Abnormal Audit Fees and Audit Quality: Evidence from the Korean Audit Market

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ABSTRACT

Do abnormally high or low audit fees reflect audit quality? Prior literature examining the U.S. audit market offers conflicting evidence in response to this question. In this paper, we re-examine this issue after controlling for the confounding effect of audit hours by using a sample of public firms in the Korean audit market, which publicly discloses both audit fees and audit hour information. While we do not find a significant association between abnormally high audit fees and audit quality, we find that abnormally low audit fees are associated with larger discretionary accruals and a higher likelihood of meeting or beating analyst earnings forecasts. Further, we find evidence showing that the relationship between abnormally low audit fees and audit quality indicators persists regardless of the level of audit hours. To the extent that audit hours represent the amount of audit effort exerted during an audit engagement, these findings suggest that greater audit effort alone may not lead to higher audit quality as fee pressure from abnormally low audit fees may discourage the provision of high-quality audit services.

Keywords: abnormal audit fees; audit effort; audit quality; audit hours

JEL Classification: M42; M48

I. INTRODUCTION

In theory, auditors determine audit fees at a level covering the external auditor's production costs plus compensation for any future litigation loss from the engagement (Simunic 1980). Following Kinney and Libby (2002), who note that the "unexpected" portion of audit fees or abnormal audit fees can demonstrate an acute influence on audit quality, a large number of studies have examined the effect of abnormal audit fees on audit quality. One stream of literature reports that abnormally high audit fees are related to greater auditor tolerance of earnings management, suggesting that abnormal audit fees constitute economic rents impairing an auditor's independence and leading to lower audit quality (e.g., Choi, Kim, and Zang 2010; Asthana and Boone 2012). A second stream shows that abnormal audit fees are related to higher audit quality, suggesting that abnormal audit fees may not manifest economic rents but reflect unobservable audit production costs or audit effort (e.g., Blankley, Hurtt, and MacGregor 2012; Lobo and Zhao 2013; Eshleman and Guo 2014). Thus, the extant literature remains inconclusive regarding the association between abnormal audit fees and audit quality.

One reason for the inconclusiveness in prior research involves researchers being unable to account for unobservable audit effort and related litigation risk in their audit fee models. In this paper, we exploit two unique features of the Korean audit market—the availability of engagement-level audit hours and the relatively low level of auditor litigation risk—to revisit the linkage between abnormal audit fees and audit quality. These characteristics of the Korean audit market allow us to better control for the effects of planned audit effort and litigation risk on audit fees. More precisely, this allows us to isolate the portion of audit fees that represent either unexpected economic profits leading to lower audit quality or abnormal audit effort, which may improve or reduce audit quality.

As stated above, two important factors create inconsistencies regarding the relationship between abnormal audit fees and audit quality in the U.S. audit market. First, prior studies do not fully control for the varying degree of audit effort. To the extent that abnormal audit fees arise from conscientious but unobservable audit effort, positive abnormal audit fees may not lead to lower audit quality. In contrast, if audit fees are significantly higher than the incumbent auditor's production costs including normal profits, then abnormal audit fees may become a quasi-economic rent and impair the auditor's independence in substance. Second, as Simunic (1980) theorizes the burden of an auditor's expected legal liability affects audit fees significantly (see Choi, Kim, Liu, and Simunic (2008) for empirical evidence). Given that many people recognize the U.S. as the most litigious country in the world (Wingate 1997), client-specific litigation risk should be associated with higher audit fees to compensate the incumbent auditor for increased litigation risk. However, prior studies using data from the U.S. audit market do not include litigation risk in the estimation of (ab)normal audit fees because it remains largely unobservable.

While audit hours can function as a summary measure of overall audit effort (Caramanis and Lennox 2008), the proprietary nature of engagement-specific audit hour data in the U.S. audit market prevents the consideration of audit effort in the estimation of abnormal audit fees. In this study, we use expected audit hours as a proxy for planned audit effort to mitigate the confounding effect of unobservable audit effort on the estimation of normal audit fees. For the ten-year sample period covering 2003-2012 for public companies in Korea, we divide total audit fees into normal and abnormal audit fees and re-examine the relationship between abnormal audit fees and audit quality after controlling for engagement-level audit hours. Following Asthana and Boone (2012), we use the bifurcated abnormal audit fee variables (i.e., abnormally high and low audit fees) and find that abnormally low audit fees are positively associated with the magnitude of a client firm's discretionary accruals and the likelihood of meeting or beating consensus analysts' forecasts. These results coincide with the notion that abnormally low audit fees are associated with a greater misrepresentation of a firm's financial performance, suggesting poor audit quality. In contrast, we do not find any systematic relation between abnormally high audit fees and the proxies for audit quality, suggesting that abnormally high audit fees do not lead to higher audit quality.

However, we acknowledge that our findings should be interpreted with caution. O'Keefe, Simunic, and Stein (1994) model an auditor's resource allocation decision as "a constrained cost minimization" problem and suggest that both the quantity (i.e., audit hours) and the quality (i.e., the mix of labor inputs) of audit effort may be adjusted for each engagement. In other words, auditors can adjust their effort level either by working longer hours or by assigning more experienced audit personnel to an engagement. While we use audit hours to control for audit effort in the estimation of abnormal audit fees, audit hours aggregated at an engagement level do not incorporate the quality of audit effort reflected in the audit fees charged.[1]

Therefore, to provide additional insight into the dynamic relationship of audit fees and audit hours influencing the quality of audit service, we perform two supplementary analyses. First, we re-run our tests by replacing the abnormal audit fee variables with indicator variables representing four contingencies: (i) abnormally high audit fees paid accompanied by unexpectedly high audit hours worked, (ii) abnormally high audit fees paid but unexpectedly low audit hours worked, (iii) abnormally low audit fees paid but unexpectedly high audit hours

[1] Although aggregate audit hour information is available per audit engagement in Korea, more granular audit hour information broken down by audit personnel (i.e., staff, senior, manager and partner) is not available during our sample period. The Act on External Audit of Stock Companies specifying the statutory requirement of external audits was amended on May 28th, 2014 to add Article 7-2(3) which states that "An auditor shall attach to an audit report, documents stating details of the external audit conducted, such as the number of persons who have participated in the external audit, the details of the audit, and the required time, as prescribed by Presidential Decree." This new disclosure requirement was implemented for the fiscal year 2014 onward.

worked, and (iv) abnormally low audit fees paid and correspondingly, unexpectedly low audit hours worked.

Given that we estimate abnormal audit fees after controlling for aggregate audit hours, abnormally high audit fees would indicate either quasi-rents (i.e., over-charging for the audit hours worked) or the deployment of more/less experienced (and therefore costly/cheaper) audit personnel to an engagement substituting quantity for quality of audit effort. In this situation, if the substitution of fewer audit hours with more experienced audit personnel is negligible, abnormally high audit fees will capture auditor's economic rent leading to lower audit quality in the first and second contingencies. Alternatively, to the extent that an auditor assigns more (less) experienced and thereby costlier (cheaper) audit personnel to compensate for shorter (longer) audit hours, we expect that abnormally high fees may not necessarily lead to lower audit quality.

Similarly, abnormally low audit fees in the third and fourth contingencies can represent either the client's greater bargaining power forcing the auditor to provide audit fee concession (i.e., under-charging or "eating hours") or the auditor's voluntary deployment of less experienced (and therefore cheaper) audit personnel to contain its production costs. In this situation, to the extent that auditors do not compromise the quality of their audit effort but agree to charge lower fees due to the client's bargaining power in the third contingency, we expect that abnormally low audit fees may not necessarily lead to lower audit quality. However, if the auditor responds to fee pressure by lowering the quality of its effort, abnormally low audit fees may indicate the work of less experienced audit staff with inadequate expertise. In this scenario, we expect abnormally low audit fees will lead to lower audit quality.

Consistent with the labor-mix adjustment view, we find evidence suggesting that abnormally high audit fees are not significantly related to audit quality, while abnormally low audit fees are systematically associated with lower audit quality. This empirical pattern implies that after controlling for audit hours, our estimated abnormal audit fees reflect an auditor's strategic substitution of the quantity of audit effort (i.e., audit hours) with its quality (i.e., audit team labor mix). As such, the dynamic nature of an auditor's effort decision to substitute quantity of effort for quality of effort must be considered when examining the influence of audit fees and audit effort on audit quality.

Further, we consider the dynamic relationship between audit hours and audit fees by focusing on industry specialist auditors. Although specialist auditors in the Korean audit market receive higher total audit fees confirming the notion of a specialist fee premium (e.g., Ferguson, Francis, and Stokes 2003), Bae, Choi, and Rho (2016) document that specialist auditors work longer hours for an engagement and garner lower fees per hour (i.e., unit price of audit) when compared to non-specialist auditors. Assuming that a lower unit price paid to specialist auditors reveals the dynamic relationship between audit hours and audit pricing, we compare the unit price of the groups receiving abnormally high and low audit fees. We find that the phenomenon of lower (higher) fees per hour paid to specialist (non-specialist) auditors is more pronounced when abnormally high audit fees are paid. This may indicate that specialist auditors receiving abnormally high fees may, in fact, be an outcome of deploying a less experienced audit team and allowing the team to work longer hours at a lower rate per hour. Combined with the results from our supplementary analyses, we argue that the implication of audit fees on audit quality should not be examined in isolation from the auditor's strategic adjustment of audit hours.

Our study contributes to the existing literature in several ways. First, we use expected audit hours as a proxy for planned audit effort to mitigate the potential estimation bias of abnormal audit fees attributable to unobservable audit effort. While results from prior studies are inconclusive regarding the implication of abnormal audit fees on audit quality, our results suggest that the fee pressure from abnormally low audit fees may lead to insufficient monitoring of a client's aggressive financial reporting behavior. Alternatively, we find that abnormally high audit fees are not significantly related to audit quality. Our findings align with Doogar, Sivadasan, and Solomon (2015) indicating that abnormal audit fees represent unobservable audit effort rather than an auditor's economic rent. We acknowledge, however, that our inferences are still not conclusive about whether abnormal audit fees represent audit effort or auditor's economic rents because the mix of labor inputs is unobservable.

Second, we reduce the potential confounding effect of unobservable litigation risk in the estimation of abnormal audit fees by utilizing the Korean audit market as a setting where auditor's litigation risk is relatively low. Hope and Langli (2010) report an insignificant association between abnormal audit fees and audit quality in the Norwegian audit market that provides another institutional setting of low litigation risk. While our insignificant result for positive abnormal audit fees appears similar to that of Hope and Langli (2010), we show that negative abnormal audit fees are significantly associated with lower audit quality after controlling for audit effort. This finding suggests that abnormally low audit fees may discourage auditors from providing rigorous assurance and potentially instigate auditor shirking, thereby leading to lower audit quality.

Finally, our results suggest that the audit quality implication of abnormal audit fees should be examined while considering the dynamic relationship between audit fees and audit hours. To the extent that auditors strategically respond to fee pressures by diluting the quality of audit resources, both the quantity and the quality of audit effort should be considered to articulate the relationship between abnormal audit fees and audit quality.

In the following section, we discuss literature related to our research question and describe the institutional setting of the Korean audit market. Section III explains our research design including sample and empirical models. In Section IV, we report the empirical results and discuss the findings from supplementary tests. Section V provides our conclusion.

II. BACKGROUND, RESEARCH QUESTION AND RELATED LITERATURE

Institutional Background of Korean Audit Market

In this study, we exploit the Korean audit market as a setting with low litigation risk and more public information about the auditor's effort exerted on an audit engagement. This setting is particularly suitable for our study because we can reduce the confounding effects of unobservable audit production costs and the compensation for residual litigation risks on the estimation of abnormal audit fees.

Regulatory Framework of Audit Market

Historically, the Korean audit market has been highly regulated as a price-controlled market until the Asian financial crisis of 1997. Since the massive bailout of the International Monetary Fund, several changes have occurred in the Korean audit market as a part of an overall financial market reform (Kim 2007). For example, the anti-competition provision limiting audit fees charged by an auditor was abolished in 1999, which removed the regulatory control of audit fees and allowed audit firms to set their own audit prices.[2] Beginning in the year 2003, the Financial Supervisory Service (FSS/equivalent to the U.S. Securities and Exchange Commission) mandates that audit fees be disclosed along with audit hour information covering the most recent

[2] Since 1969, the audit fees in the Korean audit market have been regulated following "Guideline for External Audit Fees" stipulated under the authority of the Certified Public Accountant Act. In 1999, the Omnibus Cartel Repeal Act was enacted to promote fair trade and competition in the market and, in turn, the audit fee guideline was rescinded.

three years.[3] To the extent that audit hours spent on an audit engagement summarize the amount of audit effort exerted (Caramanis and Lennox 2008), the public disclosure of audit hours can provide audit input information and help audit market participants infer the quality of the unobservable outcome of the audit production function in Korea.

The Securities and Exchange Act (SEA) and the Act on External Audit of Stock Companies (AEA) influence the regulatory framework for public company audits in Korea. The SEA requires all companies listed on the Korean Securities Exchange (KSE) or registered with the Korean Securities Dealers Association (KOSDAQ) to file their business reports with the FSS within 90 (45) days from the fiscal year-end for annual (quarterly) filings and publicly release them through the FSS's disclosure website (http://dart.fss.or.kr). The SEA also stipulates general provisions governing audit engagements such as the appointment and dismissal of auditors and the establishment of an audit committee.

In addition, the AEA stipulates specific rules for external audits of Korean companies. In the AEA, all public companies and private stock companies with total assets not less than 7 billion Korean won (about 6.5 million in U.S. dollars) are required to file audited financial statements with the FSS. While the AEA prescribes the authorities and responsibilities of management, audit committee and auditor in the performance of external audits, Article 4 of the AEA allows management to make auditor hiring decisions and fee negotiations and merely requires receiving an audit committee's approval subsequently.[4] The dominance of management

[3] After mandating the disclosure of audit hours in 2003, both the regulation and the practice of audit hour disclosure have become more comprehensive. Since 2005, FSS has been using audit hours as one of the selection criteria for review and inspection. In 2014, AEA was revised to mandate the expanded disclosure of audit hours including the labor mix of audit team (i.e., the number of staff, senior, manager and partner and their audit hours) and the description of audit tests performed.

[4] Chun (2017) argues that independent directors in Korean firms (including audit committees) are "no more than rubber stamps". As an illustration, Chun (2017) reports that only 2 out of 341 independent directors from the 10 largest Korean business groups casted votes against any item on the agenda during the period between May 2012 and April 2013.

influence over the purchase of audit services is associated with greater audit fee pressure reflecting lower demand for audit quality (Beck and Mauldin 2014). As a result, Korean public companies, on average, pay less than 30% of the audit fees their U.S. counterparts pay based on total assets and sales (Kim and Ko 2017).

Notably, the development of a regulatory framework for internal control audits displays only moderate progress. The AEA was revised in 2003 to mandate the operation of the internal control system. In the same year, the Certified Public Accountant Act was revised to require an incumbent auditor's review (though not an audit) of the public company's internal control system. In 2018, the AEA was revised again to mandate an audit of the financial reporting internal control system.[5]

Auditor Litigation

Most of the larger audit firms in Korea affiliate with either the Big 4 (PwC, Deloitte, E&Y and KPMG) or Second-Tier (e.g., BDO, RSM, and Grant Thornton) international accounting firms. Among these firms, 11 audit firms are registered with the PCAOB as of the year 2010. Historically, lawsuits against auditors are rare in Korea (Jeong and Rho 2004). As Wingate's (1997) auditor litigation index summarizes, the Korean audit market (Wingate Index = 3.61) carries a significantly low litigation risk for auditors compared to other countries such as the U.S. (Wingate Index = 15) or the U.K (Wingate Index = 10). The Korean audit market grew significantly (more than doubled) during our sample period of 2003-2012 from 57 audit firms

[5] Although public companies are mandated to install an internal control system for financial reporting, they are not required to be audited but simply to be reviewed by incumbent auditors. This Korean audit practice resembles the practice implemented in the U.S. before the enactment of Sarbanes-Oxley Act of 2002. As stipulated under AU Section 319, *Consideration of Internal Control in a Financial Statement Audit* requires auditors to obtain an understanding of internal control for audit planning but does not require an audit for internal control. However, the amended AEA as of September 28th, 2018 requires auditors from the year 2019 onward to audit their clients' internal control systems and opine on their effectiveness. The new requirement of internal control audit is similar to the internal control audit regime under PCAOB Audit Standard No.5, *An Audit of Internal Control Over Financial Reporting That is Integrated with an Audit of Financial Statements* (Currently codified as AS 2201).

and 6,441 Certified Public Accountants (CPA) at the beginning of the year 2003 to 127 audit firms and 15,571 CPAs at the end of the year 2012. Despite the rapid growth in the size of the audit market, exposure to litigation risk and regulatory scrutiny of assurance quality remain relatively low. Compared to 13 lawsuits filed against audit firms between 2000 and 2003, only 9 and 13 lawsuits were filed against audit firms in the year 2011 and 2012, respectively (FSS 2013).

Abnormal Audit Fees and Audit Quality

Since Frankel et al.'s (2002) seminal investigation of the association between auditor fees and a client's earnings management in the U.S. audit market, an extensive body of accounting literature has focused on the effect of auditor fees (both audit and non-audit fees) on audit quality (e.g., Ashbaugh, LaFond, and Mayhew 2003; Chung and Kallapur 2003; Larcker and Richardson 2004; Ruddock, Taylor, and Taylor 2006; Lim and Tan 2008; Blay and Geiger 2013). While the influence of total auditor fees on audit quality remains important, Kinney and Libby (2002) suggest that the "unexpected" portion of the fees would have a more acute influence on audit quality.

Following the suggestion of Kinney and Libby (2002), several studies examine the effect of unexpected or abnormal audit fees on audit quality finding mixed results. For instance, studies using future financial restatements as a measure of actual audit quality report contradictory results. Blankley et al. (2012) find that abnormal audit fees are negatively associated with the likelihood of financial restatements. In addition, Lobo and Zhao (2013) provide evidence showing that abnormally high audit fees are associated with a lower likelihood of financial misstatement, suggesting a positive relationship between abnormal audit fees and audit quality. However, Hribar, Kravet, and Wilson (2014) observe that abnormal audit fees are positively associated with subsequent financial restatements. Collectively, these studies fail to conclude whether the quality of audit services represented by subsequent financial restatements is positively or negatively affected by abnormal audit fees.

Similarly, the empirical evidence from studies using the magnitude of discretionary accruals as an indicator of audit quality remains inconclusive about the effect of abnormal audit fees on audit quality. Choi et al. (2010) suggest that the relationship between abnormal audit fees and audit quality could be nonlinear. While they do not find a significant association between negative abnormal audit fees and the absolute value of discretionary accruals, they show that positive abnormal fees are positively associated with discretionary accruals, implying that economic rents included in abnormal audit fees may lead to lower audit quality. Asthana and Boone (2012) find that the firms paying abnormally high audit fees are associated with a larger amount of discretionary accruals and are more likely to meet or beat analyst forecast earnings. In addition, they find that firms with abnormally low audit fees show similar reporting behavior: a greater amount of discretionary accruals and a higher likelihood of meeting or beating consensus analyst forecasts.[6]

In contrast, Eshleman and Guo (2014) find that abnormal audit fees are negatively associated with the likelihood of meeting or beating analyst forecasts after controlling for the client's earnings management incentive.[7] This result supports the theory that abnormal audit fees

[6] Asthana and Boone (2012) assume that both the motivation of economic bonding between auditor and client and the client's bargaining power may influence an auditor's pricing decisions inducing abnormally high and low audit fees. Their results suggest that both abnormally high and low audit fees hurt audit quality through potential economic bonding enabled by higher audit fees and greater auditor tolerance to clients with larger bargaining power. However, it is unclear whether abnormally high audit fees are in fact higher than auditor's production cost or a mere reflection of unobservable audit effort. Similarly, abnormally low audit fees may represent either greater bargaining power of the client during the fee negotiation or abnormally low investment in audit effort.

[7] Eshleman and Guo (2014) assume that not all discretionary accruals are equally detrimental and therefore auditors would care more about the occurrence of intentional accruals manipulation to meet or beat forecast earnings. To consider the confounding effect of earnings management incentive, they follow Davis et al. (2007) and identify the

represent abnormal audit effort and thereby lead to higher audit quality. Separately, Hope and Langli (2010) use private companies in the Norwegian audit market as a setting where auditor's litigation risk is lower and find that abnormal audit fees are not systematically associated with auditor's propensity to issue going-concern opinions. Taken together, it remains inconclusive whether abnormal audit fees exist as a manifestation of unobservable audit effort leading to higher audit quality or auditor's economic rents impairing auditor independence and thereby lowering audit quality. These conflicting inferences from prior literature lead us to revisit the following research question:

RQ: Are abnormal audit fees associated with audit quality?

Audit Fees and Audit Effort

In prior studies, researchers commonly operationalize abnormal audit fees as a residual from the audit fee estimation model including various client—and engagement—attributes such as client size, complexity, profitability, audit firm size, auditor tenure and auditor turnover (Hay, Knechel, and Wong 2006; Hay 2013). In theory, the price of audit service should be sufficient to absorb all audit production costs and any expected future losses attributable to the audit engagement. Specifically, Simunic (1980) develops a model explaining the minimum audit fees as:

$$E(\tilde{C}) = cq + E(\tilde{d}|a, q)E(\tilde{\Theta})$$

where $E(\tilde{C})$ represents the expected total costs of an audit engagement; *c* is the per unit factor cost of audit resource; q is the quantity of audit resource used; $E(\tilde{d}|a, q)$ denotes the present

firm-years when earnings surprise is enabled only after using discretionary accruals as the situation with higher earning management incentive.

value of expected future losses conditional to the client's internal accounting control (a) and auditor's deployment of audit resource (q); and $E(\widetilde{\Theta})$ denotes unconditional future losses.

Notably, auditors select the level of audit effort (cq) after assessing their client's internal accounting control and future litigation risk related to the audit engagement. Auditing standards require that auditors consider a clients' inherent risk and control risk to determine an adequate level of audit effort.[8] Empirically, prior studies document that the client's financial reporting risks affect the auditor's planning of substantive testing procedures and audit resource allocation (Bedard and Johnstone 2004; Schelleman and Knechel 2010). That is, a client's risk profile and engagement characteristics affect both quantity (q) and quality (c) of audit input such as total audit hours and the labor mix of the audit team including partners, experienced managers, seniors and junior staff.[9] While client expenditures for internal accounting controls (a) are an exogenous input in regards to the auditor's assessment and resource allocation decision, this finding implies that considering various client attributes such as client size and complexity endogenously determines the level of audit effort (cq) (Hackenbrack and Knechel 1997).

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[8] In Auditing Standards AU Section 312, auditors are required to consider audit risk, including the inherent risk (IR) and the control risk (CR) to determine materiality level. Based on the selected materiality level, bearable detection risk (DR) can be determined which includes tests of details risk (TD) and substantive analytical procedures risk (AP). Similarly, International Standard on Auditing (ISA) 400 "Risk Assessment and Internal Control" stipulates that auditors should use professional judgment to assess audit risk including inherent risk, control risk and detection risk. ISA 315 and 330 replaced ISA 400, effective for audits for the periods beginning December 15th, 2009 and onward.

[9] Bell, Landsman, and Shackelford (2001) report that higher risk perceived by an audit partner leads to a larger number of audit hours, thereby resulting in higher audit fees. Also, Bell, Doogar, and Solomon (2008) find that higher auditor business risk is associated with greater use of higher ranked (and higher-paid) labor.

Audit Effort and Abnormal Audit Fees

Rephrasing the minimum fee model based on the observability of audit fee components, we conceptualize that audit fees consist of the costs of observable and unobservable audit effort and the compensation for residual litigation risk. In particular, we posit that an audit engagement's future expected losses cannot be zero and the residual litigation risk exists even after exerting adequate audit effort. This is because no audit program nor any set of audit procedures can provide absolute assurance.

$$E(\tilde{C}) = Observable\ cq + Unobservable\ cq + Residual\ litigation\ risk$$

To the extent that the observable audit effort factors fully capture total audit effort ensuring the required level of assurance and covering expected future losses, the predicted value from the fee estimation model can indicate the equilibrium price of audit service satisfying the cost minimization of the audit production function (O'Keefe et al. 1994). Its residual, i.e., the abnormal audit fee, can represent either inadequate or excess recovery of audit production costs. From this view, abnormally high audit fees are interpreted as unexpectedly high audit effort in response to a higher level of client-specific audit risk and abnormally low audit fees are regarded as a signal of insufficient deployment of audit effort. The notion of abnormal audit fees as an indicator of greater audit effort coincides with Klein and Leffler's (1981) assertion that a price premium should be paid to assure a high-quality product when the product quality cannot be determined costless. In other words, abnormally high audit fees can be paid as a "quality-assuring price" inducing greater audit effort.

Relatedly, Doogar et al. (2015) provide indirect evidence suggesting that the abnormal audit fees U.S. public companies is a reflection of unobservable audit production costs rather than an auditor's economic rent. While audit fee components related to audit production costs will be largely persistent, they argue that the auditor rent component will not persist through auditor switches. By reporting the persistence of abnormal audit fees through auditor changes, Doogar et al. (2015) conclude that abnormal fees reflect an auditor's unobserved production costs. Using the residual from the fee estimation model based on observable audit effort factors (from the Korean audit market), we argue that abnormal audit fees may represent either the costs of unexpected and unobservable audit effort or potential excess fee payments constituting auditor's quasi-rent. Prior studies examining abnormal audit fees in the U.S. audit market are unable to separate the two due to the proprietary nature of actual audit production cost information.

Residual Litigation Risk and Abnormal Audit Fees

Abnormal audit fees may include the fee premium for residual litigation risk. Consistent with this notion, Francis (2011) argues, "abnormal audit fees might simply capture abnormally high audit effort or the auditor's pricing of (unobserved) client risk characteristics" (p.138). Prior studies using cross-country samples document that audit fees are higher for clients exposed to higher litigation risk. Seetharaman, Gul, and Lynn (2002) report that U.K. firms cross-listed on the U.S. market experience higher audit fees. Choi et al. (2008) show that audit fees increase monotonically with the strength of a country's legal liability regime. Using the legal regime changes of the U.S. public companies surrounding their IPOs, Venkataraman, Weber, and Willenborg (2008) find that audit fees are higher when auditor's exposure to legal liability is greater.[10] Collectively, these studies present auditor's litigation risk as a significant audit fee

[10] Venkataraman et al. (2008) use IPOs as a setting when auditor's legal liability changes. U.S. companies file their IPO registration under the Securities Act of 1933. After going public, however, the companies' filing are governed by the Securities Exchange Act of 1934. Under the 1933 Act, the privity of contract and the reliance on the financial statements are not required to sue an auditor. Further, an auditor is liable for ordinary negligence under the 1933 Act. By contrast, an auditor is only required to act in good faith (i.e., not grossly negligent, fraudulent, or constructively fraudulent) under the 1934 Act.

factor. In addition, client-specific litigation risk remains largely unobservable in the U.S. audit market.[11] Therefore, we cannot exclude the possibility that abnormal audit fees embody auditor's price protection behavior by charging a fee premium against more risky clients. If so, unobserved residual litigation risk may confound the relationship between abnormal audit fees and audit quality.

Despite these empirical difficulties arising from the confounding effects of unobservable audit production costs and residual litigation risks on the estimation of abnormal audit fees, unique characteristics of the Korean audit market allow us to control for the confounding effects more effectively by leveraging the low auditor litigation environment and the availability of audit hours as a proxy for audit effort.

III. RESEARCH DESIGN

Sample Construction

We select our sample firms from the companies listed on the Korean Stock Exchange (KSE) and Korean Securities Dealers Automated Quotations (KOSDAQ). Our sample period begins in 2003 because it is the first year when public companies in Korea are mandated to equip internal control systems following the amendment of *the Act on External Audit of Stock Companies*. While the actual operation of the internal control system has been largely ineffective, Korean Listed Companies Association has issued the Model Code of Internal

[11] Selected prior studies report that the client-specific risk of a securities lawsuit can be estimated using the industry membership (to biotechnology, computers, electronics and retail industries) in conjunction with several client attributes such as firm size, sales growth, and stock return volatility (Francis, Philbrick, and Schipper 1994; Kim and Skinner 2012). Commonly used audit fee models are already equipped with industry fixed effects. Therefore, we acknowledge that a certain degree of residual litigation risk is already incorporated in the estimation of abnormal audit fees.

Accounting Control in December 2012.[12] Accordingly, we limit our sample period to 2012 to avoid the potential influence of the client's internal control quality on audit fees in Korea. With a sample period from 2003 to 2012, we obtain 15,687 firm-year observations after excluding financial firms from the *KISVALUE* database. Given that the estimation of our test variables includes the calculation of residuals from cross-sectional regression analyses by industry and year, we require a minimum of ten observations per industry-year and lose 1,302 observations. We also remove additional observations in the absence of necessary data for audit fees, audit hours, or other financial information. This sample construction process generates 10,173 firm-year observations from 1,352 unique firms. For the test of meeting or beating analyst earnings forecasts, we gather sell-side analyst forecast information from the *Fn-Guide Consensus* database. After merging with our final sample, we obtain 3,411 firm-year observations for the meet or beat test from 903 unique firms. We summarize our sample construction process in Table 1.

[Insert Table 1 about here]

Empirical Measures

Proxies for Audit Quality

By its nature, audit quality is difficult for outsiders to observe. Therefore, a large body of prior literature treats the properties of audited earnings as an indicator of audit quality (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Abbott et al. 2006). Following prior literature, we use two proxies to measure audit quality (Asthana and Boone 2012; Choi et al. 2010). Prior literature

[12] The model code is developed in concert with Financial Supervisory Service (FSS) and intended to serve as an implementation guide for the operation of the internal control system. The model code follows the top-down, risk-based approach under PCAOB Audit Standard No.5.

uses our first audit quality indicator, the magnitude of a client's discretionary accruals, because one of the roles of auditors is to constrain opportunistic behavior and to mitigate accruals management (DeFond and Zhang 2014). While accruals are superior to cash flows because they allow managers the flexibility to communicate information, this flexibility can be abused (Krishnan 2003). Because the activities of managers are not readily observable, companies contract auditors to reduce agency costs and constrain the opportunistic behavior of managers. As such, the constraint of management's use of accruals to manage earnings becomes an indication of a high-quality audit.

Our second proxy for audit quality, meet or beat analyst earnings forecasts, investigates the influence of abnormal audit fees and audit hours on the propensity of a firm to meet or beat analyst forecasted earnings. As discussed in Asthana and Boone (2012), evidence from previous research suggests that companies reward managers for meeting earnings forecasts and penalize them for missing earnings forecasts. This provides an incentive to manage earnings, and auditors are charged with constraining this opportunistic behavior. To the extent that audit fees charged above production costs represent the effect of the pricing mechanism incentivizing greater audit effort, abnormal audit fees should constrain earnings management (Caramanis and Lennox 2008).[13]

Estimation of Expected Audit Hours

To control for the effect of audit effort on audit pricing, we adopt audit hours as a proxy for planned audit effort (Caramanis and Lennox 2008). Because audit fees are typically

[13] Defond and Zhang (2014) point out that financial restatement and the issuance of going concern (GC) modified opinion are direct measures of audit quality. However, we cannot use the two audit quality proxies in this study. First, to our best knowledge, restatement data is not available for Korea firms during our sample period. While GC opinion information is available, its occurrence is very sparse (24 firm-year observations during our sample period), which makes it impractical to estimate probit regression models.

negotiated at the beginning of the year when current-year values of audit fee determinants are unavailable, we use expected audit hours (*EXP_AHOUR*) in lieu of actual audit hours known at the end of the engagement. Dopuch, Gupta, Simunic, and Stein (2003) note that audit efficiency moderates the relationship between audit fees and hours with more efficient audits increasing the audit fee per hour (i.e., as audit efficiency increases audit hours decrease and audit fee per hour increases). The finding from Dopuch et al. (2003) highlights problems with using actual hours to estimate audit fees. Our use of expected audit hours mitigates the potential confounding effect of audit production inefficiency on audit pricing.

Considering that audit planning at the beginning of engagement is performed based on the prior-period audit program (and prior-period audit hours) adjusted for the current-period, we borrow the partial adjustment model used in finance literature (e.g., Banerjee, Dasgupta, and Kim 2008) and estimate the following model:

$$LnAHOUR_{it} = \beta_0 + \beta_1 LAG\_AHOUR_{it} + CONTROLS + \mu_{it} \qquad (1)$$

Where LnAHOUR is the natural log of actual audit hours for the fiscal year. Model (1) uses LAG_AHOUR, the previous year's audit hours, and a vector of independent controls (CONTROLS) that affect audit hours (LnAHOUR). This audit hour estimation model aligns with Caramanis and Lennox (2008) who use a two-stage model to control for endogeneity associated with audit hours and test the joint influence of audit fees and audit hours. To the extent that prior-period audit hours are correlated with current-period audit hours but unlikely to be directly related to current-period audit fees, this approach helps us identify the concurrent association between abnormal audit fees and audit quality.

To consider audit complexity and the amount of audit resources required to perform the audit engagement, we include *SIZE*, *GROWTH*, *LEV*, *INVREC*, *EXPERT*, *SUBS*, *KSE* and

LIQUID in the model. To proxy for inherent risk arising from a firm's financial performance, we include *ROA* and *LOSS*. In addition, *ISSUE* and *OPIN* are included to control for engagement-specific factors affecting earnings management risk and the demand for auditor scrutiny. To control for potential discounting of fees such as in low-balling, we include *INITIAL*. *BIG4* is an auditor-level variable influencing the client-auditor relationship affecting audit fee determination. We calculate the expected audit hours as the fitted hours presented as follows:

$$Expected\ Audit\ Hours\ (EXP\_AHOUR) = \boldsymbol{X}\widehat{\beta_\iota} \quad (2)$$

Estimation of Abnormal Audit Fee

We build our audit fee model to separate the audit fee into its normal and abnormal components following prior studies (e.g., Choi et al. 2010; Asthana and Boone 2012; Eshleman and Guo 2014). The abnormal audit fee is the residual from the following model:

$$\begin{aligned} LnAFEE_{it} = {} & \alpha_0 + \alpha_1 EXP\_AHOUR_{it} + \alpha_2 SIZE_{it} + \alpha_3 GROWTH_{it} + \alpha_4 ROA_{it} + \alpha_5 LEV_{it} + \\ & \alpha_6 INVREC_{it} + \alpha_7 EXPERT_{it} + \alpha_8 LOSS_{it} + \alpha_9 BIG4_{it} + \alpha_{10} SUBS_{it} + \alpha_{11} KSE_{it} \\ & + \alpha_{12} LIQUID_{it} + \alpha_{13} ISSUE_{it} + \alpha_{14} OPIN_{it} + \alpha_{15} INITIAL_{it} + \alpha_{16} HERF_{it} + \\ & Industry\ \&\ Year\ Dummies + \varepsilon_{it} \end{aligned} \quad (3)$$

This audit fee model mirrors the fee determinants described in prior audit fee literature (Simunic 1980; Hay et al. 2006; Hay 2013). Notably, we add expected audit hours to control for planned audit effort. In the Korean audit market, companies budget audit hours during the planning stage to incorporate the assessed risk of a client. This risk is considered an important production cost during the audit fee negotiation.[14] As such, we use expected hours (EXP_AHOUR), calculated using equation (2) above because audit fees are determined at the beginning of an engagement

[14] Since 2011, the Korean Institute of Certified Public Accountants (KICPA) has been issuing to its member audit firms a guideline for the standard audit hours by industry and asset size. Further, AEA was revised in September 2018 to grant an authority for KICPA to promulgate the standard audit hours (§16.2) and require an auditor designation when an audit engagement's audit hours are significantly lower than the standard audit hour (§11.1).

(Krishnan and Wang 2015) and therefore are likely to be based on expected rather than actual hours.[15]

Control variables for model (3) are identical to model (1) with one exception; the Herfindahl index, which is a part of the audit fee model, is not included in equation (1). As Pearson and Trompeter (1994) argue, higher audit market concentration may reflect a higher level of price competition in the audit market, which may not necessarily affect auditor's planning for the scope and extent of audit procedures. Therefore, we include *HERF* in the audit fee estimation, not in the estimation of audit hours.

Empirical Models and Variables

Discretionary Accruals Model

As previously discussed, our first proxy for audit quality is absolute discretionary accruals (ABS_DACC). As the same company may be a part of our sample more than once resulting in clustering, and because clustering can lead to an overestimation of significance levels and underestimation of standard errors, we adjust for clustering using robust standard errors corrected for firm-level clustering based on prior literature (Asthana and Boone 2012; Cameron et al. 2011). We use the following linear regression model where ABS_DACC is the absolute value of the residual from our performance adjusted modified Jones model (Kothari, Leone, and Wasley 2005):

$$\begin{aligned} ABS\_DACC_{it} = {} & \alpha_0 + \alpha_1 HIABNAFEE + \alpha_2 LOABNAFEE + \alpha_3 EXP\_AHOUR_{it} + \\ & \theta_1 INFLUENCE_{it} + \theta_2 SIZE_{it} + \theta_3 SIZE\_SQ_{it} + \theta_4 GROWTH_{it} + \\ & \theta_5 SALES\_VOL_{it} + \theta_6 CFOO_{it} + \theta_7 CFO\_VOL_{it} + \theta_8 LEV_{it} + \\ & \theta_9 BTM_{it} + \theta_{10} ISSUE_{it} + \theta_{11} BIG4_{it} + \theta_{12} ROA_{it} + \theta_{13} EXPERT_{it} + \\ & \theta_{14} RET\_VOL_{it} + \theta_{15} HERF_{it} + Industry\ \&\ Year\ Fixed\ Effects + \varepsilon_{it} \end{aligned} \tag{4a}$$

[15] In unreported regressions, we use both contemporaneous and lagged actual audit hours instead of the expected audit hours in the audit fees estimation. Using these alternative specifications, we find similar audit quality results.

Where high abnormal audit fees (HIABNAFEE) and low abnormal audit fees (LOABNAFEE) are the absolute values of the positive and negative residuals from model (3). That is, abnormal audit fees are separated into a high and low component, similar to Asthana and Boone (2012). If residuals from equation (3) are greater than 0, then HIABNAFEE equals the absolute value of the residual and 0 otherwise. If the residuals from equation (1) are less than or equal to 0, then LOABNAFEE equals the absolute value of the residual and 0 otherwise.

We also include the expected audit hours (EXP_AHOUR) in our estimation model. By including EXP_AHOUR, we control for the direct effects of planned audit hours on discretionary accruals. This allows us to examine further the nature of the effects of abnormal audit fees on audit quality in the Korean audit market.

In model (4), we control for client and auditor factors previously associated with discretionary accruals and earnings management incentives based on Choi et al. (2010) and Asthana and Boone (2012). Because larger companies have been shown to be positively associated with audit quality, we control for company size using the variable SIZE and SIZE_SQ. We include the variables GROWTH, SALES_VOL, CFOO, CFO_VOL, and RET_VOL to control for any client growth, cash flow, and other volatility that may have an effect on audit quality by increasing or decreasing earnings management pressure. For example, Hribar and Nichols (2007) find evidence to suggest that certain company characteristics associated with revenue volatility (SALES_VOL) and cash flow volatility (CFO_VOL) are positively associated with discretionary accruals. We control for firm performance (BTM and ROA) as previous research has shown a positive association between performance and discretionary accruals (Kothari et al. 2005). We use our final client factors to control for potential debt covenant incentives or financing incentives to manage earnings; therefore, we include a variable for leverage (LEV). We include the variable ISSUE to control for past issuances of equity or long-term debt (Choi et al. 2010).

Next, we control for auditor related characteristics that have been shown to affect audit quality. First, we control for the effects of Big 4 auditors and industry experts as previous research has shown an association between these variables and audit quality. We also control for client influence (INFLUENCE). Previous research shows auditors treat larger clients more conservatively (Asthana and Boone 2012). We implement our final control variable (HERF) to control for the potential effects of auditor concentration on audit quality (Boone et al. 2012; Kallapur et al. 2010).

We then estimate the effect of abnormal audit fees on the absolute value of negative (ABS_N_DACC) and positive (ABS_P_DACC) discretionary accruals separately. We use a truncated regression model, which results in the following equations:

$$ABS\_N\_DACC_{it} = \alpha_0 + \alpha_1 HIABNAFEE + \alpha_2 LOABNAFEE + \alpha_3 EXP\_AHOUR_{it} + CONTROLS + \varepsilon_{it} \quad (4b)$$

$$ABS\_P\_DACC_{it} = \alpha_0 + \alpha_1 HIABNAFEE + \alpha_2 LOABNAFEE + \alpha_3 EXP\_AHOUR_{it} + CONTROLS + \varepsilon_{it} \quad (4c)$$

The CONTROLS, including industry and year dummies, in equations (4b) and (4c) are the same as in equation (4a). We separate discretionary accruals into positive (ABS_P_DACC) and negative (ABS_N_DACC) to estimate the effect of abnormal audit fees on income-increasing and income-decreasing accruals. Generally, income-increasing accruals are more likely to be the source of disagreement between clients and auditors (Caramanis and Lennox 2008; DeFond and Jiambalvo 1993). Accordingly, if abnormal audit fees represent economic rent for the auditor, then HIABNAFEE will be positively associated with income increasing discretionary accruals (ABS_P_DACC), and not necessarily with income-decreasing accruals

(ABS_N_DACC), suggesting that auditors become more tolerant of the client's aggressive financial reporting behavior to secure their economic rent. If abnormal audit fees capture the effect of a market pricing mechanism that incentivizes the level of audit effort or the quality of audit effort provided, then LOABNAFEE will be positively associated with income increasing discretionary accruals (ABS_P_DACC).

Meet or Beat Model

As previously noted, our second test of audit quality is the meet or beat earnings benchmark (MBEX). While a firm may report higher earnings than analysts' forecasted earnings due to an unexpected performance improvement rather than earnings management, Dichev, Graham, Harvey, and Rajgopal (2013) present survey and interview results from financial executives showing that the internal and external pressure to hit earnings benchmarks emerges as one of the primary reasons for earnings management. In this analysis, we test the effects of abnormal audit fees on the propensity of firms to meet or beat analyst's earnings forecast (MBEX). As an alternative threshold for the meet or beat test, we also use the meet or beat earnings forecast by a small margin of 100 Korean won (MBEX100). In addition, we use the meet or beat prior-year earnings by 0.1% of total assets as an alternative earnings benchmark (MBEX_PRIOR01). Because our dependent variable is a dummy variable, we estimate a probit model, resulting in the following specification:

$$\begin{aligned} MBEX_{it} = {} & \alpha_0 + \alpha_1 HIABNAFEE + \alpha_2 LOABNAFEE + \alpha_3 EXP\_AHOUR_{it} + \theta_1 lnMVE_{it} + \\ & \theta_2 GROWTH_{it} + \theta_3 SALES\_VOL_{it} + \theta_4 CFOO_{it} + \theta_5 CFO\_VOL_{it} + \theta_6 BTM_{it} \\ & + \theta_7 ROA_{it} + \theta_8 LEV_{it} + \theta_9 ISSUE_{it} + \theta_{10} BIG4_{it} + \theta_{11} INFLUENCE_{it} + \\ & \theta_{12} EXPERT_{it} + \theta_{13} lnNUMEST_{it} + \theta_{14} EST\_Std_{it} + Industry\ \&\ Year\ Fixed \\ & Effects + \varepsilon_{it} \end{aligned} \tag{5}$$

Our test variables and control variables for model (5) are similar to those in model (4a) above with the addition of the following control variables specifically associated with meet or beat analysis: the natural log of the number of analysts following (lnNUMEST) and forecast dispersion (EST_Std). These variables control for the characteristics of forecasts that have been shown to be associated with a firm's propensity to meet or beat earnings.

IV. EMPIRICAL RESULTS

Univariate Results

Descriptive Statistics

In Table 2, we report the descriptive statistics of the samples we use in our empirical tests. In our sample, the mean (median) of audit fees (in Korean Won) and audit hours are ₩63,225,793 (₩56,760,000) and 715 hours (651 hours), respectively. Because these variables are right-skewed in their distribution, we log-transformed both audit fees and audit hours for our empirical tests, which show the mean (median) of *LnAFEE* and *LnAHOUR* as 17.962 (17.854) and 6.572 (6.479), respectively.[16] Similar to the U.S. audit market, global Big 4 accounting firms (BIG4) show dominance—though in a lesser degree compared to the U.S.—by comprising more than 50% of the audit market.

[Insert Table 2 about here]

Correlations Analysis

In Table 3, we report the correlation between the variables used in our main regressions. The table shows that the correlation between low abnormal audit fees and absolute discretionary accruals is positive and significant. Furthermore, this correlation is largely driven by positive

[16] Kwon et al. (2014) report that, for the sample period of years 2000-2009, the mean (median) of audit fees and audit hours is ₩78,824,000 (₩52,000,000) and 854 hours (550 hours), respectively.

accruals. The low abnormal audit fee is also positively correlated with the propensity to meet or beat the earnings target (MBEX). In contrast, we do not find any significant correlations between positive abnormal audit fees and discretionary accruals, including both positive and negative, and the propensity to meet or beat earnings target. The correlations show that clients are more likely to engage in earnings increasing accruals and to meet or beat earnings targets when auditors are paid less than normal audit fees. The confounding variable problem is likely to affect the results of the correlations. Thus, to mitigate this problem, we use multiple regressions.

[Insert Table 3 about here]

Regression Results

Audit Hours and Audit Fees Determinant Models

In Table 4, we provide the results on the determinants of audit hours and audit fees. In column (1), we show audit hour variables and, as expected, the lagged value of audit hours (LAG_AHOUR) is significant and positively associated with contemporaneous audit hours (AHOUR). The LAG_AHOUR coefficient (0.708) is similar to that of Caramanis and Lennox's (2008) study (0.681). Consistent with existing literature, SIZE of the client is an important determinant of an auditor's effort. We also find that Big 4 and industry expert auditors spend more time on audit engagements. Additionally, auditors spend more hours in the first year of an engagement (INITIAL) indicating higher effort to acquire more client-less client-specific knowledge (Johnson, Khurana, and Reynolds 2002). The signs on the other audit hours' determinant variables align with expectations and existing literature.

In column (2), we report audit fee determinants. The control variables included in this column are the same as in column (1) with a few exceptions; we exclude LAG_AHOUR and include the expected value of audit hours (EXP_AHOUR). Additionally, we add a Herfindahl index (HERF) in determining audit fees so that a higher audit market concentration may reflect a higher level of price competition in the audit market (Pearson and Trompeter 1994). The results show that expected audit hours are positively correlated with the log of audit fees, indicating that higher expected audit effort results in auditors negotiating higher audit engagement fees. The results related to other controls are consistent with existing research. The sign and significance level of SIZE is consistent with existing literature ($\beta = 0.265$, $p < 0.01$), indicating that larger clients pay higher fees. Additionally, Big 4 ($\beta = 0.025$, $p < 0.01$) and industry expert ($\beta = 0.018$, $p < 0.01$) auditors also charge significantly higher audit fees. We also find that audit fees for the first year of an engagement are significantly less, indicating a low-balling effect. The coefficients on firm performance measures are consistent with our expectations, ROA is negative and significant ($\beta = -0.098$, $p < 0.01$), and LOSS is positive and significant ($\beta = 0.034$, $p < 0.01$). Overall, the coefficients on control variables are largely consistent with existing research.

[Insert Table 4 about here]

Absolute Discretionary Accruals Regressions

Table 5 presents the results of our discretionary accruals tests. In the first column, we report our results of the absolute value of discretionary accruals as the dependent variable using an ordinary least squares (OLS) regression. In the second and third columns, we estimate maximum likelihood truncated regression models where the dependent variable is the absolute value of negative accruals in column (3) and the absolute value of positive accruals in column (3).[17] All models include industry and year dummies with standard errors adjusted for heteroskedasticity and clustered by firm. Our variables of interest in all three columns are high

[17] We use truncated regression models because the OLS estimates are biased toward zero (Maddala 1983, see Myers, Myers, and Omer (2003) for application in accounting literature). Nonetheless, in unreported regressions, we also estimate regressions using OLS, and our results are qualitatively similar.

(HIABNAFEE) and low (LOABNAFEE) abnormal fees (calculated as the residual from model (1). The adjusted R^2 of the model is approximately 21%.

Results in column (1) show that LOABNAFEE is positive and significantly associated with the absolute value of discretionary accruals ($\beta = 0.009$, $p < 0.05$), indicating an increase in the magnitude of a client's abnormal accruals as audit fees paid to the auditor decrease further below a normal level. The coefficient on HIABNAFEE is positive and insignificant ($p > 0.10$). This result suggests that the audit fee premium paid to auditors has no effect on the magnitude of discretionary accruals. We also include the expected audit hour (EXP_AHOUR) to control for any direct effect of audit hours on discretionary accruals. We find that the coefficient of EXP_AHOUR is -0.004 and significant at $p < 0.05$, reflecting the direct effect of audit effort on improving audit quality. The control variables for model (1) that are significant are GROWTH, CFO_VOL, LEV, ISSUE and EXPERT. Each of these variables shows a positive association suggesting, for example, that an increase in growth will increase absolute discretionary accruals.

Next, we use a truncated regression model in which the dependent variable equals the magnitude of negative accruals in column (2). The results from this estimation show that neither HIABNAFEE nor LOABNAFEE are significantly associated with the magnitude of negative accruals. Furthermore, we find that EXP_AHOUR is negative and significant ($p < 0.05$). Among the control variables, CFOO, CFO_VOL and ISSUE are positive and significant, while ROA is negative and significant.

Finally, in column (3), we report our results with the magnitude of positive accruals as the dependent variable. The results from this model show that HIABNAFEE is not significantly associated with the magnitude of positive accruals. The coefficient of LOABNAFEE is 0.009 and significant ($p < 0.05$). As in the first two columns, expected audit hours continue to remain negative and significant ($p < 0.01$). Overall, the results from Table 3 show that when auditors are compensated below a normal level, clients have significantly higher income increasing discretionary accruals but not income-decreasing accruals. This finding proves to be consistent with Ettredge et al. (2014) arguing that downward audit fee pressure drives audit quality lower. However, when auditors are paid a premium, there does not seem to be an effect on either positive or negative discretionary accruals. Additionally, audit hours remain consistently negative and significant across the three models. This result displays consistency with Caramanis and Lennox (2008), indicating that audit effort improves audit quality.

[Insert Table 5 about here]

Meet or Beat Regression

Our second proxy for audit quality, meet or beat, begins with the testing of model (5) and the results shown in Table 6. Similar to our discretionary accruals tests, we present the results of our meet or beat tests with the inclusion of our EXP_AHOUR variable. These results show a positive and significant association between LOABNAFEE and MBEX while no significant association is found for HIABNAFEE. The coefficients of LOABNAFEE are 0.530 ($p < 0.01$), 0.472 ($p < 0.05$), and 0.831 ($p < 0.05$) when MBEX, MBEX100, and MBEX_PRIOR01 are used as dependent variables, respectively.

[Insert Table 6 about here]

Overall, our results reflect a positive association between the absolute value of negative abnormal audit fees and our proxies (absolute discretionary accruals and meet or beat) for audit quality. Furthermore, there is no association between the absolute value of positive abnormal audit fees and audit quality. These results suggest that for engagements with below “normal” audit fees audit quality is negatively affected.

Robustness Test

The mandatory audit firm rotation implemented temporarily during the years 2006–2010 demonstrates a unique institutional event that occurred within the Korean audit market. While the mandatory audit firm rotation policy intends to increase auditor independence and inject the benefit of a "fresh look" by adding term limits, it exists as a regulatory intervention disrupting the market-induced auditor-client relationship. Lim and Tan (2010) suggest that an auditor's economic dependence on the client affects the relationship between auditor tenure and audit quality. If that is the case, to the extent that abnormal audit fees foster an auditor's economic dependence on a client, then it is possible that the relationship between abnormal audit fees and audit quality is disrupted when auditor tenure is reset due to the mandatory audit firm rotation. Kwon, Lim, and Simnett (2014) report that audit fees in the Korean audit market generally increase after the implementation of mandatory rotation policy, increasing concerns that the audit pricing mechanism changed during this period. Therefore, as a sensitivity check, we repeat our tests of discretionary accruals and meet or beat analyst forecasts by using a restricted sample from the years 2006–2010 and find significantly similar results (the results are untabulated for brevity).

We also use alternative measures of abnormal audit fees. First, we control for audit firm-specific audit pricing policy by modifying model (3) to include the audit firm fixed effects. This specification potentially controls for factors such as audit firm expertise and reputation that can influence audit pricing decisions. In the second measure, we use an alternative model to calculate expected audit hours (*EXP_AHOUR*). Specifically, we regress current period audit hours on prior period audit hours and changes in audit hour determinants to provide an estimate of the expected audit hours. In other words, the audit hour estimation model includes lagged audit hours plus change values for the control variables. We include the alternative measure of expected audit hour (*EXP_AHOUR*) in the calculation of unexpected audit fees in equation (3). Finally, combining the above two alternatives produces the third alternative of unexpected audit fees. That is, we include not only audit firm fixed effects but also the alternative expected audit hours in equation (3) to estimate abnormal audit fees. We re-run our audit quality regressions (equations 4a, 4b, 4c and 5) using these alternative measures of abnormal audit fees. Our results remain consistent with the data reported in tables 5 and 6 (the results are untabulated for brevity).

We also perform additional robustness tests to control for variables that are likely to influence abnormal audit fees. First, we control for the effect of non-audit fees on audit quality. We add the natural log of non-audit fees paid to the auditor as an additional control variable to our baseline model. We find our results related to the relationship between unexpectedly lower audit fees and audit quality remain similar. Specifically, the coefficients on LOABNAFEE are positive and significant ($p < 0.05$) in both variables when we use discretionary accruals and positive accruals as dependent variables (consistent with the reported results). Further, we find the coefficient on LOABNAFEE is positive and significant ($p < 0.01$) in a probit model with MBEX as the dependent variable. Second, we add a variable of client importance to our baseline model and rerun the regression models. Again, the estimates on LOABNAFEE remain positive and significant at the 5% level or better across both accruals and meet or beat models. Finally, we add auditor tenure to the baseline model finding that our inferences remain the same.

Propensity-Score Matched Sample

In unreported analysis, we perform propensity-score matching (PSM) to confirm our findings. Although we control for client firm's attributes in the test of the relationship between discretionary accruals and abnormal audit fees, Armstrong, Jogolinzer, and Larcker (2010) argue that the misspecification of the functional form of the relationship between variables (including controls) and the outcome may lead to biased results. This may affect our inferences, particularly related to discretionary accruals that have been shown to be influenced by client characteristics such as size (Lawrence, Minutti-Meza, and Zhang 2011).

To mitigate this concern, Armstrong et al. (2010) suggest that a PSM design is more robust because it does not rely on a specific functional form of covariates. In forming the PSM sample, we restrict our matches within the caliper of 0.01 and match with replacement (Morgan and Harding 2006). We first estimate a PSM model for the probability of abnormally low audit fees conditional on observable characteristics of audit quality including industry and year controls on a sample that includes the lowest (i.e., negative abnormal fees) and the four highest deciles (i.e., positive abnormal fees) of abnormal audit fees. We use the four highest deciles with enough observations to allow the procedure to have a reasonable covariate balance. This process results in a matched pairs treatment and control sample with the smallest possible propensity score differences.

Second, we examine the relationship between abnormally low audit fees and discretionary accruals by assessing whether there is a significant difference in discretionary accruals between treatment and control sample. Using a sample of 1,720 observations, we find that abnormally low audit fees continue to be significantly correlated with discretionary accruals ($\beta = 0.008$, $p < 0.05$). The percentage correctly classified as low or high abnormally audit fees for this analysis is 90.62 and the area under the ROC curve is 0.865 when the absolute value of discretionary accruals are used as the dependent variable. When the absolute value of negative (positive) discretionary accruals are used, the percentage correctly classified and the area under the ROC curve is 90.93 (89.74) and 0.857 (0.883), respectively. We then proceed to use a similar procedure for abnormally positive and negative accruals, separately. Again, we find results similar to those reported in Table 3, a significant association between low abnormal audit fees and discretionary accruals for the positive accruals sample ($\beta = 0.015$, $p < 0.01$) but no association for the negative sample ($\beta = -0.006$, $p > 0.10$). The percentages correctly classified as low or high abnormally audit fees are 90.63 and 89.74, respectively for positive and negative abnormal accruals models.

Further, considering the importance of client-size as a factor influencing discretionary accruals, we separately construct a matched sample based on size, industry and year using the sample defined above. Again, we find similar results. In both matching procedures, the difference in size between treatment and control samples is insignificant.

Supplementary Analyses

Moderating Effects of Abnormal Audit Fees and Audit Effort

We provide additional insights into the moderating effect of unexpected audit effort and unexpected audit fees on audit quality. We conduct this analysis to understand what happens to audit quality, for example, when audit effort is higher than expected effort but audit fees are lower than expected. To conduct this analysis, we first divide separately the unexpected audit fees and hours into three parts (i.e., terciles) and then, based on terciles, categorize our data into four groups: both audit hours and audit fees are higher than expected (i.e., both in the top tercile) (*Group 1*), audit fees are higher than expected but audit hours are lower than expected *(Group 2*), audit fees are lower than expected but audit hours are higher than expected (*Group 3*), and finally both audit fees and audit hours are lower than expected (*Group 4*). The intercept in this regression analysis are observations that fall in the middle terciles of audit fees and audit hours.

We first conduct the regression analysis for the full sample using OLS where the dependent variable is abnormal accruals after including the four dummies for the four groups defined above, all controls included in equation (4a), and industry and year dummies. As reported in Table 7, we find the coefficient on *Group 2* (high abnormal audit fees and low abnormal audit hours group) to be negative and marginally significant (β= -0.004, $p < 0.10$). The coefficients on the indicators for the other three groups remain statistically insignificant. We then separately estimate truncated regression models for negative (equation 4b) and positive (equation 4c) accruals as dependent variables. We find that the coefficients on all four groups remain statistically insignificant when the dependent variable is negative accruals. Finally, when we use positive accruals as the dependent variable, we find the coefficients on *Group 3* (β= 0.003, $p < 0.10$) and *Group 4* (β= 0.003, $p < 0.05$) to be positive and significant. The results suggest that unexpected lower audit fees when both audit effort is lower and higher than expected largely influence our main results. The coefficients on *Group 1* and *Group 2* are negative but insignificant. The results using the second proxy of audit quality (MBEX, MBEX100, and MBEX_PRIOR01), presented in Table 8, remains similar to those of positive accruals, i.e., coefficients on *Group 3* and Group 4 are positive and significant, although we do not find consistent results with MBEX_PRIOR01 as a dependent variable. Overall, these results suggest that lower than unexpected audit fees irrespective of unexpected audit hours largely drive reductions in audit quality.

[Insert Tables 7 and 8 about here]

As Causholli (2016) shows, auditors may experience "learning by doing" and accumulate client-specific knowledge and experience as their tenure increases, which enables the fewer hours expended by an audit team in completion of an engagement. If so, the significant association of the audit quality proxies with low abnormal audit fees under high abnormal audit hour (Group 3) reported in Tables 7 and 8 might be attributable to the disrupted learning occurred to the short-tenure auditors, rather than the influence of abnormally low audit fees. To rule out this alternative explanation, we re-estimate the models in Tables 7 and 8 after interacting auditor tenure measures with each group. In this test, we measure auditor tenure as (i) an indicator variable for short-tenure equal to one when the tenure is less than 3 years consistent and zero otherwise (Johnson et al. 2002) and (ii) a continuous variable representing the number of consecutive years serving as an auditor (Myers et al. 2003). In both discretionary accruals tests and the meet or beat tests, we fail to find a significant coefficient for the interaction variable between auditor tenure measures and group indicators, although not tabulated for brevity. This lack of significance, in particular with Group 3, may indicate that our findings are not driven by the effect of auditor's learning by doing.

Specialist Auditor

While specialist auditors with industry expertise often receive higher audit fees (Francis, Reichelt, and Wang 2005; Fung, Gul, and Krishnan 2012), Bae et al. (2016) argue that higher audit fees paid to specialist auditorss in the Korean market are attributable to greater audit hours rather than higher audit fee per hour (i.e., premium rate). Specifically, Bae et al. (2016) find that—while auditor expertise is positively associated with total audit fees—the expertise is negatively associated with audit fees per hour. To validate their finding, we first compare the mean of audit fees, audit hours, and audit fees per hour (i.e., unit price) by an auditor's specialist status. Consistent with Bae et al. (2016), we find that the mean of audit fees and hours for specialist auditors are higher and their unit price is lower compared to those of non-specialist auditors, as summarized in Table 9 Panel A.

Further, we compare the mean of audit unit price by specialist status and by the sign of abnormal audit fees. In Table 9 Panel B, we find the phenomenon of lower audit unit price for specialist auditor is more distinct when abnormally high audit fees are paid. When we compare the unit price difference between specialist and non-specialist auditors across positive and negative abnormal fee groups, we find that the non-specialist auditor's unit price is significantly higher when abnormally high fees are paid ($Diff._{HIABNAFEE} - Diff._{LOABNAFEE}$ = 0.0450, p-value = 0.007). This result suggests that positive abnormal audit fees are more prevalent to non-specialist auditors, which is consistent with the insignificant association between positive abnormal fees and audit quality proxies in our previous tests. That is, to the extent that non-specialist auditors in the Korean market drive positive abnormal audit fees, expecting that positive abnormal fees fail to induce higher audit quality due to the lack of expertise of non-specialist auditors seems reasonable.

[Insert Table 9 about here]

Moderating Effect of Big4 and Industry Specialist Auditor

In the final set of supplementary analyses, we test whether the presence of BIG4 or industry specialist auditors moderates the relationship between abnormal audit fees and audit quality. To test this, we interact BIG4 and industry specialist dummies with both HIABNAFEE and LOABNAFEE. First, we test the moderating effect of BIG4. Our tests show no significant evidence of an interaction effect, i.e., the coefficients of both interaction terms (BIG4*HIABNAFEE and BIG4*LOABNAFEE) are insignificant ($p > 0.10$). We repeat this process to test the moderating effect of industry specialist auditor (EXPERT*HIABNAFEE and EXPERT*LOABNAFEE). Again, we do not find an interaction effect ($p > 0.10$); thus, we only briefly discuss these results and do not formally tabulate them in this paper.

V. CONCLUSION

In our study, we re-examine the effects of abnormal audit fees, the portion of audit fees unexplained by observable fee determinants, on audit quality using a sample from the Korean audit market. Using expected audit hours as our proxy for planned auditor effort, we purge our metric of abnormal audit fees on the effect of expected (therefore more observable) audit effort, enabling abnormal fees to represent either unexpected economic profit or unexpected audit effort of an incumbent auditor more clearly. By employing the magnitude of discretionary accruals and the likelihood of meeting or beating analyst earnings forecasts as inverse measures of audit quality, we find that abnormally low audit fees are negatively associated with audit quality but abnormally high audit fees show no such association. In addition, we find that the relationship of abnormally low audit fees to discretionary accruals and the likelihood of meeting or beating analyst earnings forecasts persists at both abnormally high and low levels of audit hours. These findings may indicate that an auditor's fee pressure arising from abnormally low audit fees would provoke either an inadequate investment of audit hours or the deployment of less experienced audit personnel, leading to lower audit quality. To this extent, our findings may suggest that an auditor's resource allocation decisions including both audit hours and the labor mix of an audit team are made after considering the overall profitability of an engagement. Overall, our findings are consistent with the view that abnormal audit fees can capture unobserved audit production costs even after controlling for audit hours representing the amount of audit effort.

We also find evidence suggesting that the insignificant association between positive abnormal audit fees and audit quality might be attributable to non-specialist auditors receiving greater abnormal audit fees but failing to provide higher quality audit services. Collectively, our study contributes further evidence to abnormal audit fee research and, in particular, key evidence as to the detrimental effect of abnormally low audit fees on audit quality. To the extent that low audit fees induce the “corner-cutting” behavior of auditors, our study offers implications for regulators and audit committee members because auditor selection based on the lowest-bidder criteria may lead to lower audit quality.

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Appendix A. Variables Definition.

Test Variables

LnAFEE	Natural log of audit fees paid to incumbent auditors
LnAHOUR	Natural log of audit hours
ABN_AFEE	Abnormal audit fees calculated by estimating the following audit fee model
HIABNAFEE	Positive ABN_FEE. If ABN_AFEE is negative, converted to zero
LOABNAFEE	The absolute value of the negative ABN_ACC. If ABN_ACC is positive, converted to zero
HIAFEE_HIAHR	Indicator variable equals 1 when a firm's abnormal audit fees fall into the top tercile and its unexpected audit hours fall into the top tercile (Group 1)
HIAFEE_LOAHR	Indicator variable equals 1 when a firm's abnormal audit fees fall into the top tercile and its unexpected audit hours fall into the bottom tercile (Group 2)
LOAFEE_HIAHR	Indicator variable equals 1 when a firm's abnormal audit fees fall into the bottom tercile and its unexpected audit hours fall into the top tercile (Group 3)
LOAFEE_LOAHR	Indicator variable equals 1 when a firm's abnormal audit fees fall into the bottom tercile and its unexpected audit hours fall into the bottom tercile (Group 4)
EXP_AHOUR	Expected audit hour calculated as the expected value from the model (1)

Dependent Variables

ABN_ACC	Discretionary Accruals estimated by using a performance-adjusted model following Kothari et al. (2005)
ABS_DACC	Absolute value of (ABN_ACC)
ABS_P_DACC	Positive ABS_DACC, equals to ABN_DACC when ABN_DACC > 0
ABS_N_DACC	Negative ABS_DACC, equals to the absolute value of ABN_DACC when ABN_DACC < 0
MBEX	Indicator variable equals 1 when a firm's announced earnings are greater than the analyst consensus earnings forecast
MBEX100	Indicator variable equals 1 when a firm's announced earnings are greater than the analyst consensus earnings forecast by the margin of 100 Korean Won or less
MBEX_PRIOR01	Indicator variable equals 1 when a firm's announced earnings are greater than the prior period's earnings by 0.1 percent of total assets

Control Variables

BIG4	1 if the auditor is one of the Big 4, and 0 otherwise
BTM	The ratio of book value to market value of equity
CFO_VOL	The volatility of CFOO over 5 years
CFOO	Operating cash flows divided by total assets
EST_Std	The standard deviation of analysts' earnings forecasts
EXPERT	An indicator variable equals to 1 when the clients' aggregated industry market share is greater than 20% and 0 otherwise.
GROWTH	Annual sales growth
HERF	Herfindahl index of the audit market, calculated by summing the squared market share of each audit firm for each year
INFLUENCE	Natural log of AFEE divided by aggregate audit fee revenue of an audit firm
INITIAL	1 if the auditor is in the first year of the audit engagement, 0 otherwise
INVREC	Inventory plus receivables divided by total assets
ISSUE	Equity and debt issued divided by total assets

KSE	An indicator variable equals to 1 if an auditee is listed on Korea Stock Exchange (KSE) and 0 if listed on Korean Securities Dealers Automated Quotations (KOSDAQ)
LEV	Total debts divided by total assets
LIQUID	Current assets divided by current liabilities
LnMVE	Natural log of the market value of common stock at the fiscal year end
LnNUMEST	Natural log of analysts following
LOSS	An indicator variable equals to 1 if net income is negative and 0 otherwise
OPIN	An indicator variable equals to 1 if the auditor issues a modified opinion and 0 otherwise
RET_VOL	Annual volatility of stock returns
ROA	Net Income divided by lagged total assets
SALES_VOL	The volatility of sales over 5 years
SIZE	Natural log of total assets
SIZE_SQ	SIZE squared
SUBS	Natural log of the number of subsidiaries

TABLE 1: Sample

Panel A: Sample Selection	Number of Firms	Number of Firm-Years
Observations in nonfinancial industries in KIS Value database	1,599	15,687
Less: Requirement of the minimum 10 observations per industry-year	(114)	(1,302)
Missing audit fees and/or audit hours data	(109)	(2,738)
Missing observations for control variables	(24)	(1,474)
Final Sample	1,352	10,173
Less: Missing analyst forecast data	(449)	(6,762)
Meet or Beat Test Sample	903	3,411

Panel B: Sample Distribution by Year

Year	Firm-Years	%
2003	672	6.61
2004	748	7.35
2005	841	8.27
2006	994	9.77
2007	1,048	10.30
2008	1,079	10.61
2009	1,128	11.09
2010	1,178	11.58
2011	1,230	12.09
2012	1,255	12.34
Total	10,173	100

TABLE 2: Descriptive Statistics

Variables	N	Mean	Std. Dev.	Quartile 1	Median	Quartile 3
<u>Discretionary Accruals Test Sample</u>						
ABS_DACC	10,173	0.068	0.064	0.022	0.049	0.092
HIABNAFEE	10,173	0.143	0.202	0.000	0.016	0.245
LOABNAFEE	10,173	0.130	0.195	0.000	0.000	0.218
EXP_AHOUR	10,173	6.566	0.691	6.167	6.478	6.874
HIAFEE_HIAHR	10,173	0.153	0.360	0.000	0.000	0.000
HIAFEE_LOAHR	10,173	0.081	0.273	0.000	0.000	0.000
LOAFEE_HOAHR	10,173	0.076	0.266	0.000	0.000	0.000
LOAFEE_LOAHR	10,173	0.144	0.351	0.000	0.000	0.000
INFLUENCE	10,173	-5.702	0.896	-6.353	-5.921	-5.203
SIZE	10,173	25.619	1.415	24.660	25.324	26.289
SIZE_SQ	10,173	658.366	74.700	608.111	641.291	691.105
GROWTH	10,173	0.136	0.422	-0.043	0.078	0.216
SALES_VOL	10,173	0.274	0.291	0.097	0.180	0.336
CFOO	10,173	0.043	0.118	-0.006	0.046	0.099
CFO_VOL	10,173	0.087	0.073	0.039	0.066	0.109
LEV	10,173	0.421	0.193	0.267	0.421	0.562
BTM	10,173	0.312	0.393	0.086	0.177	0.371
ISSUE	10,173	0.040	0.095	0.000	0.000	0.032
BIG4	10,173	0.543	0.498	0.000	1.000	1.000
ROA	10,173	0.027	0.128	0.004	0.038	0.083
EXPERT	10,173	0.372	0.483	0.000	0.000	1.000
RET_VOL	10,173	58.955	28.662	42.657	55.115	69.912
HERF	10,173	7.341	9.111	2.183	3.748	6.397
<u>Meet or Beat Test Sample</u>						
MBEX	3,411	0.368	0.482	0.000	0.000	1.000
MBEX100	3,405	0.158	0.365	0.000	0.000	0.000
MBEX_PRIOR01	2,740	0.019	0.136	0.000	0.000	0.000
LnMVE	3,411	26.059	1.652	24.847	25.738	27.015
LnNUMEST	3,411	0.986	1.058	0.000	0.693	1.946
EST_Std	3,411	205.820	485.563	0.000	23.320	186.690

TABLE 3

Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ABS_DACC	1.00														
2	AB_N_DACC	**1.00**	1.00													
3	AB_P_DACC	**1.00**		1.00												
4	MBEX	**0.05**	**0.07**	0.03	1.00											
5	MBEX100	0.01	0.02	0.01	**0.57**	1.00										
6	MBEX_PRIOR01	-0.02	-0.03	-0.02	0.00	0.02	1.00									
7	HIABNAHOUR2	0.00	0.02	-0.02	-0.03	-0.03	0.00	1.00								
8	LOABNAHOUR2	**0.03**	0.00	**0.06**	**0.06**	**0.07**	**0.04**	**-0.47**	1.00							
9	HIAFEE_HIAHR	-0.01	0.01	**-0.03**	**-0.04**	**-0.04**	0.01	**0.57**	**-0.28**	1.00						
10	HIAFEE_LOAHR	0.00	0.00	0.01	0.00	0.01	-0.01	**0.34**	**-0.20**	**-0.13**	1.00					
11	LOAFEE_HIAHR	0.00	0.00	0.00	**0.06**	**0.04**	0.02	**-0.20**	**0.30**	**-0.12**	**-0.09**	1.00				
12	LOAFEE_LOAHR	**0.04**	0.01	**0.07**	**0.04**	**0.04**	-0.02	**-0.29**	**0.52**	**-0.17**	**-0.12**	**-0.12**	1.00			
13	EXP_AHOUR	**-0.09**	**-0.09**	**-0.10**	**-0.09**	**-0.17**	**0.05**	**0.03**	**-0.03**	**0.17**	**-0.17**	0.01	**-0.05**	1.00		
14	INFLUENCE	**-0.07**	**-0.05**	**-0.08**	**-0.06**	**-0.12**	0.04	**0.28**	**-0.28**	**0.24**	**0.04**	**-0.10**	**-0.17**	**0.43**	1.00	
15	SIZE	**-0.12**	**-0.12**	**-0.11**	**-0.07**	**-0.20**	**0.05**	**0.02**	0.00	**0.13**	**-0.08**	0.00	0.02	**0.79**	**0.54**	1.00
16	SIZE_SQ	**-0.11**	**-0.12**	**-0.11**	**-0.07**	**-0.20**	**0.05**	**0.03**	-0.01	**0.14**	**-0.08**	0.00	0.01	**0.80**	**0.54**	**1.00**
17	GROWTH	**0.18**	**0.10**	**0.24**	**0.08**	**0.04**	-0.02	-0.01	**0.02**	**-0.02**	**0.03**	-0.01	**0.08**	**-0.04**	**-0.04**	**-0.02**
18	SALES_VOL	**0.23**	**0.24**	**0.22**	-0.02	0.01	-0.01	0.02	-0.01	0.01	0.00	-0.01	0.02	**-0.09**	**-0.14**	**-0.15**
19	CFOO	**-0.05**	**0.35**	**-0.67**	**0.11**	**0.05**	-0.02	0.00	**-0.03**	0.01	-0.01	0.00	-0.02	**0.06**	**0.04**	**0.11**
20	CFO_VOL	**0.40**	**0.39**	**0.41**	0.02	**0.04**	-0.03	0.01	0.01	-0.01	0.01	-0.01	**0.03**	**-0.14**	**-0.15**	**-0.20**
21	LEV	**0.08**	**0.06**	**0.10**	**-0.09**	**-0.08**	0.03	0.01	0.00	**0.02**	0.00	0.00	**0.02**	**0.22**	**0.16**	**0.23**
22	BTM	0.01	**0.05**	**-0.03**	**-0.07**	0.01	**0.04**	-0.01	**0.04**	-0.01	0.01	0.01	0.01	**-0.07**	**0.04**	**-0.10**
23	ISSUE	**0.19**	**0.17**	**0.21**	**0.09**	0.00	0.01	0.02	0.00	0.01	**0.02**	0.00	0.01	**-0.03**	0.00	**-0.09**
24	BIG4	**-0.04**	**-0.03**	**-0.04**	-0.03	**-0.11**	0.03	**-0.03**	**-0.03**	**0.04**	**-0.04**	-0.01	**0.06**	**0.46**	**0.04**	**0.35**
25	ROA	**-0.05**	**-0.12**	**0.04**	**0.29**	**0.12**	-0.02	**-0.03**	0.00	-0.01	0.01	0.00	0.02	**0.06**	**0.02**	**0.16**
26	EXPERT20	-0.02	-0.02	-0.02	**-0.03**	**-0.06**	0.00	0.01	0.01	**0.03**	0.01	0.01	**0.04**	**0.31**	**-0.07**	**0.25**
27	RET_VOL	**0.15**	**0.14**	**0.15**	0.02	**0.06**	-0.01	**0.04**	**-0.03**	-0.01	**0.06**	-0.01	**-0.03**	**-0.19**	**-0.14**	**-0.29**
28	HERF	**0.08**	**0.12**	**0.03**	0.00	0.03	**-0.05**	**-0.03**	-0.02	-0.02	-0.01	-0.01	-0.02	**-0.08**	**-0.06**	**-0.13**
29	LogMV	**-0.05**	**-0.04**	**-0.05**	**-0.04**	**-0.17**	0.03	**0.10**	**-0.08**	**0.17**	**-0.05**	**-0.03**	**-0.04**	**0.71**	**0.45**	**0.84**
30	LnNUMEST	**-0.05**	-0.02	**-0.10**	**-0.04**	**-0.10**	0.02	**0.18**	**-0.19**	**0.24**	-0.03	**-0.05**	**-0.12**	**0.62**	**0.53**	**0.69**
31	EST_Std	**-0.07**	**-0.07**	**-0.08**	-0.03	**-0.14**	0.00	**0.08**	**-0.08**	**0.12**	**-0.04**	0.01	**-0.06**	**0.42**	**0.34**	**0.47**

		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
16	SIZE_SQ	1.00														
17	GROWTH	**-0.02**	1.00													
18	SALES_VOL	**-0.15**	**0.15**	1.00												
19	CFOO	**0.11**	**0.05**	-0.02	1.00											
20	CFO_VOL	**-0.20**	**0.13**	**0.54**	**-0.10**	1.00										
21	LEV	**0.23**	**0.03**	**0.06**	**-0.18**	0.01	1.00									
22	BTM	**-0.10**	**-0.07**	**-0.09**	**-0.16**	**-0.03**	**0.28**	1.00								
23	ISSUE	**-0.08**	**0.02**	**0.07**	**-0.24**	**0.19**	**0.02**	**0.07**	1.00							
24	BIG4	**0.35**	-0.02	**-0.02**	**0.07**	**-0.06**	**0.05**	**-0.08**	-0.01	1.00						
25	ROA	**0.15**	**0.16**	**-0.02**	**0.43**	**-0.09**	**-0.29**	**-0.32**	**-0.26**	**0.10**	1.00					
26	EXPERT20	**0.25**	-0.02	**-0.05**	**0.05**	**-0.05**	**0.05**	**-0.04**	-0.01	**0.34**	**0.06**	1.00				
27	RET_VOL	**-0.29**	**0.05**	**0.13**	**-0.16**	**0.17**	**0.11**	**0.10**	**0.27**	**-0.12**	**-0.23**	**-0.09**	1.00			
28	HERF	**-0.13**	0.02	**0.19**	**0.07**	**0.16**	**-0.07**	**-0.07**	**0.03**	**-0.04**	0.01	**-0.12**	**0.04**	1.00		
29	LogMV	**0.85**	**0.03**	**-0.07**	**0.15**	**-0.10**	0.00	**-0.37**	**0.02**	**0.33**	**0.23**	**0.24**	**-0.21**	**-0.06**	1.00	
30	LnNUMEST	**0.69**	**-0.04**	**-0.12**	**0.15**	**-0.15**	**0.14**	**-0.09**	0.01	**0.30**	**0.09**	**0.27**	**-0.19**	-0.03	**0.76**	1.00
31	EST_Std	**0.48**	**-0.06**	**-0.10**	0.01	**-0.13**	**0.06**	**-0.11**	0.00	**0.19**	-0.02	**0.16**	**-0.14**	**-0.10**	**0.46**	**0.44**

Correlations significant at 5 % level are presented in bold.
This table provides pairwise correlations between variables used in the main models.
See Appendix A for variable definitions.

TABLE 4

Audit Hour and Audit Fee Determinant Models

	(1) LnAHOUR		(2) LnAFEE	
	Coefficient	t-stat	Coefficient	t-stat
LAG_AHOUR	0.708***	(144.73)		
EXP_AHOUR			0.254***	(35.35)
SIZE	0.079***	(22.35)	0.265***	(64.95)
GROWTH	0.039***	(6.06)	-0.015**	(-2.19)
BIG4	0.094***	(15.05)	0.025***	(3.70)
EXPERT	0.047***	(7.41)	0.018***	(2.61)
ROA	0.046	(1.57)	-0.098***	(-3.12)
LEV	0.061***	(3.05)	0.191***	(8.92)
INVREC	-0.018	(-0.86)	0.008	(0.36)
LOSS	0.035***	(3.85)	0.034***	(3.49)
SUBS	0.025***	(6.22)	0.065***	(15.17)
KSE	0.005	(0.71)	0.023***	(3.10)
LIQUID	-0.000	(-0.25)	-0.001	(-0.41)
ISSUE	0.123***	(3.98)	0.186***	(5.68)
OPIN	-0.015	(-0.27)	0.102*	(1.71)
INITIAL	0.030***	(3.91)	-0.049***	(-5.97)
HERF			-0.001	(-0.82)
Constant	-0.329***	(-4.09)	9.108***	(105.82)
Ind & Year Dummies	Yes		Yes	
No. of Obs.	11647		11647	
Adj. R^2	0.861		0.782	

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively.
This table provides determinant of audit hours and audit fees in columns 1 and 2 respectively. The dependent variable in the log of audit hours in column 1 and the log of audit fees in column 2. All tests are two-sided and t-statistics are presented in parenthesis. Standard errors are robust to heteroscedasticity and clustered by firm.
See Appendix A for variable definitions.

TABLE 5
Discretionary Accruals Tests

	(1) ABS_DACC		(2) ABS_N_DACC		(3) ABS_P_DACC	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
HIABNAFEE	0.001	(0.18)	0.001	(0.19)	-0.007	(-1.56)
LOABNAFEE	0.009**	(2.28)	0.004	(0.93)	0.009**	(2.27)
EXP_AHOUR	-0.004**	(-1.98)	-0.004**	(-2.12)	-0.006***	(-3.62)
INFLUENCE	0.000	(0.44)	0.002	(1.34)	-0.000	(-0.42)
SIZE	-0.017	(-1.22)	-0.011	(-0.65)	-0.024*	(-1.81)
SIZE_SQ	0.000	(1.12)	0.000	(0.66)	0.000*	(1.78)
GROWTH	0.017***	(8.22)	-0.000	(-0.10)	0.027***	(12.92)
SALES_VOL	-0.004	(-1.04)	0.004	(0.88)	-0.002	(-0.66)
CFOO	0.013	(1.40)	0.252*	(1.80)	-0.791***	(-31.38)
CFO_VOL	0.294***	(17.51)	0.222***	(7.30)	0.052***	(3.47)
LEV	0.033***	(8.24)	0.011	(1.61)	0.039***	(9.46)
BTM	-0.003	(-1.47)	0.001	(0.44)	-0.008***	(-4.15)
ISSUE	0.077***	(8.11)	0.097***	(5.01)	0.044***	(3.90)
BIG4	-0.001	(-0.52)	0.002	(1.11)	-0.000	(-0.33)
ROA	0.014	(1.37)	-0.107**	(-2.02)	0.353***	(22.65)
EXPERT	0.003*	(1.80)	0.001	(0.93)	0.001	(1.29)
RET_VOL	0.000	(1.59)	0.000	(0.60)	0.000*	(1.90)
HERF	0.000	(1.64)	0.000*	(1.69)	-0.000	(-0.37)
Constant	0.277	(1.51)	0.183	(0.76)	0.379**	(2.14)
Ind & Year Dummies	Yes		Yes		Yes	
No. of Obs.	10173		5222		4951	
Adj. R^2	0.213					

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively.
This table provides results from regressing absolute value of discretionary accruals, subsample of observations with negative abnormal accruals, subsample of observations with positive abnormal accruals in columns 1, 2, and 3 respectively on high and low abnormal audit fees along with other control variables. All columns include industry and year dummies. All tests are two-sided and t-statistics are presented in parenthesis. Standard errors are robust to heteroscedasticity and clustered by firm.
See Appendix A for variable definitions.

TABLE 6
Meet or Beat Test

	(1) MBEX		(2) MBEX100		(3) MBEX_PRIOR01	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
HIABNAFEE	0.026	(0.18)	0.239	(1.43)	0.455	(1.38)
LOABNAFEE	0.530***	(3.32)	0.472**	(2.55)	0.831**	(2.44)
EXP_AHOUR	0.031	(0.42)	0.018	(0.24)	0.298	(1.61)
INFLUENCE	0.051	(1.29)	-0.012	(-0.25)	-0.012	(-0.11)
LnMVE	-0.055	(-1.41)	-0.173***	(-4.22)	-0.012	(-0.13)
GROWTH	-0.136*	(-1.91)	-0.070	(-0.90)	-0.155	(-1.41)
SALES_VOL	-0.253**	(-2.54)	-0.201*	(-1.67)	0.192	(0.71)
CFOO	0.233	(0.67)	0.002	(0.00)	-0.510	(-0.73)
CFO_VOL	-0.080	(-0.18)	0.007	(0.01)	-1.247	(-1.05)
LEV	0.355**	(2.15)	0.002	(0.01)	-0.045	(-0.12)
BTM	0.045	(0.32)	0.181	(1.22)	0.193	(0.60)
ISSUE	1.058***	(3.28)	-0.220	(-0.64)	0.492	(0.68)
BIG4	0.006	(0.09)	-0.138**	(-1.99)	0.038	(0.25)
ROA	5.092***	(7.91)	2.157***	(5.63)	0.388	(0.60)
EXPERT	-0.043	(-0.76)	0.004	(0.06)	-0.249*	(-1.95)
LnNUMEST	-0.066*	(-1.74)	0.151***	(3.02)	-0.026	(-0.30)
EST_Std	0.000	(0.35)	-0.001***	(-3.40)	-0.000	(-1.41)
Constant	0.411	(0.45)	2.802***	(2.68)	-3.396	(-1.53)
Ind & Year Dummies	Yes		Yes		Yes	
No. of Obs.	3411		3405		2740	
Psuedo. R-sq	0.100		0.103		0.081	

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively.
This table provides results from regressing a dummy for meet or beat earnings benchmark on high and low abnormal audit fees along with other control variables. All tests are two-sided and t-statistics are presented in parenthesis. Standard errors are robust to heteroscedasticity and clustered by firm. *MBEX* is an indicator variable equals to 1 when a firm's announced earnings are greater than the analyst consensus earnings forecast; and 0 otherwise. *MBEX100* is an indicator variable equals to 1 when a firm's announced earnings are greater than the analyst consensus earnings forecast by the margin of 100 Korean Won or less; and 0 otherwise. *MBEX_PRIOR01* is an indicator variables equals to 1 when a firm's announced earnings are greater than the prior period's earnings by 0.1 percent of total assets; and 0 otherwise. See Appendix A for the definitions of other variables.

TABLE 7
Discretionary Accruals Tests

	(1)		(2)		(3)	
	ABS_DACC		ABS_N_DACC		ABS_P_DACC	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
HIAFEE_HIAHR	0.000	(0.00)	0.003	(1.17)	-0.001	(-0.75)
HIAFEE_LOAHR	-0.004*	(-1.75)	-0.002	(-0.58)	-0.003	(-1.47)
LOAFEE_HIAHR	0.003	(1.06)	0.002	(0.91)	0.003*	(1.92)
LOAFEE_LOAHR	0.003	(1.45)	0.001	(0.43)	0.003**	(2.18)
INFLUENCE	-0.000	(-0.06)	0.001	(0.95)	-0.001*	(-1.70)
SIZE	-0.011	(-0.81)	-0.003	(-0.19)	-0.014	(-1.02)
SIZE_SQ	0.000	(0.63)	0.000	(0.11)	0.000	(0.88)
GROWTH	0.017***	(8.22)	-0.000	(-0.05)	0.026***	(12.64)
SALES_VOL	-0.004	(-1.07)	0.004	(0.86)	-0.002	(-0.69)
CFOO	0.013	(1.36)	0.252*	(1.80)	-0.790***	(-31.12)
CFO_VOL	0.295***	(17.62)	0.223***	(7.33)	0.054***	(3.60)
LEV	0.033***	(8.14)	0.010	(1.50)	0.038***	(9.25)
BTM	-0.003	(-1.55)	0.001	(0.36)	-0.008***	(-4.26)
ISSUE	0.077***	(8.14)	0.097***	(5.08)	0.043***	(3.83)
BIG4	-0.002	(-1.58)	0.001	(0.39)	-0.002*	(-1.89)
ROA	0.015	(1.43)	-0.107**	(-2.01)	0.354***	(22.63)
EXPERT20	0.002	(1.49)	0.001	(0.59)	0.001	(0.58)
RET_VOL	0.000	(1.61)	0.000	(0.61)	0.000*	(1.83)
HERF	0.000*	(1.69)	0.000*	(1.75)	-0.000	(-0.27)
Constant	0.190	(1.06)	0.064	(0.29)	0.222	(1.25)
Ind & Year Dummies	Yes		Yes		Yes	
No. of Obs.	10173		5222		4951	
Adj. R^2	0.213					

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively.
This table provides results from regressing absolute value of discretionary accruals, subsample of observations with negative abnormal accruals, subsample of observations with positive abnormal accruals in columns 1, 2, and 3 respectively benchmark on the four contingencies of high abnormal audit fees with high abnormal audit hour (Group1), high abnormal audit fees with low abnormal audit hour (Group 2), low abnormal audit fees with high abnormal audit hour (Group 3), and low abnormal audit fees with low abnormal audit hour (Group 4). All columns include industry and year dummies. All tests are two-sided and t-statistics are presented in parenthesis. Standard errors are robust to heteroscedasticity and clustered by firm.
See Appendix A for variable definitions.

TABLE 8

Meet or Beat Test

	(1) MBEX		(2) MBEX100		(3) MBEX_PRIOR01	
	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
HIAFEE_HIAHR	-0.029	(-0.44)	0.050	(0.61)	0.061	(0.42)
HIAFEE_LOAHR	0.009	(0.08)	0.026	(0.24)	0.003	(0.01)
LOAFEE_HIAHR	0.354***	(3.62)	0.265**	(2.47)	0.149	(0.80)
LOAFEE_LOAHR	0.169**	(2.35)	0.167*	(1.96)	-0.139	(-0.73)
INFLUENCE	0.046	(1.23)	-0.006	(-0.14)	-0.021	(-0.21)
LnMVE	-0.033	(-1.02)	-0.159***	(-4.49)	0.105	(1.34)
GROWTH	-0.135*	(-1.92)	-0.073	(-0.95)	-0.155	(-1.44)
SALES_VOL	-0.260***	(-2.62)	-0.211*	(-1.76)	0.155	(0.56)
CFOO	0.199	(0.57)	-0.023	(-0.06)	-0.562	(-0.79)
CFO_VOL	-0.039	(-0.09)	0.023	(0.05)	-1.308	(-1.09)
LEV	0.329**	(2.01)	-0.021	(-0.11)	0.057	(0.16)
BTM	0.077	(0.54)	0.211	(1.46)	0.298	(0.98)
ISSUE	1.026***	(3.18)	-0.260	(-0.75)	0.366	(0.51)
BIG4	0.003	(0.05)	-0.146**	(-2.22)	0.118	(0.81)
ROA	5.053***	(7.93)	2.149***	(5.76)	0.173	(0.29)
EXPERT	-0.044	(-0.79)	0.010	(0.16)	-0.194	(-1.64)
LnNUMEST	-0.073*	(-1.93)	0.146***	(2.94)	-0.052	(-0.58)
EST_Std	0.000	(0.22)	-0.001***	(-3.40)	-0.000	(-1.27)
Constant	0.083	(0.09)	3.017***	(2.74)	-5.010**	(-2.12)
Ind & Year Dummies	Yes		Yes		Yes	
No. of Obs.	3411		3405		2740	
Pseudo R^2	0.1013		0.103		0.0674	

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively.
This table provides results from regressing a dummy for meet or beat earnings benchmark on the four contingencies of high abnormal audit fees with high abnormal audit hour (Group 1), high abnormal audit fees with low abnormal audit hour (Group 2), low abnormal audit fees with high abnormal audit hour (Group 3), and low abnormal audit fees with low abnormal audit hour (Group 4). All tests are two-sided and t-statistics are presented in parenthesis. Standard errors are robust to heteroscedasticity and clustered by firm.
See Appendix A for variable definitions.

TABLE 9

A Comparison of Mean Audit Fees, Hours, and Audit Unit Price by Specialist Status

Panel A: Audit Fees, Hours, and Audit Unit Price

		Non-Specialist	**Specialist**	**Diff**	**p-value**
	N	6,387	3,786		
LnAFEE	Mean	17.8283	18.1881	-0.360***	0.000
LnAHOUR	Mean	6.4078	6.8497	-0.442***	0.000
Ln(AFEE/AHOUR)	Mean	11.4201	11.3386	0.082***	0.000

Panel B: Audit Unit Price by Positive and Negative Abnormal Audit Fees

		Non-Specialist	**Specialist**	**Diff**	**p-value**
$Ln(AFEE/AHOUR)_{HIABNAFEE}$					
	N	3,271	1,922		
	Mean	11.6125	11.5084	0.104***	0.000
$Ln(AFEE/AHOUR)_{LOABNAFEE}$					
	N	3,116	1,864		
	Mean	11.2181	11.1634	0.055***	0.000
Difference in Difference	*($Diff._{HIABNAFEE}$ - $Diff._{LOABNAFEE}$)*			0.050***	0.007

***, **, * Denotes significance at the 1 percent, 5 percent, and 10 percent levels, respectively. *Ln(AFEE/AHOUR)* is an audit unit price calculated as the natural log of audit fees divided by audit hours. See Appendix A for the definition of other variables.