Hybrid Bonds and Audit Fees

- Does Issuance of Hybrid Bonds Change Auditor's Behavior? -

회사의 하이브리드채권 발행과 감사보수와의 상관관계

2019 년 2 월

서울대학교 대학원

경영학과 회계학 전공

이 소 라

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SORA LEE

College of Business Administration

The Graduate School

Seoul National University

Abstract

This study examines the association between issuing hybrid bonds and audit fees. Using samples for the firms issuing hybrid bonds during the period 2003–2017 in Korean stock market, I find that issuance of hybrid bonds is positively associated with audit fees, audit hours and audit fee per hour. It shows that auditors spend more audit hours and increase the hourly fee rate when their clients issue hybrid bonds. I also find that the audit fees and audit hours tend to increase as the scale of hybrid bonds increases accordingly. This finding supports my hypothesis that when the firms issue hybrid bonds, auditors detect the increased risk the clients might have and they consider more hybrid bonds as a greater potential risk. Thus, auditors tend to increase audit efforts and charge higher audit fee per hour to control audit failure risk and improve audit quality.

Keywords: hybrid bonds; audit fees; audit hours; audit fee per hour; audit quality

Student ID number: 2017-21545

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1. Introduction

This study examines the association between issuing hybrid bonds and audit fees. I hypothesize that issuance hybrid bonds indirectly demonstrates that the clients have high risk and auditors have to be prepared for the increasing risk to maintain a certain level of audit quality. If the auditors perceive the increased risk, there is possibility that auditors raise audit fees by spending more audit hours or charging higher hourly fee rate.

Hybrid bonds have been one of the fascinating tools for financing because they have both characteristics of equities and corporate bonds. Investors are able to expect the stability and profitability of their bonds and firms can raise funds at lower capital costs. Typical hybrid bonds in Korean stock market consist of convertible bonds, bond with warrants, and exchangeable bonds. In my sample data during the period 2003–2017, 45.8% of hybrid bonds are convertible bonds and 53.4% of them are bonds with warrant. It is no exaggeration to say that most companies that issue hybrid bonds in Korea issue convertible bonds or bonds with warrant.

Many prior literatures have focused on characteristics of corporations which issue hybrid bonds and market reaction to announcement of issuance hybrid bonds. It has been shown that convertible bonds are an especially valuable financial instruments for high-leverage, high-risk and high-growth firms. (Brennan and Schwartz 1981; Kim 1990; Stein 1992; Mann et al 1999). Thus, issuance of hybrid bonds may signal to market in negative way. Likewise, the literatures which examine the market reaction to hybrid bonds argue that investors react negatively to the announcement of issuance of convertible bonds and bonds with warrants (Dann and Mikkelson 1984; Myers and

Majluf 1984; Eckbo 1986; Mikkelson and Partch 1986; Hansen and Crutchley 1990; Marciukaityte and Varma 2007; Rahim et al. 2014). I focus on the role of hybrid bonds giving negative signals to market participants and especially auditors. If hybrid bonds are preferred by clients with high risk and market perceives that, auditors also may want to prepare for increasing audit failure risk.

To investigate how auditors react to audit risk perceived from issuing hybrid bonds, I examine the association between issuance of hybrid bonds and audit fees. Since audit fees reflect the audit risk the auditors have to bear (Simunic 1980; Craswell et al 1995; Francis and Krishnan 1999; Choi et al. 2008), auditors may charge higher audit fees to their clients as a compensation for the increased risk. There are two possible explanations for the increased audit revenues. One is that auditors spend more hours to improve audit quality and reduce the risk (DeAngelo 1981; Palmrose 1986; Means and Kazenski 1987; Bell et al 2001). Another is that auditors use more specialized auditors and charge higher audit fees to their riskier clients (Johnstone and Bedard 2003; Choi et al 2008). I expect that when corporations issue hybrid bonds, auditors accept this as negative signal and increase audit fees. They may spend more hours in auditing or charge higher audit fee per hour.

Using 19,822 firm-year samples which are listed on Korean stock market during period 2003 to 2017, I examine my hypothesis. The conclusion of this paper reveals that there is positive and significant association between issuing hybrid bonds and audit fees meaning that audit fees increases as the companies issue hybrid bonds. Issuance of hybrid bonds also positively correlates with audit hours and audit fee per hour which means that auditors spend more hours and even increase hourly fee rate to improve audit quality, and this behavior allows auditors to receive increased audit fees.

In addition, when I consider interaction term of hybrid bonds and net loss, I find that the coefficients on interaction term with audit fees and audit fee per hour are positive and significant. This finding suggests that when the clients financially and operationally suffered issue hybrid bonds auditors tend to increase audit fee per hour because they may put specialists in auditing or simply charge higher hourly fee rate for controlling future litigation risk. It makes auditors charge even higher audit fees. I also examine the relationship between the scale of hybrid bonds and audit fees, because I assume that the clients with much hybrid bonds are riskier than firms with few hybrid bonds. The result of this paper show that the scale of hybrid bonds relative to capital is positively and significantly correlated with audit fees and audit hours meaning that audit fees and audit hours increase as the size of hybrid bonds increases. In summary, when the firms issue hybrid bonds auditors tend to spend more audit hours and even raise the hourly fee rate, which increases the audit fees. This tendency grows as the size of hybrid bonds increases.

This paper can contribute to regulators, academics, as well as investors in various ways. The finding of this paper shows that regulators have to use the conclusions when they build new regulations on auditing. They can find a way to improve audit quality and reduce audit failure risk, especially for the firms issuing hybrid bonds. Academics may continue to investigate regarding hybrid bonds and audit fees to find an academic ground for improving audit quality for issuers of hybrid bonds. Investors are also able to use the information from this study. They can be more cautious when they decide to invest in firms issuing hybrid bonds and even demand more qualified auditors to improve quality of financial statements and reduce agency problems.

The rest of this study consists of the following sections. Section 2 contains prior literature review and hypothesis development. Section 3 provides explanation on sample selection and empirical models. Section 4 shows the results of empirical tests, and Section 5 covers several additional tests. Lastly, conclusion is presented in Section 6.

2. Literature review and hypothesis development

2.1. Hybrid Bonds

Many companies in Korea market, choose to issue convertible bonds and bonds with warrant when they raise funds. Especially convertible bond is considered as efficient way of financing (Green 1984; Hoffmeister et al 1987; Stein 1992; Mayers 1998). In the studies of Brennan and Schwartz (1981), Kim (1990), and Mann et al. (1999), due to the risk-neutralizing effect of convertible debt and its role in reducing the underinvestment problem, convertible bond is considered as an especially useful way to raise funds for high-risk, high-growth firms. Stein (1992) demonstrates that convertible bonds tend to be used mainly by highly-leveraged, highly-volatile firms with large R&D portfolios and above-average levels of intangible assets. Thus, these findings suggest that convertible bonds are used predominantly by risky companies. Kim (1990) also argues that the conversion ratio of convertible bond serves as an important signal of a firm's earnings in the future. Specifically, a large conversion ratio implies lower expected earnings, because it signals insiders' desire to share risk. Therefore, it can be implied that issuing convertible bonds can signal to market participants in various ways.

One of the critical characteristic of hybrid bonds is that issuing hybrid bonds may bring potential changes in corporate governance. It is obvious that issuing hybrid

bonds is even more important event to existing shareholders when compared to typical types of bonds. Even though Stein (1992) documents that corporations may use convertible bonds as an indirect way to get equity into their capital structure when issuance of stock would be unattractive, it has been shown that investors react negatively to the announcement of issuance of convertible bonds (Dann and Mikkelson 1984; Myers and Majluf 1984; Eckbo 1986; Mikkelson and Partch 1986; Hansen and Crutchley 1990; Mollemans 2002; Marciukaityte and Varma 2007). In the literatures of Lewis et al. (2003) and Davidson et al. (1995) it has been shown that issuing more 'equity-like'[1] convertible bonds arouses greater negative market reactions. Hansen and Crutchley (1990) also explain that when comparing straight bond the earnings of convertible bond issuers decline worse after the firms have raised the new capital. The results on warrant-bonds in prior studies are not completely apparent: some literatures show that bonds with warrant are also correlated with negative abnormal returns, others argue that warrant-bonds offerings are a 'penalty-free issuance of an equity-like security' (Billingsley, Lamy, and Smith 1990). More recently, Rahim et al (2014) find a negative mean cumulative abnormal return (CAR) for announcements of both convertibles and warrant bonds. The result of this paper confirms advantage for bonds with warrant relative to convertible bonds. Though, there are not many literatures regarding direct effects of issuing hybrid bonds on accounting information, it can be implied that hybrid bonds are tools for financing preferred by firms with high risk. Additionally, companies that issue hybrid bonds are likely to change their governance structure in the future, market mostly reacts negatively to announcement of issuing hybrid bonds.

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[1] Lewis, Rogalski, and Seward (2003) use the conversion probability as a guideline to sort convertible bonds into three groups. If the probability of conversion into equity is less than 40%, the convertible bonds are considered as 'debt-like', between 40% and 60% as 'hedge-like', and greater than 60% as 'equity-like'.

In addition, Accounting for hybrid bonds is complex and it has been controversial because hybrid bonds have both characteristics of debt and equity. Since hybrid bonds are issued in very diverse and complex terms, it is difficult to define standard accounting rules uniformly for issuers. Peterson and Kyle (2012) demonstrate that accounting complexity increases the probability of restating financial statement. There is also possibility that managers of firms try to manipulate financial information using the complexity. These opportunistic behaviors of managers may increase the risk and decrease reliability of financial information. Shareholders for the companies that issued hybrid bonds may concern about increased agency cost caused by opacity of financial information and want auditors play a role in monitoring the companies. Therefore, for more accurate and efficient auditing, auditors may put more efforts and even use specialists to reduce audit failure risk.

2.2. Audit fees

Prior studies regarding audit fees show that the audit firm's size of asset, the number of subsidiaries, the size of foreign assets, the ratio of trade receivables and inventories are significant variables in determining audit fees (Simunic.1980). The auditors are paid a fee to prove the claims in the client's financial statements, and probably the fees reflect the audit risk the auditors have to bear (Simunic 1980; Craswell et al. 1995; Choi et al. 2008). According to Simunic (1980), audit fees are determined by three components: audit production costs, expected legal liability costs, and normal profit. Auditors change their behaviors and increase audit efforts to improve audit quality, and increased audit efforts result in higher audit production costs (Simunic

1980; Bell et al. 2001; Lennox and Li 2014). When the risk of clients increases, this makes production costs greater, because auditors spend more hours in auditing to enhance audit quality and litigation risk also increases for the higher audit failure risk. Thus, there are three possible cases where the audit fees increase. Auditors increase their efforts by spending more hours on audit, or the auditors simply charge higher fee per hour without increasing audit efforts. In addition, it is also possible that auditors increase both audit hours and audit hourly fee rate rather than raise either audit hours or audit fee per hour.

Additionally, Palmrose (1986) shows that the larger accounting firms that provide high audit quality spend more hours in auditing. Means and Kazenski (1987) find that auditors of corporations with weak internal control systems spend more hours to improve audit quality. There are also many prior literatures suggesting that auditors evaluate their own firms' business risks, and their clients' business and audit risks in client acceptance decisions (Ayers and Kaplan 1998; Cohen and Hanno 2000; Johnstone 2000, 2001; Asare, Cohen and Trompeter 2005; Schroeder and Hogan 2013). In the literature of Bell et al (2001), the auditors increase audit hours in the presence of high business risk. This finding suggests that auditors indirectly prepare possibility to defense through extra audit works and get a direct risk premium through additional revenues. Higher audit fees reflect extra working audit hours and improved audit qualities to keep their reputation or to prevent auditors from increasing audit failure risk such as earning management (Francis and Krishnan 1999). Blankley et al. (2012) also demonstrate that firms paying abnormally high audit fees produce higher quality of financial information with less restatement afterward. Because fees represent partially the expected level of service provided, higher (lower) fees are associated with greater

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(lesser) levels of service or effort (Whisenant et al. 2003). If the audit fees for the firms that issued hybrid bonds increase, one of the possible explanations is that auditors put greater efforts in audit service to maintain their reputation and reduce the risk of audit failure.

In the study of Johnstone and Bedard (2003), auditors also conduct other risk management strategies, such as, assigning specialists and charging higher audit fees to their riskier clients. They conclude that although the auditor is less likely to accept clients with higher levels of audit failure risk or fraud risk, plans to use specialist in audit alleviate the effect. Using specialist in auditing results in increasing audit fees. Likewise, the auditors are less likely to allow clients with going-concern risk or being publicly traded, but strategy to charge a higher billing rate moderate this impact This result directly indicates that the auditors are paid a higher audit fee rate when their clients have greater risk. Thus, if issuance of hybrid bonds is one of the important factors which increase audit failure risk, auditors may assign more specialized auditors on audits and charge higher billing rate, which result in increasing audit fees in the end.

2.3. Hypothesis development

In summary, hybrid bonds are predominantly used by corporations with high risk and market reacts negatively because the announcement of issuing hybrid bonds affect corporate governance and may indicate potential future earnings. Accounting for issuers of hybrid bonds are quite complex and this fact makes manager of firms easily do opportunistic behaviors and increases audit failure risk. I hypothesize that auditors certainly perceive the increased audit failure risk when their clients have

announcements of issuing hybrid bonds. Thus, auditors may react to the signal of issuing hybrid bonds in a way of raising audit fees to control increased risk.

HYPOTHESIS 1. Issuing hybrid bonds is positively associated with audit fees. Audit fees increase as the firms issue hybrid bonds

Additionally, to investigate the factors which affect audit fees I compose supplementary hypothesis including audit hours and audit fee per hour. When auditors detect the risk due to the issuance of hybrid bonds, they may spend more audit hours to maintain their reputation by keeping certain level of audit quality or use more specialized auditors and charge higher hourly fee rate to their clients.

HYPOTHESIS 1-a. Issuing hybrid bonds is positively associated with audit hours. Audit hours increase as the firms issue hybrid bonds.

HYPOTHESIS 1-b Issuing hybrid bonds is positively associated with audit fee per hour. Audit fee per hour increases as the firms issue hybrid bonds

Furthermore, to support my first hypothesis, I examine the effect of scale of hybrid bonds on audit fees. If the issuance of hybrid bonds is risk factor which changes auditor's behavior, the firms that issued more hybrid bonds could mean a greater potential risk. Auditors possibly catch the level of risk based on the size of hybrid bonds the companies issued, and they may decide how much efforts to invest and how much to charge for the audit. Thus, I assume that the size of hybrid bonds affects changes in audit fees and I create second hypothesis regarding associations scale of hybrid bonds and audit fees, audit hours, audit fee per hour.

HYPOTHESIS 2. Scale of hybrid bonds is positively associated with audit fees. Audit

fees increase as scale of hybrid bonds increases

HYPOTHESIS 2-a. Scale of hybrid bonds is positively associated with audit hours. Audit hours increase as scale of hybrid bonds increases

HYPOTHESIS 2-b. Scale of hybrid bonds is positively associated with audit fee per hour. Audit fee per hour increases as scale of hybrid bonds increases

3. Research design and sample selection

3.1. Dependent variables (Audit fees, Audit hours, Audit fee per hour)

To examine effect of issuing hybrid bonds as a factor which changes auditor's behavior, I estimate the association between audit fees and dummy variable of hybrid bonds. Since the audit fees reflect the audit risk the auditors have to bear (Simunic 1980; Craswell et al. 1995; Choi et al. 2008), I assume that auditors may reflect the increased risk in the hybrid bonds to the audit fees. I also formulate additional regression models including audit hours and audit fee per hour as dependent variables to find the factors which increase audit fees. My hypothesis is based on idea that when the firms issued hybrid bonds, auditors are paid increased audit fees for some reasons. There are three possible explanations to increase audit fees. First, auditors spend more hours on audit to maintain their reputation by improving audit quality. The quality of audit services is defined to be the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach. The probability that a given auditor will discover a breach depends on the auditor's technological capabilities. This definition of auditor independence is used in DeAngelo

(1981) and Watts and Zimmerman (1981). Auditors are able to improve audit quality and reduce the audit failure risk by spending more time to discover a breach in the firm's accounting system. Second, auditors could charge higher hourly fee rate to their clients. This behavior could be caused by increasing litigation risk or using more specialized auditors who are paid high salaries. Third, auditors are likely to charge higher audit fee per hour while at the same time spending more audit hours. This changes even more increase audit fees in the end.

3.2. Hybrid bonds (HB, HVALUE)

In my regression models, HB (hybrid bonds) is key variable as a factor which affects changes in audit fees. When the clients of auditors issue hybrid bonds more than once a year, HB equals 1 and 0 otherwise. When HB equals 1, the auditors have high chance to be paid increased audit fees and this can be because of spending more audit hours or increasing hourly fee rate or even both. To find factors which mainly affect changes in audit fees, I examine each correlation with HB by changing dependent variables. In addition, I include HVALUE as indicator to examine the effect of scale of hybrid bonds on audit fees. HVALUE is scale of hybrid bonds relative to capital of the firms. I assume that if the auditors consider hybrid bonds as important factor which increases audit failure risk, there should be positive and significant association between HVALUE and audit fees, too. I formulate HVALUE relative to the firm's capital not an asset, because hybrid bonds are more relevant to capital than asset. Since hybrid bonds are fixed income instruments that combine elements of shares and corporate bonds, they can potentially change a company's capital in the future. Thus, when considering

characteristics of hybrid bonds I decide that it is more proper to scale hybrid bonds using capital.

3.3. Empirical specification

Following a standard audit fee model (Menon and Williams 2001; Choi et al 2008; Caneghem 2010), I examine whether there is positive and significant association between issuing hybrid bonds and audit fees after controlling other factors that may affect audit fees. I estimate an ordinary least squares (OLS) regression model, as in equation (1).

$AUDFEE = \alpha_0 + \alpha_1 HB_{i,t-1} + \alpha_2 ISSUE_{i,t-1} + \alpha_3 SIZE_{i,t} + \alpha_4 CURTA_{i,t} + \alpha_5 LEV_{i,t} + \alpha_6 Big4_{i,t} + \alpha_7 Auditor\ change_{i,t} + \alpha_8 INV\_R_{i,t} + \alpha_9 LOSS_{i,t} + \alpha_{10}\ SGROW_{i,t} + \alpha_{11} ROA_{i,t} + \alpha_{12} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$

(1)

, where AUDFEE is the natural logarithm of audit fees; HB is an indicator variable for hybrid bonds that equals 1 for whether clients of auditors issued hybrid bonds in year t, and 0 otherwise; ISSUE is dummy variable which equals 1 when the firms in the sample issued common stocks or preferred stocks in year t, and 0 otherwise; SIZE is the natural logarithm of total asset of the firms in year t; CURTA is current asset divided by total asset at the end of the year t; LEV is the ratio of total liability to total assets for firm i in year t.; Big4 is a dummy variable which equals 1 if the auditor is one of the Big 4 accounting firm in Korea; Auditor change: dummy variable equals 1 if the firm has changed the audit firm in year t; SGROW is the ratio of sales growth; INV_R is the inventory ratio to

total asset; LOSS is a dummy variable which equals 1 if the firm had net loss at the previous year, otherwise 0; ROA is return on asset (net income divided by total asset of beginning of the year); MTB is total market value divided by total book value of capital at the end of the year.

I expect the coefficient α_1 to be positive implying that issuing hybrid bonds of firms is very important factor which increases audit fees. Audit fees may be changed due to changes in audit hours and raised audit fee per hour. Regression models in equation (1-a) and (1-b) are formulated to examine the factors which increase audit fees by including additional dependent variables of audit hours and audit fee per hour.

$$AUDHOUR = \beta_0 + \beta_1 HB_{i,t} + \beta_2 ISSUE_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 CURTA_{i,t} + \beta_5 LEV_{i,t} +$$

$$\beta_6 Big4_{i,t} + \beta_7 Auditor\ change_{i,t} + \beta_8 INV\_R_{i,t} + \beta_9 LOSS_{i,t} + \beta_{10}\ SGROW_{i,t} +$$

$$\beta_{11} ROA_{i,t} + \beta_{12} MTB_{i,t} + Industry + year + \varepsilon_{i,t} \qquad\qquad (1\text{-}a)$$

$$AUDFEEP = \theta_0 + \theta_1 HB_{i,t-1} + \theta_2 ISSUE_{i,t-1} + \theta_3 SIZE_{i,t} + \theta_4 CURTA_{i,t} + \theta_5 LEV_{i,t} +$$

$$\theta_6 Big4_{i,t} + \theta_7 Auditor\ change_{i,t} + \theta_8 INV\_R_{i,t} + \theta_9 LOSS_{i,t} + \theta_{10}\ SGROW_{i,t} +$$

$$\theta_{11} ROA_{i,t} + \theta_{12} MTB_{i,t} + Industry + year + \varepsilon_{i,t} \qquad\qquad (1\text{-}b)$$

, where AUDHOUR is the natural logarithm of audit hours; AUDFEEP is the natural logarithm of audit fee per hour.

The coefficient β_1 can be positive suggesting that auditors spend more audit hours to improve audit quality and reduce the audit failure risk when their clients issue hybrid bonds. The positive coefficient on HB implies that issuing hybrid bonds is important signal showing that the firms have potential risk and auditors may need to control the risk by putting more audit efforts. This could be one of the reasons for increasing audit fees. It is also possible that the coefficient θ_1 is positive implying that

auditors simply charge raised hourly fee rate because they may want to prepare for increasing litigation risk, and specialized auditors may participate in auditing to understand more complex accounting policies.

Based on the main structure, I include the client company's size (SIZE), sales growth rate (SGROW), ratio of inventories to total assets (INV_R) to control for audit complexity, and financial leverage (LEV), presence of loss (LOSS), and return on assets (ROA) to capture audit risk. In addition, I also put dummy variable of ISSUE in the regression model to find the differences of impact on audit fees between hybrid bonds and other financing instruments as common or preferred stocks. The auditor change is included because the auditor change can be also important factor to affect changes in audit fees. Stice (1991) finds that auditors face higher litigation risk from new clients. As the tenure of the auditor-client relationship becomes longer, auditors enhance efficiency in audit procedures due to learning (Pierre and Anderson 1984), which allows auditors to accumulate client-specific knowledge and improve audit quality (Beck and Wu 2006). These prior studies imply that auditor changes can affect audit fees and audit hours.

In addition, to analyze the association between the scale of hybrid bonds and audit fees, I include variable HVALUE which is issuing scale of hybrid bonds relative to capital of the firms. I assume that the firms issue a lot of hybrid bonds are at higher risk than firms with fewer hybrid bonds. I expect that there is positive and significant relationship between HVALUE and audit fees meaning that audit fees increase as the scale of hybrid bonds increases ($\alpha_1 > 0$).

$$AUDFEE = \alpha_0 + \alpha_1 HVALUE_{i,t-1} + \alpha_2 ISSUE_{i,t-1} + \alpha_3 SIZE_{i,t} + \alpha_4 CURTA_{i,t} +$$

$\alpha_5LEV_{i,t}$ + $\alpha_6Big4_{i,t}$ + $\alpha_7Auditor\ change_{i,t}$ + $\alpha_8INV\_R_{i,t}$+ $\alpha_9LOSS_{i,t}$ + α_{10} $SGROW_{i,t}$ + $\alpha_{11}ROA_{i,t}$ + $\alpha_{12}MTB_{i,t}$ + $Industry$ + $year$ + $\varepsilon_{i,t}$ (2)

$AUDHOUR = \beta_0 + \beta_1HVALUE_{i,t} + \beta_2ISSUE_{i,t} + \beta_3SIZE_{i,t} + \beta_4CURTA_{i,t} + \beta_5LEV_{i,t}$ + $\beta_6Big4_{i,t}$ + $\beta_7Auditor\ change_{i,t}$ + $\beta_8INV\_R_{i,t}$ + $\beta_9LOSS_{i,t}$ + $\beta_{10}\ SGROW_{i,t}$ + $\beta_{11}ROA_{i,t} + \beta_{12}MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ (2-a)

$AUDFEEP = \theta_0 + \theta_1HVALUE_{i,t-1} + \theta_2ISSUE_{i,t-1} + \theta_3SIZE_{i,t} + \theta_4CURTA_{i,t} +$ $\theta_5LEV_{i,t} + \theta_6Big4_{i,t} + \theta_7Auditor\ change_{i,t} + \theta_8INV\_R_{i,t} + \theta_9LOSS_{i,t} + \theta_{10}\ SGROW_{i,t}$ + $\theta_{11}ROA_{i,t} + \theta_{12}MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ (2-b)

, where HAVLUE is issuing hybrid bonds relative to capital of firms

3.4. Sample, data, descriptive statistics

My sample is found from the TS2000 database and covers the period from 2003 to 2017 in Korean stock market. The firms in the financial industry are excluded and I winsorize control variables in the top and bottom 1% of each variable by fiscal year to reduce the impact of outliers. The final sample consists of 19,822 firm-year observations.

Insert table 1 about here.

The averages and standard deviations of the dependent variables (Audit fees,

Audit hours, Audit fee per hour) and the independent variables (Hybrid bonds, The scale of hybrid bonds) are reported in table 1. The mean value of AUDFEE (natural logarithm of audit fee) is 18.1, which means that the average audit fees of the sample firms is 99 million per year. The mean value of AUDHOUR (natural logarithm of audit hour) is 6.7, which explains that the average audit hours per year is 1,269 hours. The average AUDFEEP (natural logarithm of audit fee per hour) in the sample is 11.3, which shows that on average audit firms charge 164,100 won per hour to their clients. About 25.6% of firms in the sample issued hybrid bonds (11.6% convertible bonds and 13.4% bonds with warrants) and the mean value of HVALUE is 33.2, which implies that on average the value of hybrid bonds issued by firms is 33.2% of their capital.

Table 1 also shows the descriptive statistics for firm-level control variables. About 18.4% of firms issued common stocks and preferred stocks (ISSUE). The mean value of SIZE (natural logarithm of asset) is 11.1792688, which implies that the average assets amount of the sample firms is 800 million won per year. The mean value of leverage (LEV) of the sample firms is 39.9%. The sample firms generate 1.4% return on assets on average (ROA), while 24.4% of them report losses (LOSS). The average firms in the sample exhibit 8.6% sales growth (SGROW) and about 15.6% firms change their auditors (Auditor change).

4. Empirical results

4.1. The effect of issuing hybrid bonds on audit fees (H1)

Column (a) in table 2 indicates the association between issuance of hybrid

bonds and audit fees. This result shows that HB is positively and significantly correlated with audit fees and p-values are less than 0.01 implying that issuing hybrid bonds of clients affects and increases audit fees. This finding is consistent with prior literature (Bell et al. 2001) which argue that audit revenues increase in perceived business risk. The result suggest that auditors consider the issuing hybrid bonds of firms as signal which increases the risk. Thus, they charge higher audit fees to their risky clients.

Additionally, in column (b) and (c) both audit hours and audit fee per hour are positively and significantly associated with issuing hybrid bonds. Though, the coefficient of HB with audit hours (0.045) is stronger in correlation than coefficient with audit fee per hour (0.035), the results reveal both dependent variables are critically affected by issuance of hybrid bonds. The finding shows that auditors spend more hours and even increase the hourly fee rate to improve audit quality and reduce audit failure risk when their clients issue hybrid bonds. This auditor's behavior leads to increase audit fees in the end. According to the result of regression equation (1), (1-a) and (1-b), it can be implied that the main reasons for the impact on audit fees when the firms issue hybrid bonds are both increased audit hours and audit fee per hour.

In column (a) of table 1, ISSUE is not significantly correlated with audit fees meaning that auditors do not increase audit fees when the firms simply raise funds by issuing common stocks or preferred stocks. This result is clearly different from issuance of hybrid bonds. There is significantly positive correlation between SIZE and audit fees. These findings are consistent with prior studies. Auditors charge higher audit fees to bigger clients because they have to put more efforts and litigation risk increases, as well. The variable of BIG4 is also positively and significantly correlated with audit fees. There are many prior studies about BigN premium and mostly argue that BigN premium

exists and their audit quality is better because they have greater reputations to protect (Dopuch and Simunic 1980). Interesting result about BIG4 is that big4 audit firms tend to increase audit hours, but rather reduce audit fee per hour. However, this result is not clearly consistent with previous studies, so further investigation will be needed. The coefficient of Auditor changes on audit fees is significantly negative which is consistent with prior literatures. DeAngelo (1981) and Chan (1999) argue that fee cuts are a competitive response by auditors. When switching auditors is costly to the client and the start-up costs for auditors are significant, incumbent auditors have a competitive advantage and can expect to recover any initial discount by raising fees in the future but still retaining the client. Under these conditions, auditors are willing to cut the fee of the initial audit. According to the result in table 1, when the auditors have new clients, they are likely to increase audit hours, while at the same time reduce audit fee per hour. In addition, there is significantly positive association between LEV, LOSS and audit fees. These variables are included for controlling audit risk, and the findings indicate that auditors tend to raise audit fees if the risk factors of the clients are detected. This result is consistent with my expectation that audit fees changes in respond to increasing risk.

Insert table 2 about here

4.2. *The effect of scale of hybrid bonds on audit fees (H2)*

To further investigate whether the scale of hybrid bonds is also important factors to affect audit fees, I replace HB with HVALUE which is scale of hybrid bonds relative to capital of firms in regression model. Instead of key variable HB, HVALUE is

independent variable in the equation (2) (2-a) (2-b). In column (a) of table 3, HAVLUE is positively and significantly correlated with audit fees indicating that the scale of hybrid bonds relative to capital is also very important factor in determining audit risk and as the scale of hybrid bonds increases the audit fees are positively changes. It can be implied that the auditors recognize that the firms issuing more hybrid bonds have a greater risk.

In addition, column (b) in table 3 shows that there is also positive and significant relationship between HVALUE and audit hours which matches results in table1, while in column (c) of table 3, HVALUE is not significantly correlated with audit fee per hour. This finding suggests that when the scale of hybrid bonds issued by client increases, auditors put more efforts in auditing to improve audit quality. Even though they do not simply charge the higher hourly fee rate., spending more audit hours makes auditors paid increased audit fees in the end.

According to results in table 2 and 3, issuance of hybrid bonds is a critical signal implying increases in audit risk, and auditors increase audit hours and audit fee per hour to improve audit quality. One of the possible reasons is that the accounting for the issuer of hybrid bonds is not easy to understand. Hybrid bonds have both characteristics of debt and equity. In addition, conditions of the contracts are diverse, and it is hard to understand factual characteristics of hybrid bonds. Peterson and Kyle (2012) show that accounting complexity increases the probability of restating financial statement. The complexity of accounting for the hybrid bonds issuer may increase audit failure risk. The other possible reason is even though there are other options to raise funds, the reason to issue hybrid bonds infer potential risk undiscovered. The ambiguity of financial information of firms may increase agency problems and the shareholders

tend to ask enhanced auditing to reduce opacity of financial information. There are many prior literatures showing that convertible bonds are an especially valuable financial instruments for high-leverage, high-risk and high-growth firms. (Brennan and Schwartz 1981; Kim 1990; Stein 1992; Mann et al. 1999). In addition, investors react negatively to the announcement of issuing hybrid bonds (Dann and Mikkelson 1984; Myers and Majluf 1984; Eckbo 1986; Mikkelson and Partch 1986; Hansen and Crutchley 1990; Marciukaityte and Varma 2007; Rahim et al. 2014). Choi and Wong (2007) examine the governance role of auditors who serve as a bonding mechanism to mitigate agency problems. In summary, as the companies issue hybrid bonds, the accounting for the firms become complex and the reliability of financial statement weakens. The market concerns that hybrid bonds are preferred by firms with high risk and affect corporate governance potentially. Shareholders may want enhanced auditing for reducing agency problems. Auditors also detect the changes in client's risk, and try to control the risk to maintain their reputation by improving audit quality. Thus, auditors tend to spend more audit hours and even raise the hourly fee rate, which naturally increases audit fees.

Insert table 3 about here

5. Additional analyses.

5.1. Hybrid bonds of firms with high risk

To further investigate the effect of issuing hybrid bonds on audit fees when the

firms are in difficulty of operating, in the section of 5, I conduct additional test by including interaction term of HB (hybrid bonds) and LOSS (net loss in previous year). I assume that auditors may react differently to announcement of issuing hybrid bonds depending on risk the clients might have. If the firms with high risk issue hybrid bonds, auditors are more likely to change their behaviors. Thus, I hypothesis that if the companies with net loss in previous year issue hybrid bond, the business risk of the firms even more increases. Auditors are expected to raise audit fees even more when the firms with net losses in previous year issue hybrid bonds. This supplementary test is for supporting my first hypothesis that increased business risk auditors perceived affect changes in audit fees. When high risk companies issue hybrid bonds, auditors may even more increase audit hours or simply increase audit fee per hour.

First, I divide the samples into two groups based on whether net profits were generated or not in previous year. To examine incremental effect on audit fees I include interaction term of HB and LOSS in equation (1) (1-a) (1-b). I expect that the coefficient on interaction term of HB and LOSS is to be positive.

$AUDFEE = \alpha_0 + \alpha_1 HB_{i,t-1} + \alpha_2 HB_{i,t-1} * LOSS_{i,t} + \alpha_3 ISSUE_{i,t-1} + \alpha_4 SIZE_{i,t} + \alpha_5 CURTA_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 Big4_{i,t} + \alpha_8 Auditor\ change_{i,t} + \alpha_9 INV\_R_{i,t} + \alpha_{10} LOSS_{i,t} + \alpha_{11}\ SGROW_{i,t} + \alpha_{12} ROA_{i,t} + \alpha_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$

(3)

$AUDHOUR = \beta_0 + \beta_1 HB_{i,t} + \beta_2 HB_{i,t} * LOSS_{i,t} + \beta_3 ISSUE_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 CURTA_{i,t} + \beta_6 LEV_{i,t} + \beta_7 Big4_{i,t} + \beta_8 Auditor\ change_{i,t} + \beta_9 INV\_R_{i,t} + \beta_{10} LOSS_{i,t} + \beta_{11}\ SGROW_{i,t} + \beta_{12} ROA_{i,t} + \beta_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$

(3-a)

$$AUDFEEP = \theta_0 + \theta_1 HB_{i,t-1} + \theta_2 HB_{i,t-1} * LOSS_{i,t} + \theta_3 ISSUE_{i,t-1} + \theta_4 SIZE_{i,t} +$$

$$\theta_5 CURTA_{i,t} + \theta_6 LEV_{i,t} + \theta_7 Big4_{i,t} + \theta_8 Auditor\ change_{i,t} + \theta_9 INV\_R_{i,t} +$$

$$\theta_{10} LOSS_{i,t} + \theta_{11} SGROW_{i,t} + \theta_{12} ROA_{i,t} + \theta_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$$

$$(3\text{-}b)$$

, where HB*LOSS is interaction term of HB and LOSS; HB is dummy variable equals 1 if the firms issue hybrid bonds in year t; LOSS equals 1 if the firms had net loss at the previous year, otherwise 0

Insert table 4 about here

Column (a) and (b) in table 4 shows that after including interaction term HB*LOSS, although I fail to find significant correlation between HB and audit fee per hour, HB is still positively and significantly correlated with audit fees and audit hours meaning that when firms with net profit issue hybrid bonds, auditors are paid increased audit fees and this is because auditors spend more hours in auditing. This result is consistent with column (a) and (b) in table 2.

Moreover, HB*LOSS is positively and significantly correlated with audit fees as I expected. The results indicate if the firms suffering a net loss in previous year issue hybrid bonds, auditors even more increase audit fees when compared to firms with net profit. However, the difference of firms with net loss from firms with net profit is that the reason for higher audit fees is not simply using more hours in auditing but raising the hourly fee rate. The column (c) in table 4 shows that the audit fee per hour is also

positively and significantly correlated with interaction term of HB and LOSS. This finding suggests that if clients with net loss issue hybrid bonds, the auditor seems to raise the audit fee per hour because they may use more specialized auditors and increases the risk premium in case of using similar capacity of manpower. In summary, when firms with net profit issue hybrid bonds auditors spend more audit hours, which results in higher audit fees. Auditors also even more increase audit fees when the firms with net loss issue hybrid bonds and this is because they charge higher audit fee per hour. Both cases show that auditors tend to raise the audit fees in different ways depending on the risk the companies might have.

5.2. Relationship between each types of hybrid bonds and audit fees

In this subsection, I conduct subsample analysis in order to provide more specific information about relationship between hybrid bonds and audit fees depending on types of hybrid bonds. Among the sample firms, 25.3% of them issue hybrid bonds of which 11.6% are convertible bonds and 13.5% are bonds with warrants.

Both convertible bond and bond with warrant are a combination of a corporate bond and a warrant which allows the investors to get the securities. The difference is that a warrant in a warrant-bond can usually be detached from the bond and this characteristic gives an advantage to holders, because they are able to trade the warrant and the bond separately. The detachability also allows the issuers to choose different maturity for the warrant with the bond unlike convertible-bond. On the other hand, a disadvantage for issuing bond with warrant is that issuers are hard to make investors exercise their rights, because the bond-holders and warrant-holders are not necessarily

same, which can be a disadvantage if companies want to get equity through the backdoor.

I include new variables CB (convertible bonds) and BW (bonds with warrant) in equation (1), (1-a), (1-b) replacing HB. These are new equations consisting of more specific types of hybrid bonds.

$AUDFEE = \alpha_0 + \alpha_1 CB_{i,t-1} + \alpha_2 BW_{i,t-1} + \alpha_3 ISSUE_{i,t-1} + \alpha_4 SIZE_{i,t} + \alpha_5 CURTA_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 Big4_{i,t} + \alpha_8 Auditor\ change_{i,t} + \alpha_9 INV\_R_{i,t} + \alpha_{10} LOSS_{i,t} + \alpha_{11} SGROW_{i,t} + \alpha_{12} ROA_{i,t} + \alpha_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ (4)

$AUDHOUR = \beta_0 + \beta_1 CB_{i,t} + \beta_2 BW_{i,t} + \beta_3 ISSUE_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 CURTA_{i,t} + \beta_6 LEV_{i,t} + \beta_7 Big4_{i,t} + \beta_8 Auditor\ change_{i,t} + \beta_9 INV\_R_{i,t} + \beta_{10} LOSS_{i,t} + \beta_{11} SGROW_{i,t} + \beta_{12} ROA_{i,t} + \beta_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ (4-a)

$AUDFEEP = \theta_0 + \theta_1 CB_{i,t-1} + \theta_2 BW_{i,t-1} + \theta_3 ISSUE_{i,t-1} + \theta_4 SIZE_{i,t} + \theta_5 CURTA_{i,t} + \theta_6 LEV_{i,t} + \theta_7 Big4_{i,t} + \theta_8 Auditor\ change_{i,t} + \theta_9 INV\_R_{i,t} + \theta_{10} LOSS_{i,t} + \theta_{11} SGROW_{i,t} + \theta_{12} ROA_{i,t} + \theta_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ (4-b)

, where CB is dummy variable equals 1 if the firm issued the convertible bonds in year t; BW is dummy variable equals 1 if the firm issued the bond with warrant in year t

Column (a) in the table 5 shows that CB and BW both are positively and significantly correlated with audit fees. Even though, bonds with warrant are more strongly correlated with audit fees, in general, there is not much differences between correlations of CB and BW with audit fees. In column (b) of table 5, there is also positive and significant association between each types of hybrid bonds with audit hours,

which is consistent with the results in table 2. This finding shows that no matter what types of hybrid bonds, issuing hybrid bonds increase the audit risk by itself and this makes auditors put more efforts in auditing and increase audit fees. Although the correlation of each types of hybrid bonds with audit fee per hour is mixed, (CB is positively and significantly associated with audit fee per hour, but BW is not significantly correlated with audit fee per hour) generally the results show that regardless of the types of hybrid bonds, when the clients issue hybrid bonds, auditors raise the audit efforts and hourly fee rate, which increases the audit fees in the end.

Insert table 5 about here

In addition, I separate HVALUE (Issuing scale of hybrid bonds relative to the firm's capital) into scale of convertible bonds and bonds with warrant to investigate relationship between size of hybrid bonds and audit fees depending on their types. I replace HVALUE as CBVALUE and BWVALUE in equation (2), (2-a), (2-b).

$AUDFEE = \alpha_0 + \alpha_1 CBVALUE_{i,t-1} + \alpha_2 BWVALUE_{i,t-1} + \alpha_3 ISSUE_{i,t-1} + \alpha_4 SIZE_{i,t}$
$+ \alpha_5 CURTA_{i,t} + \alpha_6 LEV_{i,t} + \alpha_7 Big4_{i,t} + \alpha_8 Auditor\ change_{i,t} + \alpha_9 INV\_R_{i,t} +$
$\alpha_{10} Loss_{i,t} + \alpha_{11} SGROW_{i,t} + \alpha_{12} ROA_{i,t} + \alpha_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$
(5)

$AUDHOUR = \beta_0 + \beta_1 CBVALUE_{i,t} + \beta_2 BWVALUE_{i,t} + \beta_3 ISSUE_{i,t} + \beta_4 SIZE_{i,t} +$
$\beta_5 CURTA_{i,t} + \beta_6 LEV_{i,t} + \beta_7 Big4_{i,t} + \beta_8 Auditor\ change_{i,t} + \beta_9 INV\_R_{i,t} + \beta_{10} Loss_{i,t}$
$+ \beta_{11} SGROW_{i,t} + \beta_{12} ROA_{i,t} + \beta_{13} MTB_{i,t} + Industry + year + \varepsilon_{i,t}$ *(5-a)*

$AUDFEEP = \theta_0 + \theta_1 CBVALUE_{i,t-1} + \theta_2 BWVALUE_{i,t-1} + \theta_3 ISSUE_{i,t-1} + \theta_4 SIZE_{i,t}$

$$+ \ \theta_5 CURTA_{i,t} \ + \ \theta_6 LEV_{i,t} \ + \ \theta_7 Big4_{i,t} \ + \ \theta_8 Auditor \ change_{i,t} \ + \ \theta_9 INV\_R_{i,t} \ +$$

$$\theta_{10} Loss_{i,t} \ + \ \theta_{11} SGROW_{i,t} \ + \ \theta_{12} ROA_{i,t} \ + \ \theta_{13} MTB_{i,t} \ + \ Industry \ + \ year \ + \ \varepsilon_{i,t}$$

(5-b)

, where CBVALUE is scale of convertible bonds to capital of the firm i in year t; BWVALUE is scale of bonds with warrant to capital of the firm I in year t;

The column (a) in table 6 indicates that both CBVALUE (convertible bonds) and BWVALUE (bond with warrants) are positively and significantly correlated with audit fees which is consistent with the result of column (a) in table 3. This outcome suggests that the issuance of hybrid bonds alone affect increase in audit fees, and as the size of issuance of hybrid bonds increases, the audit fees also tend to increase accordingly regardless of the types of hybrid bonds. In addition, in column (b) of table 6, the size of convertible bonds is positively and significantly correlated with audit hours which shows same result with table 3 meaning that the audit hours also tend to increase as the scale of the convertible bonds increase. On the other hand, in column (c) of table 6, the scale of bonds with warrant is not significantly correlated with audit hours, but it is correlated with audit fee per hour. Thus, this finding implies that it is hard to define the main trigger for the positive coefficient of HVALUE, but mostly when clients issue more hybrid bonds auditors increase audit fees no matter what types of hybrid bonds are issued.

Insert table 6 about here

6. Conclusion

This study investigates the relationship between issuing hybrid bonds and audit fees. I also examine the association between hybrid bonds and audit hours, audit fee per hour to find the factors which change audit fees. Both audit hours and audit fee per hour increase as the clients issue hybrid bonds no matter what types of hybrid bonds are issued. The scale of hybrid bonds also positively and significantly correlates with audit fees and audit hours meaning that audit fees and audit hours increase as the size of hybrid bonds increases. It can be implied that auditors detect greater risk for the firms with more hybrid bonds. The possible explanation of the findings is that auditors perceive the issuing hybrid bonds of clients as factors to increase the audit failure risk. Thus, they spend more audit hours and even raise the hourly fee rate to improve audit quality and maintain their reputation, which allow auditors to be paid higher audit fees. Through additional test, I find that when the firms with net profit issue hybrid bonds auditors simply use more audit hours. On the other hand, when the firms with net loss issue hybrid bonds auditors increase audit fee per hour. This result suggests that when the companies with high risk issue hybrid bonds auditors tend to even more increase audit fees, and this is because they use specialist and charge higher hourly fee rate to control increased audit failure risk. The results of this paper could contribute to regulators, academics, as well as investors by showing that they have to pay more attention to the companies issuing hybrid bonds.

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Appendix: Variable Definitions

Variable	Definition
AUDFEE	natural logarithm of audit fees paid to the auditor in year t
AUDFEEP	natural logarithm of audit fee per hour paid to the auditor in year t
AUDHOUR	natural logarithm of audit hours the auditors spend on audits in year t
HB	dummy variable which equals 1 if the firm issued the hybrid bonds in year t
HVALUE	scale of hybrid bonds relative to capital of the firm in year t
CB	dummy variable which equals 1 if the firm issued the convertible bonds in year t
BW	dummy variable which equals 1 if the firm issued the bonds with warrant in year t
CBVALUE	scale of convertible bonds relative to capital of the firm in year t
BWVALUE	scale of bonds with warrant relative to capital of the firm in year t
ISSUE	dummy variable which equals 1 if the firm issued common stock or preferred stock in year t
SIZE	natural logarithm of total asset at the end of the year t
CURTA	current asset divided by total asset at the end of the year t
LEV	the ratio of total liability to total asset at the end of the year t
Big4	dummy variable which equals 1 if the auditor is one of the Big4 audit firms in Korea
Auditor change	dummy variable which equals 1 if the firm has changed the audit firm in year t
SGROW	the ratio of sales growth
INV_R	inventory scaled by total asset
LOSS	dummy variable which equals 1 if the firm had net loss in year t-1
ROA	return on asset (net income divided by total asset at the beginning of the year)
MTB	total market value of equity divided by total book value of equity at the end of the year

Table 1. Descriptive statistics for the firms-level variables

Variable	Mean	Standard Deviation	1%	Median	99%
AUDFEE	18.052	0.701	16.811	17.923	20.352
AUDHOUR	6.702	0.889	3.664	6.649	9.122
AUDFEEP	11.349	0.591	10.382	11.291	13.790
HB	0.253	0.435	0	0	1
CB	0.116	0.320	0	0	1
BW	0.135	0.342	0	0	1
HVALUE	0.332	3.407	0	0.024	5.150
ISSUE	0.184	0.388	0	0	1
SIZE	11.179	0.605	10.174	11.063	13.139
CURTA	0.467	0.190	0.046	0.469	0.881
LEV	0.397	0.202	0.039	0.393	0.872
Big4	0.541	0.498	0	1	1
Auditor change	0.155	0.362	0	0	1
INV_R	0.097	0.087	0	0.080	0.375
LOSS	0.244	0.430	0	0	1
SGROW	8.564	35.435	-62.460	4.340	155.530
ROA	0.017	0.122	-0.455	0.031	0.264
MTB	0.589	1.660	0.002	0.111	8.675

Table 2. The effect of issuance hybrid bonds on audit fees, audit hours, and audit fee per hour

Dependent Variable	AUDFEE t-value (a)	AUDHOUR t-value (b)	AUDFEEP t-value (c)
Intercept	7.1564892 (24.90)	-4.3315964 (-13.75)	11.4792624 (60.09)
HB	0.0861081*** (7.13)	0.0445757*** (2.61)	0.0349910** (2.10)
ISSUE	-0.0139160 (-0.80)	-0.0453556* (-1.78)	0.0080126 (0.42)
SIZE	0.9225529*** (37.11)	0.8936444*** (31.12)	0.0298071** (2.00)
CURTA	0.1871731*** (4.27)	0.0611639 (1.17)	0.1280275*** (2.93)
LEV	0.1579078*** (3.83)	0.0508778 (0.97)	0.1059423** (2.49)
Big4	0.1532107*** (11.32)	0.3100187*** (17.06)	-0.1555063*** (-9.46)
Auditor change	-0.0228691*** (-2.87)	0.0337097*** (3.05)	-0.0573407*** (-5.77)
INV_R	-0.3607913*** (-4.13)	-0.2688563** (-2.32)	-0.0906065 (-0.85)
LOSS	0.1124344*** (10.49)	0.1190428*** (9.19)	-0.0038054 (-0.32)
Ratio sales growth	-0.0001922** (-2.35)	-0.0004535*** (-3.54)	0.0002926** (2.36)
ROA	-0.3530816*** (-8.46)	-0.2816911*** (-4.79)	-0.0710823 (-1.28)
MTB	0.0096852*** (4.51)	0.0116759*** (4.12)	-0.0021141 (-0.80)
Year indicators	Included	Included	Included
Industry indicators	Included	Included	Included
Adjusted R^2	0.6816	0.5520	0.1054

Table 3. The effect of scale of hybrid bonds on audit fees, audit hours, and audit fee per hour

Dependent Variable	AUDFEE t-value (a)	AUDHOUR t-value (b)	AUDFEEP t-value (c)
Intercept	8.4645179 (25.13)	-4.0772162 (-8.06)	12.0610043 (37.04)
HVALUE	0.0045199** (2.48)	0.0026484* (1.92)	-0.0009045 (-1.03)
ISSUE	-0.0005742 (-0.02)	-0.0283247 (-0.62)	0.0097977 (0.27)
SIZE	0.8001551*** (26.01)	0.8617869*** (18.87)	-0.0291907 (-1.11)
CURTA	0.1136399** (2.02)	0.0789675 (1.00)	0.0734835 (1.07)
LEV	0.2040706*** (3.83)	-0.0362203 -0.41	0.2088920*** (2.91)
Big4	0.1885899*** (9.77)	0.3738304*** (12.63)	-0.1948224*** (-7.39)
Auditor change	-0.0126399 (-0.71)	0.0565132** (2.32)	-0.0514648** (-2.45)
INV_R	-0.4075119*** (-3.41)	-0.1834522 (-0.94)	-0.2839126 (-1.51)
LOSS	0.1331476*** (9.22)	0.1109659*** (5.56)	0.0129310 (0.70)
Ratio sales growth	-0.0003761*** (-2.95)	-0.0005316*** (-2.59)	0.0002062 (1.16)
ROA	-0.2766067*** (-4.82)	-0.2669140*** (-3.20)	-0.0353458 (-0.51)
MTB	0.0057980* (1.88)	0.0084279*** (2.64)	0.0003930 (0.11)
Year indicators	included	Included	Included
Industry indicators	included	Included	Included
Adjusted R^2	0.6040	0.4838	0.1166

Table 4. The effect of hybrid bonds for the firms with net loss on audit fees, audit hours, and audit fee per hour

Dependent Variable	AUDFEE t-value (a)	AUDHOUR t-value (b)	AUDFEEP t-value (c)
Intercept	7.1551305 (24.89)	-4.3327021 (-13.75)	11.4784294 (60.12)
HB	0.0632860*** (4.70)	0.0496761** (2.50)	0.0107938 (0.56)
HB * LOSS	0.0661017*** (3.51)	-0.0150648 (-0.59)	0.0699358*** (2.91)
ISSUE	-0.0141784 (-0.82)	-0.0453459* (-1.78)	0.0077349 (0.41)
SIZE	0.9228256*** (37.11)	0.8937050*** (31.12)	0.0300117** (2.02)
CURTA	0.1886553*** (4.31)	0.0609670 (1.16)	0.1294470*** (2.96)
LEV	0.1626468*** (3.95)	0.0497921 (0.95)	0.1108838*** (2.61)
Big4	0.1529671*** (11.30)	0.3100766*** (17.06)	-0.1558512*** (-9.49)
Auditor change	-0.0225777*** (-2.83)	0.0335081*** (3.04)	-0.0569676*** (-5.73)
INV_R	-0.3602869*** (-4.12)	-0.2693677** (-2.32)	-0.0897024 (-0.84)
LOSS	0.0902318*** (6.88)	0.1242700*** (7.52)	-0.0272121* (-1.88)
SGROW	-0.0002038** (-2.49)	-0.0004511*** (-3.50)	0.0002814** (2.27)
ROA	-0.3434242*** (-8.23)	-0.2846715*** (-4.78)	-0.0605867 (-1.09)
MTB	0.0096829*** (4.51)	0.0116986*** (4.13)	-0.0021089 (-0.80)
Year indicators	Included	Included	Included
Industry indicators	Included	Included	Included
Adjusted R^2	0.6820	0.5520	0.1060

Table 5: The effect of each types of hybrid bonds on audit fees, audit hours and audit fee per hour

Dependent Variable	AUDFEE t-value (a)	AUDHOUR t-value (b)	AUDFEEP t-value (c)
Intercept	7.1458666 (24.82)	-4.3319999 (-13.76)	11.4805439 (60.10)
CB	0.0789013*** (6.35)	0.0414355** (2.00)	0.0288609* (1.65)
BW	0.0804141*** (5.47)	0.0464185** (2.24)	0.0253580 (1.44)
ISSUE	-0.0140202 (-0.81)	-0.0454274* (-1.78)	0.0079493 (0.42)
SIZE	0.9234609*** (37.09)	0.8936769*** (31.13)	0.0297115** (2.00)
CURTA	0.1848722*** (4.23)	0.0611505 (1.17)	0.1267711*** (2.90)
LEV	0.1621629*** (3.93)	0.0513102 (0.98)	0.1093006** (2.55)
Big4	0.1523836*** (11.28)	0.3099616*** (17.06)	-0.1562219*** (-9.55)
Auditor change	-0.0242855*** (-3.04)	0.0336413*** (3.04)	-0.0581110*** (-5.83)
INV_R	-0.3612119*** (-4.13)	-0.2688829** (-2.32)	-0.0914057 (-0.86)
LOSS	0.1145079*** (10.72)	0.1191360*** (9.20)	-0.0023409 (-0.20)
SGROW	-0.0001887** (-2.31)	-0.0004532*** (-3.53)	0.0002981** (2.41)
ROA	-0.3600995*** (-8.65)	-0.2823062*** (-4.79)	-0.0760318 (-1.37)
MTB	0.0098087*** (4.57)	0.0116911*** (4.13)	-0.0019981 (-0.75)
Year indicators	Included	Included	Included
Industry indicators	Included	Included	Included
Adjusted R^2	0.6814	0.5520	0.1052

Table 6. The effect of each types of hybrid bonds scale on audit fees, audit hours, audit fee per hour

Dependent Variable	AUDFEE t-value (a)	AUDHOUR t-value (b)	AUDFEEP t-value (c)
Intercept	8.4599066	-4.0678843	12.0520327
	(25.07)	(-8.01)	(36.88)
CBVALUE	0.0036240**	0.0056321*	-0.0025217
	(2.18)	(1.82)	(-1.23)
BWVALUE	0.0074225*	-0.0071473	0.0043644*
	(1.70)	(-1.02)	(1.21)
ISSUE	-0.0020617	-0.0234127	0.0070966
	(0.08)	(-0.53)	(0.20)
SIZE	0.8006677***	0.8608009***	0.0282087*
	(25.96)	(18.77)	(-1.07)
CURTA	0.1135877**	0.0768681	0.0734918
	(2.02)	(0.97)	(1.07)
LEV	0.2035176***	-0.0348273	0.2077922***
	(3.82)	(-0.39)	(2.91)
Big4	0.1886134***	0.3737902***	-0.1947596***
	(9.77)	(12.67)	(-7.40)
Auditor change	-0.0125032	0.0562902**	-0.0512195**
	(-0.70)	(2.32)	(-2.44)
INV_R	-0.4099464***	-0.1730542	-0.2882677
	(-3.43)	(-0.88)	(-1.53)
LOSS	0.1331943***	0.1108573***	0.0130442
	(9.23)	(5.55)	(0.70)
SGROW	-0.0003752***	-0.0005270**	0.0002080
	(-2.94)	(-2.58)	(1.17)
ROA	-0.2757221***	-0.2696262***	-0.0338205
	(-4.82)	(-3.22)	(-0.49)
MTB	0.0058425*	0.0092896***	0.0004744
	(1.89)	(2.71)	(0.13)
Year indicators	Included	Included	Included
Industry indicators	Included	Included	Included
Adjusted R^2	0.6041	0.4843	0.1168

국문초록

회사의 하이브리드채권 발행과
감사보수와의 상관관계

이소라

경영학과 회계학

서울대학교 대학원

본 연구는 회사의 하이브리드채권 발행이 감사 보수와 감사투입시간의 측면에서 감사인의 행동을 변화시키는지를 검증하였다. 2003 ~ 2017년 한국의 주식시장에서 하이브리드채권을 발행한 회사를 샘플로 사용하여 연구를 수행하였고, 본 연구의 중요한 결과는 다음과 같다. 하이브리드채권 발행은 감사보수, 감사투입시간 그리고 시간당 감사보수와 양의 상관관계가 있는 것으로 나타났다. 즉, 감사인은 고객 회사가 하이브리드채권을 발행하는 경우 감사투입시간을 증가시키고 시간당 감사보수를 올려 더 높은 감사 보수를 받는 경향이 있다. 또한 하이브리드채권의 발행규모가 증가함에 따라 감사보수 및 감사투입시간 역시 증가하는 경향이 있음이 발견되었다. 이러한 결과는 회사가 하이브리드채권을 발행 할 때 감사인이 고객 회사의 위험을 감지하고 더 큰 규모의 하이브리드 채권 발행에 대하여 더 큰 위험으로 인지 한다는 가설을 뒷받침한다. 즉, 감사인은 고객 회사의 하이브리드채권 발행으로 인하여 증가된 감사실패위험을 통제하고 감사 품질을 개선시키기 위하여 더 많은 감사 노력을 투입하며 더 높은 시간당감사보수를 청구하는 경향이 있다.

주요어: 하이브리드채권, 감사보수, 감사투입시간, 시간당 감사보수, 감사품질

학   번: 2017-21545