to disclose the names and detailed

[1] Due to the small sample size of Big Four audit firms, we don't examine the determinants of auditors' career outcomes for the Big Four firms and non-Big Four firms separately. However, our inferences are qualitatively similar if the Big Four firms are excluded from the sample (untabulated).

resume information of the two auditors who sign the audit reports of publicly traded Chinese firms. Although the role of signing auditors in China is similar to that of engagement partners in other markets (Gul, Wu, and Yang 2013), more than 60 percent of the Chinese signing auditors in our sample are not partners. This unique data set provides us with a rare opportunity to study the determinants of individual auditors' career outcomes. To our best knowledge, our research questions cannot be addressed using existing publicly available data in any other country because audit firms outside China are not required to disclose the names and resumes of their individual employees.

Following existing experimental auditing research (Nelson 2009), we consider three classes of determinants of individual auditors' career outcomes: ability, accounting knowledge, and on-the-job performance. We have to admit up front that many of our proxies may capture multiple constructs and therefore should be interpreted with caution. Our proxies for ability include whether the auditor has a college or higher degree, the reputation of the auditor's undergraduate university, whether the auditor obtained her CPA license by passing the tough CPA exam or not,[2] and the proportion of the audit firm's clients (measured in total assets) audited by the auditor in the past five years. Our proxies for accounting knowledge include whether the auditor's college major is accounting, whether the auditor is an industry specialist, and the number of years an auditor has served as a signing auditor.

We use several proxies for on-the-job performance, including whether and how often an auditor issued non-clean audit opinions in the past five years, the

[2] Due to a grandfather clause, a significant percentage of Chinese (typically older) auditors obtained their CPA licenses without going through the CPA exam.

proportion of the auditor's clients that reported a small profit in the past five years, the proportion of an auditor's clients in the past five years that *violated* financial reporting and disclosure regulations that resulted in either a future earnings restatement or a CSRC (China Securities Regulatory Commission) enforcement action, and the proportion of an auditor's clients in the past five years that *announced* financial reporting and disclosure violations such as earnings restatements or CSRC enforcement actions.

Political connection plays a prominent role in Chinese businesses. Hence, we also examine whether auditors with political connections, measured using auditors' communist party membership, are more likely to be promoted and less likely to be demoted.

Finally, we consider whether gender and age are associated with auditors' career outcomes. There is an ongoing debate on the dearth of senior female executives in the corporate world and the appropriate remedies that could reverse the gender imbalance (Barsh, Devillard and Wang 2012; The Economist 2014). The lack of female representation in senior executive positions appears to be more severe in Asia (Yiu 2012; Gold 2013). Likewise, age discrimination is perceived to be widespread in China (Xinhuanet 2003). The effect of gender on auditors' career outcomes is especially interesting to study in China because of the dominance of female accounting students in Chinese universities on one hand and the dearth of female audit partners in audit firms on the other hand.[3]

[3] An informal poll of a few top accounting programs in China indicates that around two-thirds to three quarters of the accounting undergraduate students in China are female. On the other hand, only 32.60 percent of the audit partners in our sample are female (untabulated).

We find that ability, accounting knowledge, and on-the-job performance all matter in auditors' demotions and promotions. However, we find that ability, which is largely determined by the time of an individual's entry into the audit profession, matters the most in auditors' career outcomes, followed by accounting knowledge and performance respectively. Roughly speaking, knowledge and performance are equally important while ability is twice as important as knowledge or performance in auditors' career outcomes.

We also examine whether the determinants of auditors' career outcomes differ for auditors located in provinces with strong versus weak institutional environments. Consistent with the hypothesis that demand for high quality auditing is lower in weak institutional environments (DeFond et al. 2000), we find that tougher auditors are more likely to be demoted and less likely to be promoted to the partner rank in provinces with weak institutional environments. On the other hand, we find little evidence that ability and accounting knowledge matter in auditors' career outcomes for auditors located in provinces with weak institutional environments.

There is evidence that political connection matters. After controlling for ability, accounting knowledge, and on-the-job performance, we find that auditors who are communist party members are more likely to be promoted to the partner rank but there is no evidence that communist party members are associated with either demotions or promotions below the partner rank.

We find significant gender and age effects. After controlling for ability, accounting knowledge and on-the-job performance, we find that female auditors are

more likely to be demoted and less likely to be promoted to the partner rank, but there is no evidence of a gender effect for auditors' promotions below the partner rank. We also find that older auditors are more likely to be demoted and less likely to get promoted for promotions below the partner rank but there is no evidence of an age effect for promotions to the partner rank. In terms of economic significance, both gender and age are as important as knowledge or on-the-job performance in auditors' career outcomes.

Considering the strong ongoing public interest in the gender effect in the corporate world, we conduct additional tests to better understand the sources of the gender effect. Women in China are often expected by their families and the society to get married and have babies by a certain age. Hence, we first examine whether the gender effect is driven by female auditors who reach the child bearing age. We also take advantage of our unique data to examine whether the gender effect is weaker for audit firms whose top management is dominated by female partners. While we find no evidence that the gender effect varies with the child bearing age for promotions, female auditors are more likely to be demoted during the child bearing age. In addition, female auditors are less likely to be demoted and more likely to be promoted to the partner rank if the audit firms' top echelons are dominated by female partners, but there is no evidence that the gender effect varies with the top echelons' gender identity for promotions below the partner rank.

We make several contributions to the existing literature. First, we contribute to the archival auditing literature by providing the first formal analysis of the determinants of individual auditors' career outcomes. A large archival auditing

literature has been devoted to studying the behavior of auditing firms (see DeFond and Zhang 2013 for a review). A typical unit of analysis in this literature is an auditing firm or an individual office (e.g., Francis and Yu 2009). Only in recent few years have researchers started to push the unit of analysis to individual auditors due to the availability of unique data from non-U.S. settings (e.g., Chen, Sun and Wu 2010; Gul, Wu, and Yang 2013; Lennox, Wu and Zhang 2013; Knechel, Vanstraelen, and Zerni 2013). However, prior archival research takes individual auditors as given and doesn't examine the determinants of individual auditors' career outcomes.[4] Our contribution is to show direct evidence on the importance of a comprehensive list of personal characteristics in determining auditors' career outcomes. In addition, we show how the effects of these personal characteristics vary with the institutional environment quality of audit firms' domiciles.

Second, we contribute to the political connection literature by demonstrating, for the first time, the importance of political connection in individual auditors' career outcomes. Prior research typically takes business executives' political connection as given and instead focuses on the consequences of political connection. Our study shows that political connection is actively cultivated in Chinese audit firms by giving auditors with political connection a higher chance of promotion to the partner rank.

Third, we contribute to a growing business literature on gender differences. The gender effect is well documented in labor economics (see Bertrand 2011 for a recent review), but with the notable exception of Bertrand and Hallock (2001), Adams and Kirchmaier (2014) indicate that most of the labor economics literature

[4] An exception is Madsen (2013) who use survey data to examine how the integration of women and minorities into the U.S. audit profession has evolved since the civil rights and quiet revolution period.

doesn't examine women in top management roles. This gap in the literature is significant because Adams and Funk (2012) show that women in executive positions appear to be systematically different from women in the general population. To our knowledge, we are the first study to document the effect of gender on career outcomes in the auditing profession. This is an important contribution because of the dominance of female university accounting students and female entry level auditors in both the U.S. and Chinese auditing professions.[5]

The extant literature attributes the gender effect to two main competing explanations: (i) the nature explanation, where the gender differences in preferences and personality traits documented in the literature are due to biological roots, and (ii) the nurture explanation, where the observed gender differences are the outcomes of environmental influences, including discrimination.[6] Sorting out the relative importance of these two alternative explanations has important policy implications (Bertrand 2011). To the extent that the observed gender effect is due to female preferences/psychological attributes rather than discrimination, costly external intervention programs that intend to correct the perceived gender imbalance would be futile and could be even counterproductive. In this regard, it is interesting to note that executive suites are still male dominated in the Nordic countries, which are the world's most female-friendly workplaces (The Economist 2014; Bertrand et al. 2014). We contribute to this important debate by shedding insight on the factors behind the

[5] The Women's Initiatives Executive Committee (WIEC) of the AICPA (Single and Donald 2013) undertook a survey In July 2012 and find that females make up at least 50% of the entry level accounting professionals in the U.S.

[6] Prior research models gender discrimination in the form of either taste based discrimination resulting from the prejudice on the part of employers, customers, or coworkers (Becker 1957) or statistical discrimination due to incomplete information (Lazear and Rosen 1990). In models of statistical discrimination, employers facing imperfect information about worker productivity rely on certain group characteristics (such as gender) as signals of individual productivity.

persistent gender effect in the auditing profession. Consistent with the nurture explanation, we show that the gender effect in auditors' career outcomes is significantly mitigated when the audit firms' top echelons are dominated by women. Our results may provide an explanation for the persistent lack of women in executive suites around the world, including the female-friendly Nordic countries.

The rest of the paper is organized as follows. Section 2 describes the sample and data sources. Section three explains the definitions of demotions and promotions. Section four introduces the regression models of demotions and promotions. Section five discusses the descriptive statistics and regression results. Section six concludes.

**2. Sample and data sources**

We hand collected from annual reports the names of all individual auditors who signed at least one audit report of publicly listed Chinese firms over the period 1991-2011. Our sample starts in 1991 because this is the first year of China's modern stock market. 2011 is the last year of available data when we started the project.

We obtained information on individual auditor characteristics from two sources. The first source is the CSRC, which provides the resume information for individual auditors employed by the audit firms that were authorized to audit publicly listed Chinese firms as of the end of 2009.[7] The second source is the CICPA, which maintains a database of personal characteristics for all individual auditors working in the auditing profession. We used both the 2009 version of the CSRC

[7] The CSRC no longer discloses individual auditors' personal data since 2010.

database and the 2011 version of the CICPA database available to us to collect our relevant information on individual auditors.

We classify all the signing auditors in our sample into one of the following three mutually exclusive types based on the available individual auditor information from the CSRC as of the end of 2009 and the CICPA as of the end of 2011:

**Type 1 auditors**: as of the end of 2009, these auditors were employed by the audit firms who were authorized by the CSRC to audit publicly listed Chinese firms.

**Type 2 auditors**: as of the end of 2009, these auditors worked in the auditing profession but they didn't work for audit firms that were authorized to audit publicly listed Chinese firms.

**Type 3 auditors**: as of the end of 2009, these auditors had left the auditing profession.

Data on Type 1 and Type 2 auditors can be found from either the CSRC database or the CICPA database. However, no information on Type 3 auditors can be found in either the CSRC database or the CICPA database. Hence, our subsequent primary empirical analyses use only the Type 1 and Type 2 auditors, capturing approximately 90% of all the auditors who signed publicly listed Chinese firms' annual reports over our sample period.

We obtained the financial data of publicly listed Chinese firms from CSMAR. We obtained the data on CSRC enforcement actions from the CSRC web site and hand collected listed firms' earnings restatement data from annual reports.

## 3. Definitions of demotions and promotions

We use the administrative titles from individual auditors' resumes to determine auditors' promotion and demotion outcomes. After discussing with a few senior audit partners, we categorize the administrative titles of the individual auditors into sixteen broad ranks for all the auditors included in our sample (see Appendix A). Several Chinese audit firms' senior partners told us that Senior Manager is typically the position held by newly admitted audit partners or the position when non-partner auditors start to be eligible for the audit firm's profit sharing. Hence, we deem an auditor to be a partner if she holds the administrative title of Senior Manager or higher. We don't make further distinction among the administrative titles of the auditors who hold the partner rank. Hence, there are a total of nine ranks with partner (i.e., Senior Manager or higher) being the highest rank.

*3.1. Demotions*

We define demotions for Type 1 and Type 2 auditors separately because of data constraints noted before. For Type 1 auditors, an auditor is defined to experience a demotion in a year if the auditor experiences one of the following situations:

**Demotion 1a**: The auditor works for the same audit firm but her administrative title drops;[8]

**Demotion 1b**: The auditor moves to a similar-size audit firm and her administrative title drops; we classify all audit firms into two types each year based on the total

[8] Demotion 1a never occurred in our sample, which is not surprising in a culture where face saving is important.

assets of the audit clients: the top 10 domestic audit firms plus the Big 4 firms are classified as large firms and the rest are classified as small audit firms; [9]

**Demotion 1c**: The auditor moves to a smaller-size audit firm and her administrative title remains the same or drops;

**Demotion 1d**: The auditor moves to a larger-size audit firm and her administrative title drops;[10] and

**Demotion 1e**: The auditor no longer signs audit reports of publicly listed firms permanently starting from that year.[11]

The definitions of Demotions 1a-1d require a drop in an auditor's administrative title. The only exception is Demotion 1c where we treat an auditor's move to a smaller-size audit firm with the same title as a demotion. Inferences are similar if we recode such cases (involving 14 incidences) as no events.

The definition of Demotion 1e is different from the other demotion definitions and warrants further explanations. We believe that it is reasonable to treat Demotion 1e cases as demotions for the following reasons. First, discussions with a few audit industry insiders indicate that publicly listed firms are more profitable clients in China and therefore an auditor's future career prospect would diminish within the audit firm if she loses the ability to audit publicly listed firms. Hence, ceasing to serve as a signing auditor of publicly listed firms permanently should be treated as a demotion. Second, we find no evidence that the auditors involved in Demotion 1e

[9] Chinese audit firms experienced several merger events during our sample period. We don't treat such audit firm mergers as events when defining demotions and promotions.

[10] One may disagree with the definition of Demotion 1d. As a robustness check, we also recode such moves (only 13 incidences as shown in Table 1) as no events and obtain similar inferences (untabulated).

[11] To determine whether an auditor stops serving as a signing auditor permanently, we require *at least* three years of available data starting from the first year when the auditor ceased to sign audit reports of listed firms.

ceased to audit publicly listed firms due to their increased administrative leadership roles within the audit firm. Hence, Demotion 1e cases are unlikely to be promotions. Third, we interviewed one anonymous partner from a top 10 domestic audit firm and asked why three Demotion 1e auditors randomly selected from this partner's firm stopped serving as signing auditors permanently but still remained with the firm. He said that the reason for these three auditors to cease to serve as signing auditors is that all three had some problematic audits and therefore the firm decided not to ask them to continue to sign audit reports of publicly listed firms. He further explained that many Demotion 1e auditors in China may de facto have already left their respective audit firms but they still prefer to be affiliated with the audit firms that have the ability to audit publicly listed firms in order to enhance their professional credibility. On the other hand, this partner explained that keeping Demotion 1e auditors on an audit firm's payroll costs very little once an auditor ceases to audit publicly listed firms because of the very low base pay. Furthermore, Demotion 1e auditors are relatively senior auditors who may know some dirty secrets of the audit firm. Hence, many audit firms find it in their best interest not to forcefully terminate such Demotion 1e auditors in a society like China that values face saving.

For Type 2 auditors, an auditor is defined to experience a demotion in the year when the auditor stops serving as a signing auditor permanently. This treatment is consistent with the definition of Demotion 1e. Due to limited or no data availability, we don't know Type 2 auditors' job titles during the years when these auditors audited publicly listed firms. Hence, we assume that the Type 2 auditors

didn't experience any demotions during these years. We believe this is a reasonable assumption given that Demotion 1a never occurred in our sample of Type 1 auditors as noted in footnote 8.

*3.2. Promotions*

For the same reason as in our definition of demotions, we define promotions for Type 1 and Type 2 auditors separately. For Type 1 auditors, an auditor is defined to experience a promotion in a year if the auditor experiences one of the following situations:

**Promotion 1a**: The auditor works for the same audit firm but her administrative title increases;

**Promotion 1b**: The auditor moves to a similar-size audit firm and her title increases; auditor firm size is defined as in the definition of demotions.

**Promotion 1c**: The auditor moves to a smaller-size audit firm and her title increases;[12] and

**Promotion 1d**: The auditor moves to a larger-size audit firm and her title either increases or doesn't change.

The definitions of Promotions 1a-1d require an increase in an auditor's administrative title. The only exception is Promotion 1d where we treat an auditor's move to a larger audit firm without a title change as a promotion. This is reasonable assumption given that larger audit firms are viewed more prestigious, but inferences are qualitatively similar if we recode such promotion cases as no events.

[12] Similar to the case of Demotion 1d, one may disagree with our treatment of Promotion 1c. Inferences are similar if the Promotion 1c cases are recoded as no events.

There are two distinctive types of promotions in our sample: (i) promotion to a job title below the partner rank; and (ii) promotion to the partner rank. Given that the partner rank is the highest rank of an audit firm, a promotion to the partner rank is fundamentally different from any promotion below the partner rank. For this reason, we examine the determinants of these two types of promotions separately.

As noted in the previous section, we don't know Type 2 auditors' job titles during the years when these auditors audited publicly listed firms. Hence, we assume that the Type 2 auditors didn't experience any promotion during these years. This assumption could introduce some noises to the definition of promotions below the partner rank. However, we believe this is a reasonable assumption for promotion to the partner rank because being a partner in an audit firm that can audit publicly listed firms is an attractive job and therefore it would be unusual for an auditor to be downgraded to a Type 2 auditor after being promoted to the partner rank.

**4. Regression model**

We use the following discrete hazard model (logit) to examine the determinants of auditors' demotion and promotion outcomes:

$$\text{DEMOTION}_t \text{ or } \text{PROMOTION}_t = \beta_t + \beta_1 \text{ABILITY}_{t-1} + \beta_2 \text{KNOWLEDGE}_{t-1} + \beta_3 \text{PERFORMANCE}_{t-1} + \beta_4 \text{CCP}_{t-1} + \beta_5 \text{FEMALE}_{t-1} + \beta_6 \text{AGE}_{t-1} + \beta_7 \text{PROBANKZ}_{t-1} + \varepsilon_t$$

See Appendix B for all variable definitions. For the demotion regression, the sample includes all auditors from the first year when an auditor signed publicly listed firms' audit reports up to the earlier of the auditor's demotion year or 2009, over the period 1992-2009. Our hazard regression's sample ends in 2009 because we require a

minimum of three years to determine whether an auditor stops serving as a signing auditor permanently for Demotion 1e (see footnote 11). Because China's modern stock market started in 1991, our regression analyses start in 1992 so that we have at least one year of data to compute the required independent variables.

For the regression of promotion to the partner rank, the sample includes all auditors from the first year when an auditor is eligible for any promotion up to the earlier of the year of the auditor's promotion to the partner rank or 2009, over the period 1992-2009. It is important to note that auditors who have already been promoted to the partner rank (i.e., Senior Manager or higher) prior to the beginning of our sample period are excluded from the hazard regression because these individuals don't face the promotion prospect again by definition. Hence, the number of unique auditors included in the regression of promotion to the partner rank will be smaller than the number of unique auditors included in the demotion regression. For the regression of promotions below the partner rank, the sample includes all auditors from the first year when an auditor is eligible for any promotion up to the earlier of the year of the auditor's promotion to job title immediately below the partner rank (i.e., Department Manager in Appendix A) or 2009, over the period 1992-2009.

The list of proxies for auditors' ability includes *COLLEGE_DEGREE*, *COLLEGE_REPUTATION*, *LICENSE*, and *CLIENT_SIZE_PERC*. Due to China's competitive college entrance exam and the selectiveness of top Chinese universities, *COLLEGE_DEGREE* and *COLLEGE_REPUTATION* are reliable proxies for an individual's innate ability. Similarly, China's CPA exam is very tough and therefore

can be used to proxy for ability. *CLIENT_SIZE_PERC* is an outcome-based ability proxy under the assumption that auditors who have a larger portion of their firms' audit clients are of higher ability. Empirically, however, this latter proxy is never significant in our subsequent regressions. Therefore, our inference for ability is not driven by this last proxy.

The list of proxies for auditors' accounting knowledge includes *MAJOR*, *SPECIALIST* and *EXPERIENCE*. We use *MAJOR* and *SPECIALIST* as proxies for technical knowledge and *EXPERIENCE* as a proxy for tacit knowledge (e.g., communications skills and interpersonal skills) under the assumption that tacit knowledge grows with experience. Tan and Libby (1997) find the importance of tacit knowledge in relatively experienced auditors' annual performance evaluations based on survey data from a Singapore office of a Big Six audit firm.

The list of proxies for auditors' on-the-job performance includes *MODIFIED*, *MODIFIED_PERC*, *SMALL_PROFIT*, *CLIENT_AUDIT_COMMIT*, and *CLIENT_AUDIT_DISCLOSE*. Non-clean audit opinions have been widely used as a proxy for audit quality and audit independence in the existing literature (e.g., DeFond, Wong and Li 2000; Chen, Chen and Su 2001; Francis and Yu, 2009; Chan and Wu, 2011). *SMALL_PROFIT* has been used as evidence of income increasing earnings management (Burgstahler and Dichev 1997; Francis and Yu 2009; Gul, Wu and Yang 2013). We expect tougher auditors to be more likely to issue non-clean audit opinions and less likely to allow audit clients to pursue aggressive earnings management, ceteris paribus.

We use *CCP* as a proxy for an auditor's political connection. China is a socialist country under the leadership of the Chinese Communist Party. As a result, all business entities above a certain size are expected to establish a local communist party committee led by a party secretary. Yu (2008) finds that the local communist party committee, especially the party secretary, plays an important role in the strategic management of Chinese business enterprises. Hence, one would naturally expect Chinese business enterprises to have both the incentive and pressure to promote a reasonable number of communist party members to senior management positions so that the Chinese Communist Party can maintain sufficient control of all important Chinese business enterprises through the local party committee. Our own research and discussion with anonymous government officials indicate that establishing local party committees within Chinese audit firms has been an important target of the Chinese Communist Party. Therefore, we expect communist party members to be more likely to be promoted to the partner rank than non-party members, ceteris paribus. However, we don't have a clear prediction on the effect of *CCP* on demotion and promotions below the partner rank.[13]

We use *FEMALE* and *AGE* to assess the effect of gender and age, respectively, on demotion and promotion outcomes. The regression model also includes time fixed effects and uses *PROBANKZ* to control for the average risk profile of an auditor's client portfolio.

For the definitions of *CLIENT_SIZE_PERC*, *MODIFIED*, *MODIFED_PERC*, *SMALL_PROFIT*, *CLIENT_AUDIT_COMMIT*, *CLIENT_AUDIT_DISCLOSE*,

[13] Since we include several separate proxies for ability, the coefficient on *CCP* is unlikely to be attributed to ability.

*SPECIALIST*, and *PROBANKZ*, we require a minimum of one year data. *FEMALE*, *COLLEGE_DEGREE*, *MAJOR*, *COLLEGE_REPUTATION*, *CCP*, and *LICENSE* are auditor fixed effects while the other independent variables are time variant.[14]

While we analyze the determinants of demotions, promotions below the partner rank, and promotions to the partner rank separately, due to lack of theory and prior research, we don't make ex ante predictions on how the explanatory variables behave in each determinant model.

## 5. Regression results

### *5.1. Descriptive statistics*

Panel A of Table 1 shows the frequency distribution of demotions for Type 1 and Type 2 auditors, respectively, used in the demotion hazard regression over the period 1992-2009. There are a total of 3,159 unique auditors, of which 2,790 are Type 1 auditors and 369 are Type 2 auditors. There are a total of 13,039 Type 1 auditor year observations, of which 11,965 auditor years experienced no demotion and 1,074 auditor years experienced demotions. Most of the demotion observations are due to Demotion 1e.

Panel B of Table 1 shows the frequency distribution of promotions to the partner rank for Type 1 and Type 2 auditors, respectively, used in the regression of promotion to the partner rank over the period 1992-2009. As explained before, the

[14] In theory *COLLEGE_DEGREE*, *MAJOR*, *CCP*, and *LICENSE* may vary over time during our sample period for some auditors, but we treat them as fixed effects because, as noted before, the auditors' resumes from our data sources don't always clearly indicate the year when the auditor receives her college degree, communist party membership or CPA license. However, we believe this is not a big concern in our setting because most auditors should have finished their college degrees and received the CPA license by the time they start to serve as signing auditors of publicly listed firms. But we acknowledge that the coefficient on *CCP* could be subject to reverse causality in the regression of promotion to the partner rank.

number of unique auditors in Panel B of Table 1 is smaller than the number of unique auditors included in Panel A of Table 1 because the promotion hazard regression excludes the auditors who have been promoted to the partner rank. Of the 1,960 unique auditors in Panel B of Table 1, 1,728 are Type 1 auditors and 232 are Type 2 auditors. There are a total of 6,543 Type 1 auditor year observations, of which 6,378 auditor years experienced no demotion and 165 auditor years experienced promotions to the partner rank. Most of the partner promotion observations are Promotion 1a (i.e., within-firm promotions).

Panel C of Table 1 shows the frequency distribution of promotions below the partner rank for Type 1 and Type 2 auditors, respectively, used in the regression of promotions below the partner rank over the period 1992-2009. There are a total of 4,086 Type 1 auditor year observations, of which 3,850 auditor years experienced no demotion and 236 auditor years experienced promotions below the partner rank. Most of the promotions below the partner rank are Promotion 1a (i.e., within-firm promotions).

Table 2 shows the descriptive statistics of the independent variables for the Type 1 and Type 2 auditors used in the demotion regression in Panel A, in the partner promotion regression in Panel B, and in the regression of promotions below the partner rank in Panel C. Because the distributions of the regression variables are similar across the three panels, we focus on the statistics in Panel A. We find that with the exception of *LICENSE*, the distributions of all other variables are fairly wide. 35.9% of the signing auditors in our sample period are female, which seems low given that the super majority of the accounting students in Chinese universities are

female (see footnote 3). 65.6% of the auditors have a college degree or higher. It is interesting to note that only 51.4% of the auditors majored in accounting. 35.6% of the auditors issued at least one non-clean audit opinion over the past five years. On average 11.3% of an auditor's clients received non-clean audit opinions over the past five years while 6.5% of an auditor's clients report a small profit over the past five years. On average 18% of an auditor's clients *violated* financial reporting and disclosure regulations over the past five years while 6.1% of the auditor's clients *disclosed* financial reporting and disclosure violations over the past five years. The auditors' average age is around 38 years old.

Table 3 shows the Pearson correlation matrix for all the independent variables used in the demotion regression. Because the correlations are similar for the variables used in the partner promotion regression and the variables used in the regression of promotions below the partner rank, we omit them for brevity. With the exception of the correlation between *LICENSE* and *AGE* (0.543), the correlation between *MODIFIED* and *MODIFIED_PERC* (0.677) and the correlation between *MODIFIED_PERC* and *PROBANKZ* (0.506) in Panel A, none of the pairwise correlations are greater than 0.50.

*5.2. Regression results*

Table 4 reports the logistic regression results of the three career outcome models based on the combined sample of Type 1 and Type 2 auditors: (i) the demotion model in column (1); (ii) the partner promotion model in column (2); and (iii) the promotion-below-the-partner-rank model in column (3). We next summarize

the regression results from the three models organized by the explanatory variable types.

5.2.1. Ability, accounting knowledge, and on-the-job performance

We find evidence that both ability and accounting knowledge matter in auditors' demotion outcomes. Specifically, with regard to ability, we find the following types of auditors are more likely to be demoted: auditors without a college or higher degree, auditors who graduated from less prestigious universities, and auditors who obtained the CPA license through channels other than the formal CPA exam. However, we find no evidence that auditors with a larger client portfolio are positively associated with the likelihood of demotion, contrary to the common perception that client portfolio size matters in auditors' career outcomes. With regard to accounting knowledge, we find that auditors with fewer years of experience serving as a signing auditor and auditors who are not industry specialists are more likely to be demoted.

There is also evidence from column (1) of Table 4 that on-the-job performance matters in auditors' demotion outcomes. Specifically, the following types of auditors are more likely to be demoted: auditors that have never issued a non-clean audit opinion in the past five years, and auditors whose clients have more frequently *violated* accounting reporting and disclosure regulations in the past five years that resulted in subsequent earnings restatements or CSRC punishment. The other incentive proxies are all insignificant.

Columns (2) and (3) of Table 4 report the logistic regression results for the partner promotion model and the promotion-below-the-partner-rank model, respectively. First, ability matters in both types of promotions as evidenced by the significant coefficients on *COLLEGE_DEGREE* and *LICENSE* in both promotion models. Second, we find no evidence that accounting knowledge and performance matter in auditors' promotions below the partner rank, but both accounting knowledge and performance matter in auditors' promotion to the partner rank. Specifically, auditors who majored in accounting, have served as a signing auditor longer, and have issued at least one non-clean audit opinion in the past five years, are *more* likely to be promoted to the partner rank. In contrast, none of the proxies for accounting knowledge and performance load significantly in the regression of promotions below the partner rank. These results suggest that there are both common and distinctive institutional forces that affect the two types of auditor promotions.

The coefficients on many proxies for ability, knowledge and performance in the promotion regressions of columns (2) and (3) are opposite in signs to the coefficients on the same variables in the demotion regression of column (1). This evidence suggests that similar institutional forces affect auditors' demotion and promotion outcomes. However, there are also interesting differences in the determinants of demotion and the determinants of promotion. Specifically, auditors' college major type matters in promotions but not in demotions. Second, the following factors matter in demotions but not in promotions: the reputation of an auditor's undergraduate university, whether an auditor is an industry specialist, and

whether an auditor's clients have more frequently *violated* accounting reporting and disclosure regulations in the past five years that resulted in subsequent earnings restatements or CSRC punishment.

5.2.2. Political connection

The coefficient on *CCP* is insignificant in the demotion regression and promotion-below-the-partner-rank regression, suggesting no evidence that political connection matters in auditors' demotions and promotions below the partner rank. However, as predicted, the coefficient on *CCP* is significantly positive in the partner promotion regression, suggesting that communist party members are more likely to be promoted than non-party members, holding everything else constant. To our knowledge, this is the first direct evidence on the influence of the Chinese Communist Party in the strategic management of Chinese audit firms.

5.2.3. Gender and age

We find that both age and gender are important in auditors' career outcomes. The coefficient on *AGE* is significantly positive in the demotion regression and significantly negative in the regression of promotions below the partner rank. However, the coefficient is insignificant in the partner promotion regression. The coefficient on *FEMALE* is significantly positive in the demotion regression and significantly negative in the partner promotion regression, but we find no evidence that gender matters in auditors' promotions below the partner rank. These results suggest the possibility of age and gender discrimination but the evidence in Table 4

is not definitive. In Section 5.4 we will take advantage of our unique setting to provide a more detailed analysis about the gender effect.

5.2.4. Economic significance of regression coefficients

The regression results from Table 4 suggest that the following theoretical constructs, ability, accounting knowledge, on-the-job performance, political connection, age, and gender, are all statistically significant in explaining auditors' career outcomes, but which ones are more economically significant? We use multiple proxies to capture the different dimensions of several theoretical constructs. In addition, all of our explanatory variables are measured using different measurement scales. Hence, the economic significance of the different theoretical constructs cannot be directly compared based on the reported regression coefficients. To assess the relative economic significant of the theoretical constructs, we first compute the standardized average marginal effect of each regression variable resulting from a one standard deviation increase of each regression variable from the mean. For dummy regression variables, we use a change of one unit (i.e., from zero to one).[15] Then, the economic magnitude of a theoretical construct is the sum of all the standardized average marginal effects from all proxies under the same theoretical construct.

The bottom of Table 4 summarizes the economic magnitudes of the aforementioned theoretical constructs for each of the three career outcome models. As shown in Table 1, the unconditional probability of a career outcome change is 8.24% (1,074/13,039) for demotion, 2.52% (165/6,543) for promotion to the partner

[15] See Williams (2013) for a discussion on how to compute the marginal effect from a logit model.

rank, and 5.78% (236/4,086) for promotions below the partner rank. Relative to these unconditional probabilities, the economic magnitudes of ability, accounting knowledge, on-the-job performance, and *FEMALE* and *AGE* combined are material. We find that ability matters the most in auditors' career outcomes among all the theoretical determinants while accounting knowledge and performance are equally important in determining auditors' career outcomes. Roughly speaking, ability is approximately twice as important as either accounting knowledge or performance. Because our proxies for ability are largely determined by the time of an individual's entry into the audit profession, these results imply that auditors' future career outcomes are predetermined to a large extent by the time of an individual's entry into the audit profession. Relative to ability, accounting knowledge, and performance, the combined economic magnitudes of age and gender are also big.

*5.3. Regression results by provincial investor protection quality*

Fan and Wang (2011) document significant differences in investor protection and financial market development across the Chinese provinces. Prior accounting research shows that these provincial institutional differences affect the reporting behavior of publicly listed firms' management and the behavior of audit firms (e.g., Wang, Wong and Xia 2008; Jian and Wong 2010). Hence, we next examine whether the same provincial institutional differences affect audit firms' demotion and promotion decisions. Specifically, we divide the audit firms into two groups (weak versus strong) based on the 75$^{th}$ percentile cutoff of Fan and Wang's (2011) average

provincial legal environment index over the available years 1997-2009. We select a 75th cutoff in order to have a meaningful number of audit firms in both groups.[16]

Table 5 shows the regression results of the three career outcome models by Fan and Wang's (2011) provincial market development index. We have the following interesting results. First, both ability and accounting knowledge matter in auditors' career outcomes in strong institutional environments but we find little evidence ability and accounting knowledge matter in weak institutional environments. Most of the proxies for ability and accounting knowledge don't load significantly in the three career outcome models for the audit firms domiciled in weak provinces. Second, on-the-job performance matters in auditors' career outcomes in both weak and strong institutional environments but in the opposite ways. Specifically, auditors who have issued at least one non-clean opinion are less likely to be demoted and more likely to be promoted to the partner rank in strong provinces but we don't find similar effect in weak provinces. Likewise, auditors whose clients more frequently violated financial reporting and disclosure regulations that resulted in either future earnings restatements or CSRC punishment are more likely to be demoted in strong provinces but they are more likely to be promoted in weak provinces. All of these results suggest that audit firms' demotion and promotion policies in strong provinces are more likely based on meritocracy while those in weak provinces are more likely based on factors other than meritocracy.

[16] Many Chinese audit firms experienced mergers during our sample period, some of which are across two different provinces (see Chan and Wu 2011). Discussions with industry insiders suggest the provincial domicile of an audit firm prior to a merger is still important in influencing the post-merger behavior of an audit firm acquired by another audit firm from a different province. Hence, for audit firms that experienced mergers, we use the domicile provinces of the audit firms prior to merger for the purpose of the grouping.

*5.4. Sources of the gender effect*

There is an ongoing debate worldwide on the sources of the gender effect. According to a survey by Bertrand (2011), there are two broad types of explanations for the gender effect: (i) the nature explanation, where the gender differences in preferences and personality traits documented in the literature are due to biological roots, and (ii) the nurture explanation, where the observed gender differences are the outcomes of environmental influences. Clearly, understanding the importance of these two alternative explanations is critical because of their different policy implications. In this study we take advantage of our unique setting to shed some light on this important effect.

First, we examine whether the gender effect is partially due to female auditors who reach the child bearing age. Women in China are often expected by their families and the society to get married and have babies by a certain age. Such social and family pressures may force female auditors to voluntarily refuse promotion opportunities or choose less demanding auditing positions or exit the auditing profession completely. Such society-wide gender discrimination may also lead audit firms to rationally pick males for promotion and females for demotion (Li 2013). There is also a possibility that female auditors prefer quieter life when they reach the child bearing age. Hence, the effect of child bearing age could be consistent with either the nature explanation or the nurture explanation. To test this hypothesis, we allow the coefficient on *FEMALE* to vary with a dummy variable (*CHILDBEARING_AGE*) that equals one for female auditors who are in the age

group of 25-31 and zero otherwise. According to China's latest population census, Chinese women's mean child bearing age is 28.18. Hence, we use $\pm$3 years around this mean to identify Chinese women's typical child bearing period. To the extent that the coefficient on *FEMALE* is due to child bearing, we should expect the coefficient on *FEMALE*×*CHILDBEARING_AGE* to be significantly positive in the demotion regression and significantly negative in the promotion regressions.

Second, we examine whether the gender effect is partially due to the lack of female auditors in an audit firm's top management team (i.e., partners), consistent with the nurture explanation. To test this hypothesis, we allow the coefficient on *FEMALE* to vary with a dummy variable (*F_BOSS*) that equals one if at least 75 percent of an audit firm's partners measured in the lagged year are female and zero otherwise. The dominance of female auditors in the top management could have two non-mutually exclusive effects. The first effect is that female partners could serve as role models and empower the other female auditors down below to overcome the gender stereotype. Consistent with this role model effect, Carrell et al. (2010) find that professor gender has a powerful effect on female students' performance in math and science classes (see also Beaman et al. 2009). The second effect is that female partners, if dominant in their audit firms, may help mitigate the gender discrimination in an otherwise male partners dominated workplace.

Table 6 shows the regression results of the three career outcome models including the above two interaction effects with *FEMALE*. Consistent with the child bearing hypothesis, we find that the coefficient on *FEMALE*×*CHILDBEARING_AGE* is significantly positive in the demotion regression. Consistent with our second

hypothesis, we find that the coefficient on *FEMALE×F_BOSS* is significantly negative in the demotion regression and significantly positive in the partner promotion regression.[17] These interaction results suggest that it requires a woman boss to overcome the gender effect. This latter finding may partially explain the lack of female top executives in the corporate suites: because there are simply not many female bosses in the corporate suites to start with.

## 6. Conclusions

The objective of this study is to examine the determinants of individual auditors' demotion and promotion outcomes. Taking advantage of the rich data available on individual Chinese auditors' personal characteristics and working experience, we examine the importance of the common auditor attributes emphasized in the extant auditing literature, ability, accounting knowledge, and on-the-job performance, on auditors' career outcomes. We use an auditor's education level, the reputation of undergraduate university, and the way the auditor obtains her CPA license, and the proportion of the audit firm's clients audited by the auditor in the past five years to proxy for ability. We use an auditor's personal characteristics such as whether the auditor's college major is accounting, whether the auditor is an industry specialist, and the number of years an auditor has served as a signing auditor, to proxy for accounting knowledge. We use the following proxies for auditors' on-the-job performance: whether and how often an auditor's clients received non-clean audit opinions, the proportion of an auditor's clients that

[17] We find no evidence from an untabulated analysis that the effects of *FEMALE×F_BOSS* in Table 6 are due to the other personal characteristics (e.g., age) of the audit partners correlated with *F_BOSS*.

reported a small profit, the proportion of an auditor's clients that violated financial reporting and disclosure regulations, and the proportion of an auditor's clients that disclosed financial reporting and disclosure violations. We also examine the effect of political connection, gender and age on auditors' career outcomes.

We find evidence that ability, accounting knowledge, and on-the-job performance all matter in auditors' demotion and promotion outcomes, but ability, which is largely determined by the time of an individual's entry into the audit profession, matters the most. There is evidence that auditors' career outcomes are less likely based on meritocracy for audit firms domiciled in provinces with weaker institutional environments. We also find that auditors with political connection are more likely to get promoted to the partner rank. Furthermore, we find significant age and gender effects. Older auditors are more likely to be demoted and less likely to get promoted for promotions below the partner rank. Female auditors are more likely to be demoted and less likely to be promoted to the partner rank, but there is no evidence of a gender effect for auditors' promotions below the partner rank. Consistent with social and family pressures, we find that the gender effect is stronger for female auditors who reach the child bearing age. Consistent with the hypothesis that the gender effect is partially due to environmental influences, we find that the gender effect is weaker in audit firms whose top management is dominated by female auditors.

To our knowledge, we are the first archival study to examine the determinants of auditors' career outcomes. While prior research recognizes the importance of auditors' ability, knowledge, and on-the-job performance to audit

quality, due to data limitations, no study has looked inside the black box of audit firms' management of their most valuable asset, human capital. We also make a contribution to the business literature on gender and age discriminations by documenting the magnitude and sources of the gender effect in auditor's career outcomes.

A limitation of our study is that we only consider signing auditors, who can be regarded as more successful auditors already in an audit firm. Therefore, our study doesn't shed light on turnover decisions of individual auditors below the signing auditor level.

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**Appendix A. The administrative titles of Chinese auditors sorted from low to high**

| Title | Variations of each title |
|---|---|
| Auditor | Certified Public Accountant(CPA)\ \Auditor\Clerk\Accountant\Auditing Assistant\Staff\ |
| Intermediate Auditor | Intermediate Auditor |
| Senior Auditor | Senior Auditor |
| Project Manager | Project Manager\Audit Team Leader\Project Director\Project Leader \Team Director |
| Senior Project Manager | Senior Project Manager \Senior Project Executive Manager |
| Department Manager Assistant | Department Manager Assistant\ Department Director Assistant |
| Deputy Department Manager | Deputy Department Manager\Deputy Department Director |
| Department Manager | Department Party Secretary \ Department Manger\Department Director\Department Chief Auditor |
| **Senior Manager** | Senior Manager\Senior Audit Manager\Senior Executive Manager |
| General Manager Assistant\Chairman Assistant | General Manager Assistant\General Executive Assistant\ Chairman Assistant |
| Deputy General Manager | Deputy General Manager \Deputy Executive Manager\Deputy Executive Accountant |
| General Manager | General Manager \President\The Chief Accountant\ Party Secretary |
| Board member\Supervisor | Board member\Supervisor |
| Vice President | Vice President\Vice Chairman |
| Chairman | Chairman of the Board or the supervising board |
| Partner | Partner\Shareholder\Sponsor |

## Appendix B. Variable definitions

| Variable name | Variable definition |
|---|---|
| ***Proxies for ability*** | |
| *COLLEGE_DEGREE* | A dummy variable that equals one if an auditor's highest degree is bachelor or higher and zero otherwise. |
| *COLLEGE_REPUTATION* | A dummy variable that equals one if an auditor received her undergraduate education from one of the Project 211 universities and zero otherwise. The 211 Project is a strategic cross-century project formulated by the Chinese government for the implementation of the strategy of invigorating the country through science technology and education. |
| *LICENSE* | A dummy variable that equals one if an auditor received her CPA license through China's CPA exam and zero otherwise. Due to a grandfather clause, a significant percentage of Chinese (typically older) auditors obtained their CPA license without passing the formal CPA exam. |
| *CLIENT_SIZE_PERC* | The mean fraction of an audit firm's total clients, measured in total assets, audited by an auditor over the past five years t-5 to t-1.[18] |
| ***Proxies for accounting knowledge*** | |
| *MAJOR* | A dummy variable that equals one if an auditor's college major is accounting and zero otherwise. |
| *SPECIALIST* | The mean value of *SPEC* over the past five years t-5 to t-1. *SPEC* is a dummy variable indicating audit partner specialization in one or more economically important industry sectors. An industry sector is considered economically important if it represents at least 1% of total assets of all Chinese listed companies. An auditor is designated as an industry specialist if the size of her within-industry clientele in terms of audited total assets belongs to the highest decile of its annual distribution (Knechel et al. 2013). |
| *EXPERIENCE* | The natural logarithm of the number of years since the first year when an auditor served as a signing auditor of a publicly listed firm. |
| ***Proxies for on-the-job performance*** | |
| *MODIFIED* | A dummy variable that equals one if an auditor had ever issued a non-clean audit opinion over the past five years t-5 to t-1. |
| *MODIFIED_PERC* | The mean fraction of an auditor's clients that were issued a non-clean audit opinion over the past five years t-5 to t-1. |
| *SMALL_PROFIT* | The mean fraction of an auditor's clients that reported ROA in the range of [0, 0.5%] over the past five years t-5 to t-1. The cutoff 0.5% follows Roychowdhury (2006). |
| *CLIENT_AUDIT_COMMIT* | The mean fraction of an auditor's clients that *violated* financial reporting and disclosure regulations over the past five |

[18] We define this and other relevant variables over a lagged five year period to reflect the fact that auditors' promotion and demotion decisions are based on an auditor's past performance over multiple years.

| | |
|---|---|
| | years t-5 to t-1. The financial reporting and disclosure regulation violations include the following types: (a) the audit client misstated earnings during any of the years t-5 to t-1 that resulted in a subsequent earnings restatement; (b) the audit client or its auditors were subject to a CSRC enforcement action due to violating financial reporting or disclosure regulations during any of the years t-5 to t-1. |
| *CLIENT_AUDIT_DISCLOSE* | The mean fraction of an auditor's clients that *disclosed* financial reporting and disclosure regulation violations (either an earnings restatement or a CSRC enforcement action associated with either the client or the client's auditors) over the past five years t-5 to t-1. |
| *Other explanatory variables* | |
| *CCP* | A dummy variable that equals one if an auditor is a Chinese Communist Party member and zero otherwise. |
| *FEMALE* | A dummy variable that equals one if an auditor is a female and zero otherwise. |
| *AGE* | The natural logarithm of an auditor's age. |
| *PROBANKZ* | The mean bankruptcy probability score based on the coefficients from Zmijewski (1984, Table 3B) for an auditor's client portfolio over the years t-5 to t-1. |
| *CHILDBEARING_AGE* | A dummy variable that equals one for female auditors who are in the age group of 25-31 and zero otherwise. |
| *F_BOSS* | A dummy variable that equals one if at least 75 percent of an audit firm's partners measured in the lagged year are female and zero otherwise. |

**Table 1. The frequency distributions of auditors' demotions and promotions**

**Panel A. The sample of auditor years used in the demotion regression**

| Type | Number of unique auditors | Demotion type | Frequency in years |
|---|---|---|---|
| Type1 | 2,790 | Demotion 1a | 0 |
| | | Demotion 1b | 31 |
| | | Demotion 1c | 14 |
| | | Demotion 1d | 13 |
| | | Demotion 1e | 1,016 |
| | | No demotion | 11,965 |
| | | Subtotal | 13,039 |
| Type2 | 369 | Demotion | 369 |
| | | No demotion | 725 |
| | | Subtotal | 1,094 |
| Total | 3,159 | | 14,133 |

**Panel B. The sample of auditor years used in the regression of promotion to the partner rank**

| Type | Number of unique auditors | Promotion type | Frequency in years |
|---|---|---|---|
| Type1 | 1,728 | Promotion 1a | 132 |
| | | Promotion 1b | 24 |
| | | Promotion 1c | 4 |
| | | Promotion 1d | 5 |
| | | No promotion | 6,378 |
| | | Subtotal | 6,543 |
| Type2 | 232 | No promotion | 725 |
| | | Promotion | 0 |
| | | Subtotal | 725 |
| Total | 1,960 | | 7,268 |

**Panel C. The sample of auditor years used in the regression of promotions below the partner rank**

| Type | Number of unique auditors | Promotion type | Frequency in years |
|---|---|---|---|
| Type1 | 1,274 | Promotion 1a | 184 |
| | | Promotion 1b | 28 |
| | | Promotion 1c | 7 |
| | | Promotion 1d | 17 |
| | | No promotion | 3,850 |
| | | Subtotal | 4,086 |
| Type2 | 232 | No promotion | 725 |
| | | Promotion | 0 |
| | | Subtotal | 725 |
| Total | 1,506 | | 4,811 |

Type 1 auditors: as of the end of 2009, these auditors were employed by the audit firms who were authorized by the CSRC to audit publicly listed Chinese firms.

Type 2 auditors: as of the end of 2009, these auditors worked in the auditing profession but they didn't work for the audit firms that were authorized to audit publicly listed Chinese firms.

For Type 1 auditors, an auditor is defined to experience a demotion in a year if the auditor experiences one of the following situations:
Demotion 1a: The auditor works for the same audit firm but her administrative title drops;
Demotion 1b: The auditor moves to a similar-size audit firm and her administrative title drops; we classify all audit firms into two types each year based on the total assets of the audit clients: the top 10 domestic audit firms plus the Big 4 firms are classified as large firms and the rest are classified as small audit firms;
Demotion 1c: The auditor moves to a smaller-size audit firm and her administrative title remains the same or drops;
Demotion 1d: The auditor moves to a larger-size audit firm and her administrative title drops; and
Demotion 1e: The auditor no longer signs audit reports of publicly listed firms permanently starting from that year.

For Type 2 auditors, an auditor is defined to experience a demotion in the year when the auditor stops serving as a signing auditor permanently.

For Type 1 auditors, an auditor is defined to experience a promotion in a year if the auditor experiences one of the following situations:
Promotion 1a: The auditor works for the same audit firm but her administrative title increases;
Promotion 1b: The auditor moves to a similar-size audit firm and her title increases; auditor firm size is defined as in the definition of demotions.
Promotion 1c: The auditor moves to a smaller-size audit firm and her title increases; and
Promotion 1d: The auditor moves to a larger-size audit firm and her title either increases or doesn't change.

Due to data limitations, we assume that the Type 2 auditors didn't experience any promotions. See Section 3 for a detailed discussion of the promotion and demotion definitions.

**Table 2. Descriptive statistics**

Panel A. The sample of Type 1 and Type 2 auditors used in the demotion regression

| | Min | P25 | Mean | Median | P75 | Max | Std.dev | N |
|---|---|---|---|---|---|---|---|---|
| COLLEGE_DEGREE | 0.000 | 0.000 | 0.656 | 1.000 | 1.000 | 1.000 | 0.475 | 14133 |
| COLLEGE_REPUTATION | 0.000 | 0.000 | 0.427 | 0.000 | 1.000 | 1.000 | 0.495 | 14133 |
| LICENSE | 0.000 | 1.000 | 0.883 | 1.000 | 1.000 | 1.000 | 0.322 | 14133 |
| CLIENT_SIZE_PERC | 0.000 | 0.030 | 0.162 | 0.086 | 0.205 | 1.000 | 0.202 | 14133 |
| MAJOR | 0.000 | 0.000 | 0.514 | 1.000 | 1.000 | 1.000 | 0.500 | 14133 |
| SPECIALIST | 0.000 | 0.000 | 0.095 | 0.000 | 0.000 | 1.000 | 0.246 | 14133 |
| EXPERIENCE | 0.000 | 0.693 | 1.158 | 1.099 | 1.792 | 2.833 | 0.798 | 14133 |
| MODIFIED | 0.000 | 0.000 | 0.356 | 0.000 | 1.000 | 1.000 | 0.479 | 14133 |
| MODIFIED_PERC | 0.000 | 0.000 | 0.113 | 0.000 | 0.125 | 1.000 | 0.225 | 14133 |
| SMALL_PROFIT | 0.000 | 0.000 | 0.065 | 0.000 | 0.042 | 1.000 | 0.166 | 14133 |
| CLIENT_AUDIT_DISCLOSE | 0.000 | 0.000 | 0.061 | 0.000 | 0.087 | 0.833 | 0.114 | 14133 |
| CLIENT_AUDIT_COMMIT | 0.000 | 0.000 | 0.180 | 0.000 | 0.263 | 1.000 | 0.275 | 14133 |
| CCP | 0.000 | 0.000 | 0.286 | 0.000 | 1.000 | 1.000 | 0.452 | 14133 |
| FEMALE | 0.000 | 0.000 | 0.359 | 0.000 | 1.000 | 1.000 | 0.480 | 14133 |
| AGE | 2.890 | 3.497 | 3.631 | 3.611 | 3.738 | 4.277 | 0.185 | 14133 |
| PROBANKZ | 0.000 | 0.004 | 0.075 | 0.022 | 0.075 | 1.000 | 0.145 | 14133 |

Panel B. The sample of Type 1 and Type 2 auditors used in the regression of promotion to the partner rank

| | Min | P25 | Mean | Median | P75 | Max | Std.dev | N |
|---|---|---|---|---|---|---|---|---|
| COLLEGE_DEGREE | 0.000 | 0.000 | 0.625 | 1.000 | 1.000 | 1.000 | 0.484 | 7268 |
| COLLEGE_REPUTATION | 0.000 | 0.000 | 0.406 | 0.000 | 1.000 | 1.000 | 0.491 | 7268 |
| LICENSE | 0.000 | 1.000 | 0.921 | 1.000 | 1.000 | 1.000 | 0.270 | 7268 |
| CLIENT_SIZE_PERC | 0.000 | 0.018 | 0.115 | 0.049 | 0.130 | 1.000 | 0.177 | 7268 |
| MAJOR | 0.000 | 0.000 | 0.487 | 0.000 | 1.000 | 1.000 | 0.500 | 7268 |
| SPECIALIST | 0.000 | 0.000 | 0.067 | 0.000 | 0.000 | 1.000 | 0.218 | 7268 |
| EXPERIENCE | 0.000 | 0.693 | 1.011 | 1.099 | 1.609 | 2.773 | 0.736 | 7268 |
| MODIFIED | 0.000 | 0.000 | 0.264 | 0.000 | 1.000 | 1.000 | 0.441 | 7268 |
| MODIFIED_PERC | 0.000 | 0.000 | 0.107 | 0.000 | 0.067 | 1.000 | 0.240 | 7268 |
| SMALL_PROFIT | 0.000 | 0.000 | 0.072 | 0.000 | 0.000 | 1.000 | 0.190 | 7268 |
| CLIENT_AUDIT_DISCLOSE | 0.000 | 0.000 | 0.062 | 0.000 | 0.058 | 0.833 | 0.130 | 7268 |
| CLIENT_AUDIT_COMMIT | 0.000 | 0.000 | 0.179 | 0.000 | 0.250 | 1.000 | 0.299 | 7268 |
| CCP | 0.000 | 0.000 | 0.218 | 0.000 | 0.000 | 1.000 | 0.413 | 7268 |
| FEMALE | 0.000 | 0.000 | 0.393 | 0.000 | 1.000 | 1.000 | 0.489 | 7268 |
| AGE | 3.045 | 3.466 | 3.597 | 3.555 | 3.689 | 4.263 | 0.179 | 7268 |
| PROBANKZ | 0.000 | 0.003 | 0.082 | 0.020 | 0.074 | 1.000 | 0.165 | 7268 |

Panel C. The sample of Type 1 and Type 2 auditors used in the regression of promotions below the partner rank

| | Min | P25 | Mean | Median | P75 | Max | Std.dev | N |
|---|---|---|---|---|---|---|---|---|
| COLLEGE_DEGREE | 0.000 | 0.000 | 0.587 | 1.000 | 1.000 | 1.000 | 0.492 | 4811 |
| COLLEGE_REPUTATION | 0.000 | 0.000 | 0.383 | 0.000 | 1.000 | 1.000 | 0.486 | 4811 |
| LICENSE | 0.000 | 1.000 | 0.918 | 1.000 | 1.000 | 1.000 | 0.275 | 4811 |
| CLIENT_SIZE_PERC | 0.000 | 0.015 | 0.108 | 0.042 | 0.113 | 1.000 | 0.179 | 4811 |
| MAJOR | 0.000 | 0.000 | 0.498 | 0.000 | 1.000 | 1.000 | 0.500 | 4811 |
| SPECIALIST | 0.000 | 0.000 | 0.052 | 0.000 | 0.000 | 1.000 | 0.195 | 4811 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| EXPERIENCE | 0.000 | 0.000 | 0.904 | 0.693 | 1.386 | 2.639 | 0.714 | 4811 |
| MODIFIED | 0.000 | 0.000 | 0.229 | 0.000 | 0.000 | 1.000 | 0.420 | 4811 |
| MODIFIED_PERC | 0.000 | 0.000 | 0.102 | 0.000 | 0.000 | 1.000 | 0.243 | 4811 |
| SMALL_PROFIT | 0.000 | 0.000 | 0.075 | 0.000 | 0.000 | 1.000 | 0.202 | 4811 |
| CLIENT_AUDIT_DISCLOSE | 0.000 | 0.000 | 0.053 | 0.000 | 0.000 | 0.833 | 0.123 | 4811 |
| CLIENT_AUDIT_COMMIT | 0.000 | 0.000 | 0.174 | 0.000 | 0.250 | 1.000 | 0.302 | 4811 |
| CCP | 0.000 | 0.000 | 0.212 | 0.000 | 0.000 | 1.000 | 0.409 | 4811 |
| FEMALE | 0.000 | 0.000 | 0.387 | 0.000 | 1.000 | 1.000 | 0.487 | 4811 |
| AGE | 3.178 | 3.466 | 3.595 | 3.555 | 3.689 | 4.263 | 0.187 | 4811 |
| PROBANKZ | 0.000 | 0.003 | 0.084 | 0.019 | 0.075 | 1.000 | 0.170 | 4811 |

See Appendix B for variable definitions.

**Table 3. Pearson correlation Table**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLLEGE_DEGREE (1) | **1.000** | | | | | | | | | | | | | | | |
| COLLEGE_REPUTATION (2) | **0.248** | **1.000** | | | | | | | | | | | | | | |
| | 0.000 | | | | | | | | | | | | | | | |
| LICENSE (3) | **0.135** | **0.053** | **1.000** | | | | | | | | | | | | | |
| | 0.000 | 0.000 | | | | | | | | | | | | | | |
| CLIENT_SIZE_PERC (4) | **-0.017** | **-0.039** | **-0.246** | **1.000** | | | | | | | | | | | | |
| | 0.042 | 0.000 | 0.000 | | | | | | | | | | | | | |
| MAJOR (5) | **-0.042** | **-0.005** | **0.024** | **-0.021** | **1.000** | | | | | | | | | | | |
| | 0.000 | 0.545 | 0.004 | 0.012 | | | | | | | | | | | | |
| SPECIALIST (6) | **0.077** | **0.039** | **-0.030** | **0.147** | **-0.002** | **1.000** | | | | | | | | | | |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.812 | | | | | | | | | | | |
| EXPERIENCE (7) | **0.019** | **0.026** | **-0.087** | **0.033** | **0.022** | **0.115** | **1.000** | | | | | | | | | |
| | 0.028 | 0.002 | 0.000 | 0.000 | 0.009 | 0.000 | | | | | | | | | | |
| MODIFIED (8) | **-0.005** | **0.026** | **-0.045** | **0.069** | **0.025** | **0.069** | **0.322** | **1.000** | | | | | | | | |
| | 0.573 | 0.002 | 0.000 | 0.000 | 0.004 | 0.000 | 0.000 | | | | | | | | | |
| MODIFIED_PERC (9) | **-0.001** | **0.032** | **0.009** | **-0.049** | **-0.010** | **-0.041** | **0.014** | **0.677** | **1.000** | | | | | | | |
| | 0.915 | 0.000 | 0.313 | 0.000 | 0.224 | 0.000 | 0.096 | 0.000 | | | | | | | | |
| SMALL_PROFIT (10) | **-0.006** | **-0.012** | **0.037** | **-0.004** | **-0.001** | **-0.011** | **0.013** | **0.045** | **0.041** | **1.000** | | | | | | |
| | 0.475 | 0.141 | 0.000 | 0.648 | 0.879 | 0.213 | 0.128 | 0.000 | 0.000 | | | | | | | |
| CLIENT_AUDIT_DISCLOSE (11) | **0.000** | **0.032** | **0.014** | **-0.074** | **-0.025** | **0.012** | **0.326** | **0.220** | **0.176** | **0.033** | **1.000** | | | | | |
| | 0.985 | 0.000 | 0.102 | 0.000 | 0.004 | 0.159 | 0.000 | 0.000 | 0.000 | 0.000 | | | | | | |
| CLIENT_AUDIT_COMMIT (12) | **-0.013** | **0.027** | **0.016** | **-0.008** | **-0.038** | **-0.060** | **-0.022** | **0.158** | **0.225** | **0.023** | **0.451** | **1.000** | | | | |
| | 0.118 | 0.001 | 0.057 | 0.321 | 0.000 | 0.000 | 0.010 | 0.000 | 0.000 | 0.007 | 0.000 | | | | | |
| CCP (13) | **0.037** | **0.001** | **-0.200** | **0.170** | **-0.025** | **0.024** | **0.087** | **0.045** | **-0.010** | **-0.027** | **-0.003** | **-0.022** | **1.000** | | | |
| | 0.000 | 0.906 | 0.000 | 0.000 | 0.003 | 0.005 | 0.000 | 0.000 | 0.226 | 0.001 | 0.751 | 0.009 | | | | |
| FEMALE (14) | **-0.002** | **0.008** | **-0.047** | **-0.034** | **0.059** | **0.006** | **-0.003** | **-0.046** | **-0.023** | **-0.004** | **-0.025** | **-0.028** | **-0.022** | **1.000** | | |
| | 0.822 | 0.355 | 0.000 | 0.000 | 0.000 | 0.453 | 0.736 | 0.000 | 0.007 | 0.674 | 0.003 | 0.001 | 0.009 | | | |
| AGE (15) | **-0.233** | **-0.072** | **-0.534** | **0.151** | **-0.016** | **0.018** | **0.375** | **0.121** | **-0.020** | **0.003** | **0.117** | **-0.005** | **0.213** | **0.042** | **1.000** | |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.061 | 0.034 | 0.000 | 0.000 | 0.020 | 0.726 | 0.000 | 0.525 | 0.000 | 0.000 | | |
| PROBANKZ (16) | **-0.004** | **0.019** | **0.049** | **-0.098** | **-0.021** | **-0.025** | **-0.033** | **0.288** | **0.506** | **0.039** | **0.152** | **0.174** | **-0.028** | **-0.033** | **-0.025** | **1.000** |
| | 0.681 | 0.024 | 0.000 | 0.000 | 0.012 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.003 | |

See Appendix B for variable definitions.

## Table 4. Logistic regression results

| | (1) | (2) | (3) |
|---|---|---|---|
| | Demotions | Promotion to the partner rank | Promotions below the partner rank |
| **Proxies for ability** | | | |
| COLLEGE_DEGREE | -0.142** | 0.479** | 0.472*** |
| | (0.025) | (0.013) | (0.008) |
| COLLEGE_REPUTATION | -0.170*** | -0.110 | 0.027 |
| | (0.005) | (0.522) | (0.871) |
| LICENSE | -0.499*** | 1.163** | 2.085** |
| | (0.000) | (0.018) | (0.041) |
| CLIENT_SIZE_PERC | -0.175 | 0.293 | -0.172 |
| | (0.338) | (0.543) | (0.738) |
| **Proxies for accounting knowledge** | | | |
| MAJOR | -0.036 | 0.385** | 0.155 |
| | (0.534) | (0.018) | (0.330) |
| SPECIALIST | -0.278** | -0.242 | -0.180 |
| | (0.033) | (0.475) | (0.616) |
| EXPERIENCE | -0.502*** | 0.452*** | 0.058 |
| | (0.000) | (0.002) | (0.660) |
| **Proxies for on-the-job performance** | | | |
| MODIFIED | -0.186* | 0.637** | 0.080 |
| | (0.064) | (0.015) | (0.802) |
| MODIFIED_PERC | 0.296 | -0.723 | 0.417 |
| | (0.126) | (0.250) | (0.375) |
| SMALL_PROFIT | 0.162 | -0.593 | -0.225 |
| | (0.277) | (0.376) | (0.567) |
| CLIENT_AUDIT_DISCLOSE | -0.414 | -0.980 | -1.153 |
| | (0.190) | (0.330) | (0.248) |
| CLIENT_AUDIT_COMMIT | 0.241** | 0.481 | -0.061 |
| | (0.030) | (0.181) | (0.838) |
| **Other variables** | | | |
| CCP | 0.005 | 0.438** | 0.138 |
| | (0.942) | (0.017) | (0.471) |
| FEMALE | 0.284*** | -0.413** | -0.076 |
| | (0.000) | (0.017) | (0.637) |
| AGE | 0.412** | -0.554 | -3.068*** |
| | (0.047) | (0.336) | (0.000) |
| PROBANKZ | -0.024 | -1.819 | -0.983 |
| | (0.912) | (0.126) | (0.101) |
| Constant | -2.227*** | -6.634*** | 4.645* |
| | (0.006) | (0.006) | (0.068) |
| Year fixed effects | Yes | Yes | Yes |
| Pseudo.$R^2$ | 0.051 | 0.155 | 0.100 |
| N | 14133 | 7268 | 4811 |
| Economic magnitude: | | | |
| Ability | 0.075 | 0.037 | 0.061 |
| Accounting knowledge | 0.039 | 0.017 | 0.018 |
| On-the-job performance | 0.034 | 0.024 | 0.021 |
| *CCP* | 0.000 | 0.009 | 0.006 |
| *FEMALE* | 0.025 | 0.009 | 0.003 |
| *AGE* | 0.007 | 0.002 | 0.017 |

See Appendix B for variable definitions. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. Two-tailed p values shown in parentheses are adjusted for clustering by auditor. The economic magnitude of a regression variable is computed as the standardized average marginal effect of the regression variable resulting from a one standard deviation increase of each regression variable from the mean. For dummy regression variables, we use a change of one unit (i.e., from zero to one). Then, the economic magnitude of a theoretical construct (e.g., ability) is the sum of all the standardized average marginal effects from all proxies under the same theoretical construct.

**Table 5. Regression results by provincial investor protection quality**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Demotions | | Promotion to the partner rank | | Promotions below the partner rank | |
| | Strong institutional environment | Weak institutional environment | Strong institutional environment | Weak institutional environment | Strong institutional environment | Weak institutional environment |
| **Proxies for ability** | | | | | | |
| COLLEGE_DEGREE | -0.185** | -0.026 | 0.345 | 0.544 | 0.689*** | 0.144 |
| | (0.011) | (0.843) | (0.128) | (0.177) | (0.002) | (0.678) |
| COLLEGE_REPUTATION | -0.190*** | -0.105 | -0.216 | 0.134 | -0.100 | 0.582* |
| | (0.007) | (0.410) | (0.300) | (0.701) | (0.609) | (0.060) |
| LICENSE | -0.404*** | -0.651*** | 1.188** | 0.881 | n/a | 1.286 |
| | (0.001) | (0.001) | (0.030) | (0.391) | | (0.235) |
| CLIENT_SIZE_PERC | 0.050 | -0.637 | 0.354 | 1.260 | -0.406 | 0.018 |
| | (0.807) | (0.100) | (0.572) | (0.112) | (0.530) | (0.983) |
| **Proxies for accounting knowledge** | | | | | | |
| MAJOR | -0.055 | 0.010 | 0.319 | 0.625* | 0.320* | -0.376 |
| | (0.408) | (0.932) | (0.107) | (0.056) | (0.094) | (0.257) |
| SPECIALIST | -0.301** | -0.214 | -0.390 | -1.121 | -0.522 | 0.619 |
| | (0.028) | (0.622) | (0.308) | (0.295) | (0.227) | (0.378) |
| EXPERIENCE | -0.519*** | -0.448*** | 0.608*** | 0.134 | 0.288* | -0.409 |
| | (0.000) | (0.000) | (0.001) | (0.648) | (0.059) | (0.157) |
| **Proxies for on-the-job performance** | | | | | | |
| MODIFIED | -0.252** | -0.054 | 0.574** | 0.357 | -0.168 | 0.553 |
| | (0.036) | (0.774) | (0.047) | (0.560) | (0.669) | (0.295) |
| MODIFIED_PERC | 0.344 | 0.245 | -0.501 | -1.045 | 0.609 | 0.086 |
| | (0.117) | (0.557) | (0.440) | (0.501) | (0.245) | (0.932) |
| SMALL_PROFIT | 0.109 | 0.249 | -0.297 | -1.565 | -0.201 | -0.603 |
| | (0.524) | (0.435) | (0.700) | (0.354) | (0.673) | (0.388) |
| CLIENT_AUDIT_DISCLOSE | -0.360 | -0.752 | -0.689 | -1.420 | -0.466 | -3.756** |
| | (0.317) | (0.269) | (0.531) | (0.525) | (0.672) | (0.041) |
| CLIENT_AUDIT_COMMIT | 0.314** | -0.029 | -0.020 | 1.700*** | -0.290 | 0.785* |
| | (0.013) | (0.901) | (0.967) | (0.001) | (0.446) | (0.099) |
| **Other variables** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| CCP | 0.080 | -0.217 | 0.549*** | 0.328 | 0.317 | -0.353 |
| | (0.317) | (0.109) | (0.009) | (0.411) | (0.139) | (0.416) |
| FEMALE | 0.327*** | 0.108 | -0.498** | -0.191 | -0.246 | 0.214 |
| | (0.000) | (0.374) | (0.012) | (0.610) | (0.186) | (0.522) |
| AGE | 0.200 | 1.163*** | -0.610 | -0.801 | -3.763*** | -1.555 |
| | (0.403) | (0.007) | (0.339) | (0.515) | (0.000) | (0.179) |
| PROBANKZ | 0.010 | -0.215 | -1.967 | -1.162 | -0.719 | -3.042 |
| | (0.966) | (0.660) | (0.154) | (0.598) | (0.270) | (0.140) |
| Constant | -1.583* | -4.629*** | -6.163** | -3.226 | 8.603*** | 1.467 |
| | (0.091) | (0.006) | (0.017) | (0.513) | (0.000) | (0.733) |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Pseudo.$R^2$ | 0.052 | 0.062 | 0.180 | 0.178 | 0.115 | 0.130 |
| N | 10062 | 4071 | 5028 | 2240 | 3278 | 1533 |

See Appendix B for variable definitions. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. Two-tailed p values shown in parentheses are adjusted for clustering by auditor. We divide the audit firms into two groups (weak versus strong) based on the 75th percentile cutoff of Fan and Wang's (2011) average provincial legal environment index over the available years 1997-2009.

## Table 6. Regression results for the gender effect

| | (1) | (2) | (3) |
|---|---|---|---|
| | Demotions | Promotion to the partner rank | Promotions below the partner rank |
| **Proxies for ability** | | | |
| COLLEGE_DEGREE | -0.144** | 0.449** | 0.435** |
| | (0.023) | (0.021) | (0.013) |
| COLLEGE_REPUTATION | -0.171*** | -0.080 | 0.069 |
| | (0.005) | (0.647) | (0.677) |
| LICENSE | -0.476*** | 0.800 | 2.050** |
| | (0.000) | (0.109) | (0.045) |
| CLIENT_SIZE_PERC | -0.199 | 0.241 | -0.366 |
| | (0.280) | (0.636) | (0.507) |
| **Proxies for accounting knowledge** | | | |
| MAJOR | -0.033 | 0.469*** | 0.240 |
| | (0.570) | (0.005) | (0.134) |
| SPECIALIST | -0.254* | -0.283 | -0.098 |
| | (0.051) | (0.406) | (0.788) |
| EXPERIENCE | -0.494*** | 0.413*** | 0.064 |
| | (0.000) | (0.005) | (0.633) |
| **Proxies for on-the-job performance** | | | |
| MODIFIED | -0.189* | 0.652** | 0.178 |
| | (0.060) | (0.013) | (0.580) |
| MODIFIED_PERC | 0.296 | -0.865 | 0.217 |
| | (0.127) | (0.177) | (0.653) |
| SMALL_PROFIT | 0.171 | -0.514 | -0.188 |
| | (0.250) | (0.444) | (0.623) |
| CLIENT_AUDIT_DISCLOSE | -0.455 | -0.909 | -1.230 |
| | (0.153) | (0.363) | (0.218) |
| CLIENT_AUDIT_COMMIT | 0.260** | 0.463 | -0.034 |
| | (0.019) | (0.214) | (0.910) |
| **Other variables** | | | |
| CCP | -0.011 | 0.371** | 0.124 |
| | (0.867) | (0.046) | (0.524) |
| FEMALE | 0.326*** | -0.569*** | -0.029 |
| | (0.000) | (0.009) | (0.882) |
| CHILDBEARING_AGE | -0.038 | -0.799*** | -0.034 |
| | (0.753) | (0.007) | (0.884) |
| FEMALE* CHILDBEARING_AGE | 0.424*** | -0.149 | 0.075 |
| | (0.007) | (0.758) | (0.805) |
| F_BOSS | 0.068 | -0.901*** | -0.758*** |
| | (0.475) | (0.002) | (0.004) |
| FEMALE* F_BOSS | -0.449*** | 0.768* | -0.495 |
| | (0.002) | (0.084) | (0.290) |
| AGE | 0.607** | -1.885*** | -3.147*** |
| | (0.014) | (0.010) | (0.000) |
| PROBANKZ | -0.005 | -1.718 | -0.894 |
| | (0.983) | (0.131) | (0.131) |
| Constant | -2.973*** | -1.202 | 5.059 |
| | (0.002) | (0.684) | (0.128) |
| Year fixed effects | Yes | Yes | Yes |
| Pseudo.$R^2$ | 0.053 | 0.169 | 0.114 |
| N | 14133 | 7268 | 4811 |

See Appendix B for variable definitions. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. Two-tailed p values shown in parentheses are adjusted for clustering by auditor.