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The Determinants of Audit Fees for Companies in Vietnam

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Abstract

The purpose of this study is analyzing the determinants of audit fees for public companies in Vietnam because audit fees are one of the important factors influencing audit quality and audit tasks. According to the research result, this study has identified that only three of ten determinants influence the audit fees significantly, and these are auditee size, auditee complexity and reputation of audit companies, and this result is compared to the previous research on audit fees. Based on the comparison, this study discusses some reasons why only three determinants influence the audit fee significantly while the other factors do not. Finally, some recommendations are proposed in order to help public companies and the audit companies in Vietnam to determine the audit fee more accurately.

Keywords: Audit fee; audit tasks; auditor; audit quality.

1. Introduction

For the purpose of improving the reliability of financial statements and protecting the benefits of shareholders, many public companies in Vietnam have signed audit contracts with an audit company each year. In an audit contract, the audit fee is one of the more important agreements made between two parties because the audit fee influences closely the business condition and the expenses of the two parties. Moreover, the audit fee is also one of the factors influencing the financial statement quality since it is the financial source that allows the auditors to design the audit process completely and suitably.

Based on previous research, this study builds and tests a research model with the data collected from the financial statements, the audit contracts and annual reports of public companies in Vietnam. The research results are compared to the previous research results and this study tries to explain the influence of the determinants on the audit fee. Finally, some recommendations are proposed for state institutions and audit companies.

However, according to our research, while there have been many researches about the determinants of audit fees around the world, there are not many research papers in Vietnam which thoroughly research the determinants of audit fees. This is the reason why this research entitled "The determinants of audit fees for public companies in Vietnam" will become a useful and critical reference for public companies and audit companies to determine audit fees more accurately.

2. Theoretical framework

2.1. Agency theory

Jensen and Meckling (1976) identified that agency theory could include a contract between a principal and an agent to have an agreement that the agent had to represent the principal making decisions based on the benefit of the principal. And the classic agency relationship is the relationship between shareholders (the principals) and managers (the agents).

However, Colbert and Jahera (1988) showed that in some situations, shareholders, especially outside shareholders, are limited in their access to information about a business as well as the financial condition of companies. This could lead to the possibility of managers making decisions, which just maximize their own wealth instead of the wealth of shareholders. Therefore, shareholders have built many monitoring processes in order to minimize managers making decisions that would harm their own benefits and wealth.

Therefore, according to Colbert and Jahera (1988), based on the agency theory, the role of the auditor has appeared in order to monitor the actions of managers and confirm the behaviors of managers, which would not harm the benefits of shareholders, since the auditors are acting on behalf of boards of directors, shareholders and debtors for their benefit. In order to conduct the monitoring process through an audit, the shareholders of companies have to pay the expenses of the external and internal auditors.

According to Jensen and Meckling (1976), the fee arising from the agency relationship (agency fee) includes the monitoring cost paid by the principal, the bonding cost taken by the agent and the residual loss. The monitoring cost is the cost paid by the principals to minimize the abnormal behaviors of the agents,

which may harm the benefit, and wealth of shareholders. The monitoring cost, in some circumstances, will create some loss for the agent and this is called the bonding cost and is taken up by the agent to guarantee that the principals will not make any decisions harming the benefits of shareholders, or it may be considered as a compensation for the shareholders if there are any behaviors harming their own benefits. In the agency relationship, there may be a difference between the decisions of the agents to optimize the monitoring process of principals and the decisions maximizing the benefits of principals. And in some circumstances, this difference may lead the benefits of principles to decrease and this decrease is called the residual loss

Therefore, the audit fee is one of the monitoring costs paid by the shareholders in order to protecting their own benefits and wealth when the agency relationship exists. This is why the audit fee becomes one of the unavoidable results of the agency relationship, particularly the relationship between the shareholders (the principals) and the managers (the agents).

2.2. Information asymmetry theory

According to Yidi Xu (2011), the shareholders are usually limited in their access to the business and financial information of a company, while the managers have complete access to all information relating to the company. Therefore, although the shareholders are the owners of a company, they have not got enough crucial information and just base their investment decisions on the financial statements created by the managers. This leads to the demand that financial statements are accurate and reliable. This is one of the reasons why the role of auditors has developed in order to guarantee the reliability of financial statements.

Moreover, based on the financial data of listed companies on the Italian stock exchange, the research of Frino, Palumbo and Rosati (2013) have researched whether information asymmetry, which is represented by the bid – ask spread of company stocks, influences the audit fee. The research result demonstrates that information asymmetry influences audit fees significantly and positively. Because the research of Frino, Palumbo and Rosati (2013) is only based on the data in Italy, it is not definitely concluded that information asymmetry completely influences the audit fee positively. However, this research has contributed to demonstrate the information asymmetry between shareholders and managers does influence the audit fee.

3. Literature review and hypothesis development

3.1. Literature review about the different approaches to audit fee

The audit fee is important to the existence of auditors and audit companies (Vakilifard, Ebrahimi, Sadri, Davoodi and Allahyari, 2014) and has been explained in many different aspects by researchers around the world.

Amba and Al-Hajeri (2013) explained that the audit fee is one of the fees paid by a company for the audit service, which is conducted by independent auditors.

Indeed, El-Gammal (2012) and Tober (2014) have identified that the audit fee might be the salary paid for the auditors based on the audit process of one company and the audit fee is determined based on the contract between the auditors and the auditee on the basis of time,

condition and the number of auditors for the audit task.

From the perspective of agency theory, Ask and L.J. Holm (2013) identified that the "audit fee is one of the important factors of monitoring costs". The monitoring cost is one of the factors of an agency fee and the result of the agency relationship between the shareholders (principals) and the managers (the agents). According to Jensen and Meckling (1976), the monitoring cost is the cost paid by the principals to build the monitoring process and prevent abnormal behaviors of the managers.

However, from a quantitative perspective, Ali and Lesage (2010) have explained the definition of audit fee by summarizing the formula of Simunic (1980) as follows:

AUDFEE = p*q +E(L)

AUDFEE is the audit fee, p is the cost per unit of audit service, q is the audit time, and E(L) is the cost of risk to compensate for the expected loss.

Ali and Lesage (2010) explained that the first component (p*q) in the formula would represent the number of audit tasks that are dependent on many factors like the size, complexity or risk of the auditee. And the second component (E(L)) represents the compensation for the expected risk of auditors and audit companies in the case that a failure in an audit is declared. Moreover, Yidi Xu (2011) identified that besides the amount of audit tasks and the cost per unit, the audit fee had to include the necessary input costs for the auditors to conduct the audit process, and the profit.

Vakilifard, Ebrahimi, Sadri, Davoodi and Allahyari (2014) identified that "the audit fee reflects the economic costs of the audit engagement". From the perspective of the auditor, the audit fee has to include not only the expenses for the resources to conduct the audit process, but also a part of the expected loss that compensates for the liability of the auditor when they are faced with a future legal responsibility.

However, the definition of an audit fee has not been the most concerning problem in researching the determinants of audit fees. The most important thing in analyzing the determinants of audit fees is how the audit fee is measured so that the optimal result of the research model is achieved.

In many researches on the determinants of audit fees, the researchers have used the dependent variable as the natural logarithm (logarithmic function of base e) of the audit fee (Ask and L.J. Holm, 2013; Wang, O. and Chu, 2013; Swanson, 2008; Picconi and Reynolds, 2013; Hribar, Kravet and Wilson, 2011; Yidi Xu, 2011; etc.). However, there are a few researches using the dependent variable as the audit fee (Naser and Nuseibeh, 2008; Chan, Ezzamel and Gwilliam, 1993). Moreover, there are also some researches using other measurements, such as the audit fee divided by total assets (Gonthier-Besacier and Schatt, 2006) or the audit fee plus the fee paid for the internal auditors (Simunic, 1980). In order to find the reasons why many previous researches have used the dependent variable as the natural logarithm (Ln) of the audit fee, the research of Picconi and Reynolds (2013) has analyzed the model of the logarithm of the audit fee.

According to Picconi and Reynolds (2013), the Ln of the audit fee model with the independent variables, including the Ln of total

assets, was first created by Francis (1984) and has gradually become one of the standard functions in researches of the audit fee. Based on the model of Francis (1984), Picconi and Reynolds (2013) have computed and experimented on the Ln of the audit fee model with the independent variables, including Ln of total assets. The result is that the logarithm model has the higher explanatory power than the general modal. Moreover, the logarithmic model reduces the homoscedasticity. The reason is that when changing to the logarithmic model, the changes between the variables will be smaller compared to the general model, and this reduces the homoscedasticity (Hoang Ngoc Nham, 2007; Swanson, 2008).

Therefore, this is one of the reasons why many previous researches have used the Ln of the audit fee as their dependent variable for the research model when analyzing the determinants of audit fee.

3.2. Literature review about the determinants of the audit fee and hypothesis development

3.2.1. Auditee size

The priority to determine the audit fee is to determine the number of audit tasks (Frino, Palumbo, Rosati, 2013). According to Simunic (1980), the audit fee equals the cost per unit of audit service multiplied by the number of audit tasks, but these two components of the audit fee cannot be completely determined accurately.

Based on that, Yidi Xu (2011) identified that the auditee size is one of the representatives of the number of audit tasks. Because according to Yidi Xu (2011), if one company is of a larger size, the number of transactions would be more abundant and complicated; This leads to the reason why this company needs a more detailed accounting process to analyze the data. This is why the audit tasks would be more abundant and complicated. Moreover, according to Naser and Nuseibeh (2008), when a company is of a larger size than the others, it would depend on there being more financial statements than the other companies in order to encourage more investment than the small companies and this would definitely lead to the demand for the information in financial statements to be more reliable. Therefore, this company would have to accept a higher cost when signing a contract with large and reputable audit companies.

Determining the measurement of auditee size significantly influences the research results. Many previous researches have used total assets as the measurement of auditee size e.g. that of Ask and L.J. Holm (2013), Frino, Palumbo and Rosati (2013), Gonthier-Besacier and Schatt (2006), Yidi Xu (2011), Chan, Ezzamel and Gwilliam (1993), etc. However, there are some researches that use other measurements to analyze the influence of auditee size on the audit fee, such as the revenue (Zhang and Myrteza, 1996; Friis and Nielsen, 2010), the number of employees (Naser and Nuseibeh, 2008) or the number of transactions in the financial year (Amba and Al-Hajeri, 2013).

Chan, Ezzamel and Gwilliam (1993) identified that among companies of the same size, they might have different total assets because of the age of the assets or the different accounting policy or the policy on revaluation, the goodwill or the intangible assets. Moreover, when using the assets as one of the measurements to analyze the determinants of the audit fee, there would be multicollinearity with the other

variables relating to the auditee risks such as the receivables and inventories divided by total assets or total liabilities divided by the total assets. However, Chan, Ezzamel and Gwilliam (1993) indicated that if audit companies conduct the audit procedures based on the financial statements, the total assets are the most suitable measurement.

Regarding revenue, Chan, Ezzamel and Gwilliam (1993) identified that using revenue as the measurement would overcome some disadvantages when the total assets are used, but there would be also some disadvantages if revenue were used to measure auditee size. One of these is that the revenue is significantly influenced by the accounting policy and the financial structure of the company. Moreover, revenue might be different among companies of similar size and in the business sectors, especially the revenue of the financial companies are completely different from that of other companies.

Therefore, according to the meta-analysis result of Hay, Knechel and Wong (2004), around 70 researches have used total assets as the measurement of auditee size, while there are only 14 researches that use revenue. Moreover, Hay, Knechel and Wong (2004) identified that with the measurement of auditee size by assets, revenue is changed to the Ln function of primary data, in order to enhance the regression relationship with the audit fee. And this is why this research uses the Ln of total assets as the measurement of auditee size when analyzing the determinants of the audit fee. With this evidence, our first hypothesis follows:

H1: If the size of a company is larger, the audit fee will be higher.

3.2.2. Auditee complexity

The number of audit tasks would increase when the business of the auditee is more complex (Beattie, Goodacre, Pratt and Stevenson, 2001; Chan, Ezzamel and Gwilliam, 1993). However, according to Friis and Nielsen (2010), auditee complexity is one of the factors influencing the job performance of auditors to make the most reliable audit opinion. The auditee complexity influences not only the audit tasks and the job performance of auditors, but also the audit risk (Wang, O. and Chu, 2013). This is the reason why this factor is one of the determinants of audit fees.

Based on different opinions, the previous researches have used many measurements of auditee complexity—the number of subsidiaries (Friis and Nielsen, 2010; Yidi Xu, 2011; Chan, Ezzamel and Gwilliam, 1993; Simunic, 1980; Amba and Al-Hajeri, 2013; etc.), the business sector of the company (Naser and Nuseibeh, 2008; Zhang and Myrteza, 1996) and the number of sectors in which the company operates (Simunic, 1980; Desender, Crespi, Garcia-Cestona and Aguilera, 2009). Moreover, according to the meta-analysis of 106 researches of Hay, Knechel and Wong (2004), the main measurement of auditee complexity is the number of subsidiaries, the number of foreign branches, the number of business sectors, the number of audit places or the complexity level estimated subjectively by a group of auditors.

Chan, Ezzamel and Gwilliam (1993) identified that there are many reasons to explain why one company with many subsidiaries has to pay a higher audit fee than another company without subsidiaries, when these two companies are of similar size. The reason is that when a com-

pany has many subsidiaries, the consolidated financial statement is a complicated process and the company has to obey many strict regulations; this leads to the audit process being more broad and more complicated. Moreover, there would be more monitoring costs if the subsidiaries of one company are not audited by the same single group of auditors because it is more convenient and detailed for one group of auditors to monitor and audit the internal transactions, the accounting policy and the related party transactions. Furthermore, Frino, Palumbo and Rosati (2013) demonstrated that when a company has many subsidiaries, the auditor has to take inventory at many places, making the process time-consuming and the audit fee higher. Consequently, the number of subsidiaries might be one of the determinants of the audit fee. Hence, the second hypothesis is:

H2: If a company has many subsidiaries, branches, associates, affiliates and joint ventures, the audit fee will be higher.

3.2.3. Total receivables and inventories divided by total assets

Gonthier-Besacier and Schatt (2006) identified that one of the measurements of inherent risks is the nature of assets of the auditee and this is measured by the total receivables and inventories divided by total assets. In order to explain this opinion, Gonthier-Besacier and Schatt (2006), Desender, Garcia-Cestona, Crespi and Aguilera (2009) have indicated that the inventories and receivables have inherent risks because the valuation of inventories and receivables is really complicated and needs many accounting procedures to evaluate.

However, Chan, Ezzamel and Gwilliam (1993) have identified that some components of assets as inventories and receivables are more difficult to audit than other assets as cash or cash equivalents. Chan, Ezzamel and Gwilliam (1993) explain the reasons for this are that the inventories might include many different groups, and the audit procedures would be more complicated when determining the ownership of the inventories, the cost of the inventory (especially the overhead rate), or the provision for inventory impairment through the realizable value. About the receivables, they include many detailed accounts, which correspond with the number of customers and always change each year, and the auditors have to be cautious about the accuracy as well as the recoverable ability of these receivables to minimize the risk of material misstatement. Therefore, Naser and Nuseibeh (2008) and Amba and Al-Hajeri (2013) have identified that the audit process of inventories and receivables is more difficult than the other assets and this is why the auditors have to build many complicated audit processes and require much time for the audit as well as the sending of some confirmation requests to verify the accuracy and reliability of financial statements. Thus the following hypothesis is proposed:

H3: If a company's total receivables and inventories divided by total assets are larger, the audit fee will be higher.

3.2.4. Total liabilities divided by total assets

Frino, Palumbo and Rosati (2013) have identified that one of the risk measurements of the auditee is the debt level, because the higher debt level, the higher the risk the company has and this leads the audit fee to increase. Similarly, Naser and Nuseibeh (2008) and Karimpour (2013) have used the total liabilities divided by

total assets as the risk measurement when analyzing the determinants of the audit fee.

Whereas El-Gammal (2012) has identified that the debt level, which equals the percentage of long-term debts to total assets, as the common risk measurement. According to El – Gammal (2012), the debt level measures the ability of a company to repay debts. If the debt level is higher, the long-term debt structure would not be stable and the company might not repay all debts and this would lead to the credit rating of this company to decrease. Commonly, a company having a high debt level would face the loss of its business operation and this makes the possibility of bankruptcy or the possibility of a drop in the stock price. Therefore, while auditing these companies, the auditors have to face many inherent risks, especially the risk of expected legal responsibility; so in order to minimize the risk, the number of audit tasks and the audit time would increase and this would lead to an audit fee increase. Thus the following hypothesis is proposed:

H4: If a company's total liabilities divided by total assets are larger, the audit fee will be higher.

3.2.5. Audit opinion

According to the meta-analysis, Hay, Knechel and Wong (2004) demonstrated that two common measurements to measure the existence of problems in an audit process are the dummy variable − whether the audit opinion is an unqualified opinion or not − and the subjective judgment about the co-operation of customers in the audit process. However, 11 of 36 researches using the dummy variable about audit opinion have the result that the audit opinion influences the audit fee significantly and positively; the remaining researches conclude that the audit opinion influences the audit fee positively but insignificantly or significantly and negatively.

Yidi Xu (2011) identified that an unqualified opinion expressed by the auditors is not only a measurement of the independence of the auditors but also a measurement of the audit risk, because the audit opinion is a confirmation by the auditors of the accuracy and reliability of financial statements, and the audit opinion could inform some information about inherent risks in the business operations of company. Furthermore, Simunic (1980) has identified that the audit opinion represents the expected risk for financial crisis of the company, because when the auditors express an audit opinion which is not an unqualified opinion, this means that there are many inherent risks in the business operation and they could influence the auditee in the future.

However, according to Zhang and Myrteza (1996), there is still a question about using the audit opinion as the risk measurement, because the audit opinion is commonly expressed after the audit contract is signed, and this means that after the agreement on the audit fee between the two parties, the auditors can conduct the audit process and express the audit opinion. Moreover, according to auditing standards, the auditors are not permitted to receive any fee after signing the audit contract to guarantee the independence of auditors (Vakilifard, Ebrahimi, Sadri, Davoodi, Allahyari, 2014). Hence, the fifth hypothesis is:

H5: If a company has an audit opinion which is not an unqualified opinion, the audit fee will be higher than for a company having an un-

qualified opinion.

3.2.6. Business sectors

The business sector is the factor used by many researchers to analyze the influence of risk on the audit fee because according to Gonthier-Besacier and Schatt (2006), the business sector is one representative of the "exogenous dimensions" of risk. Whereas Friis and Nielsen (2010) also identified that different sectors would have different inherent risks.

Besides, based on previous researches, Hay, Knechel and Wong (2004) have indicated that auditors and researchers have accepted that there are some business sectors that are more difficult to audit than others. Moreover, based on the meta-analysis, two business sectors, which are commonly chosen in previous researches on audit fees, are services and financial.

Furthermore, Zhang and Myrteza (1996) have identified that the business sectors represent the actual complexity in auditing because if one company were operating in finance or real estate, this company would require a more creative approach than another company. Hence, this study develops the sixth hypothesis:

H6: If a company operates in the real estate sector, the audit fee will be higher than for a company operating in some other sector.

3.2.7. Return on equity (ROE)

Naser and Nuseibeh (2008) and El-Gammal (2012) have identified that the profitability or financial condition of a company is the important measurement of the management capability as well as the ability for the allocation of limited resources in the company. While Yidi Xu (2011) and Vakilifard, Ebrahimi, Sadri, Davoodi and Allahyari (2014) used return on equity (ROE), Hribar, Kravet and Wilson (2011) used return on assets (ROA) as the measurement to analyze the audit fee with the dummy variable being whether the company has had a continuous loss.

Friis and Nielsen (2010) identified that profit is one of the factors representing the risk of a going-concern assumption. Moreover, when the company has a loss, the managers definitely have a motivation to imitate the financial statements and this sign tells the auditors that they must make more effort in the audit process and this is why the audit fee increases along with the number of audit tasks.

Similarly, Gonthier-Besacier and Schatt (2006) have also indicated that the financial condition of a company, or particularly the bankruptcy risk, represents the inherent risks because the financial condition of a company would be related closely to the future legal proceedings if the company is bankrupted or material misstatements are detected.

Besides, Chan, Ezzamel and Gwilliam (1993) indicated that for the purpose of minimizing the correlation between the auditee size and the profit level, return on equity (ROE) should be used to measure the financial condition of the company. Although the ROE could also be influenced by the different age of assets, the capital structure and the accounting policy, using the ROE to measure the profitability of a company is the best solution. Thus, the seventh hypothesis is:

H7: If a company has a lower return on equity (ROE), the audit fee will be higher.

3.2.8. Loss

Gonthier-Besacier and Schatt (2006) have identified when the financial condition of a company is not good, or it could be said that the company has not any or only a little profit to pay for shareholders, the inherent risks would increase and this leads the number of audit tasks as well as the complexity in the audit process to increase. Similarly, Frino, Palumbo and Rosati (2013), Wang, O. and Chu (2013) have indicated that if a company has a continuous loss in recent years or the profitability ratio is really low, the risk of material misstatement of financial statements would increase.

In accordance with the research of Hay, Knechel and Wong (2004), one of two measurements of financial condition or the profitability of accompany is the dummy variable whether the company has had a continuous loss in recent years. Hence, this study develops the eighth hypothesis:

H8: If a company has had a loss in three recent years, the audit fee will be higher.

3.2.9. The reputation of audit companies

Based on the meta-analysis results of Hay, Knechel and Wong (2004), most previous researches have used the dummy variable whether the audit companies are Big 8/6/5/4 companies to measure the audit quality when analyzing the influence on the audit fee, because it is believed that the large audit companies would provide higher quality audit services than small audit companies (Yidi Xu, 2011).

Chan, Ezzamel and Gwilliam (1993), Zhang and Myrteza (1996) have demonstrated that the Big 4 audit companies have quality human resources which have a great deal of experience with many customers, and this is why the audit fees of Big 4 companies would be higher than that of other audit companies. Moreover, in order to protect their reputation, the Big 4 companies must make great effort to keep the quality of the audit process high, so a higher audit fee could be asked for to compensate for the quality audit process and also an "insurance fee" for expected legal proceedings in the future (Gonthier-Besacier and Schatt, 2006).

Interestingly, large auditees prefer to sign with large audit companies. The reason given by Yidi Xu (2011) is that the larger the auditee companies, the higher the demand for quality financial statements, because according to Naser and Nuseibeh (2008), the important thing with the auditee is that a high quality financial statement provided by a large audit company could build the trust from internal and external investors. Therefore, although the auditee would pay a higher audit fee, they could reduce financial costs because they have obtained the trust of the investors, financial institutions and other companies. Thus the following hypothesis is proposed:

H9: If a company has been audited by a Big 4 audit company, the audit fee will be higher than the audit fee for a company audited by another audit company.

3.2.10. Audit report lag

The audit report lag, which is the time from the date of the financial statement to the issuance date of the audit report, is commonly used to explain the effectiveness of an audit process, because when this elapsed time is longer, the auditors may have had to meet some difficulties in the audit process or the financial statements of auditees are very complicated, and this is why the auditor has needed more time for the audit. Therefore, the audit report lag could in-

fluence the audit fee (Hay, Knechel and Wong, 2004). In accordance with Beattie, Goodacre, Pratt and Stevenson (2001), the other reason is that when the audit report lag is longer, the number of audit tasks would be much more or the audit risk would increase, and this is why an increase of the audit fee may be one of the representatives of the insurance premium to compensate the expected risk in the future.

However, Zhang and Myrteza (1996) have indicated that the audit report lag does not necessarily represent the actual audit time, because the date of financial statements may not be the beginning date of the audit, so there is a probability that the audit report lag insignificantly influences the audit fee or may not reflect the reality in the research result. However, because the actual audit time is hard to determine accurately, the previous researches have still used the audit report lag as one of the effectiveness measurements of the audit process or the audit time in the audit fee model. Thus the following hypothesis is proposed:

H10: If the audit report lag of a company is longer, the audit fee will be higher.

4. Research design

4.1. Regression model

Based on the research model of previous researches on audit fees such as the research of Hay, Knechel and Wong (2004), Naser and Nuseibeh (2008), Yidi Xu (2011), this study builds a regression model, which is suitable for the conditions in Vietnam, as follows:

$$LNFEE = \beta0 + \beta1SIZE + \beta2COMPLX + \beta3REC\&INV + \beta4LIABI + \beta5OPINION + \beta6SECTO + \beta7ROE + \beta8LOSS + \beta9BIG4 + \beta10LAG + e$$

Based on the proposed research model and the data collected from public companies in Vietnam, this study analyzes the regression relationship between the dependent variable and the independent variables by the Ordinary Least Square method (OLS). Then, the hypothesis about the relevance model is tested by a significance level (Sig.) of F-ratio. If the significance level were lower than the statistical significance (5%), the regression model would be consistent with the overall data. Similarly, if the significance level (Sig.) of the coefficients were lower than the statistical significance (5%), the independent variable would influence the dependent variable significantly. Finally, based on the standardized coefficient beta, this study tests the hypotheses about the determinants of audit fees for public companies in Vietnam.

4.2. Sample selection and data collections

The data is collected from the audit contracts, the financial statements and the annual reports of public companies in Vietnam through the official websites of these companies. Moreover, the data is also collected through reliable websites about the stock exchange such as the official website of the Ha Noi Stock Exchange (hsx.vn), the website about financial and stock information of Vietnam, Laos and Cambodia (vietstock.vn) and the website about the economic – finance information of Vietnam (cafef.vn), etc.

Because the audit contract is one of the internal documents, which are rarely announced by public companies, this study use the non-random sampling method based on the audit contracts of public companies collected through some of the above websites.

This study has collected data from the au-

dit contracts, financial statements and annual reports of 71 public companies in Vietnam in 2013.

4.3. Measurement of variables

Table 1: Measurement of variables in the proposed research model

Variables	Measurement	Sources
LNFEE	Ln of audit fee	The audit contract
SIZE	Ln of total assets at the end of financial year	The financial statement
COMPLX	The number of subsidiaries, branches, associates, affiliates and joint ventures	The annual report
REC&INV	Total net receivables (after deducted provisions) plus total net inventories (after deducted provisions), this sum is divided by total assets	The financial statement
LIABI	Total liabilities divided by total assets	The financial statement
OPINION	1: The audit opinion is unqualified 0: The audit opinion is not unqualified	The audit report
SECTO	1: The company operates in the real estate sector. 0: The company does not operate in the real estate sector.	The annual report
ROE	Return on equity is measured by the annual net income divided by the average stockholders' equity	The financial statement
LOSS	1: The company has had loss in three recent years 0: The company has not had loss in three recent years	The financial statement
BIG4	1: The audit company is a Big 4 company 0: The audit company is not a Big 4 company	The audit report
LAG	The difference in time from the date of financial statements to the issuance date of audit reports.	The audit report

5. Empirical results

5.1. Descriptive statistics

The descriptive results demonstrate that the mean of the two ratios, which are total receivables and inventories divided by total assets and total liabilities divided by total assets, are high (when the mean of REC&INV and LIABI are 0.439 and 0.540). However, when considering the maximum and minimum of these two ratios, it is shown that the mean values are not actually high because the total receivables and inventories divided by total assets and total liabilities divided by total assets of all companies are high; but there are some companies that have these two ratios so high whereas other companies have these two ratios at a low level, particularly the maximum value of REC&INV and LIABI are 0.903 and 1.443 while the Mode of REC&INV is only 0.006 and the Mode of LIABI is 0.068.

About the financial condition, most companies have a positive return on equity (ROE) and this variable has a mean value of 0.069, and the businesses of most companies in three recent years have not had a loss (when LOSS has the Mode value of 0).

From the perspective of audit companies, most companies do not sign an audit contract with Big 4 companies when the Mode value of BIG4 is 0, and most of the audit opinions are

Table 2: Descriptive statistics results

	Mean	Median	Mode	Std. Deviation	Minimum	Maximum
LNFEE	18.231	18.198	17.504	0.6328	17.217	20.294
SIZE	26.448	26.481	23.509	1.3058	23.509	29.351
COMPLX	3.169	1	0	4.0602	0	17
REC&INV	0.439	0.463	0.006	0.2579	0.006	0.903
LIABI	0.540	0.580	0.068	0.2647	0.068	1.443
OPINION	0.887	1	1	0.3184	0	1
SECTO	0.577	1	1	0.4975	0	1
ROE	0.069	0.086	0.005	0.2662	-1.297	1.122
LOSS	0.310	0	0	0.4657	0	1
BIG4	0.056	0	0	0.2322	0	1
LAG	71.761	74.000	86.000	19.9674	9	137

unqualified opinions (Mode value of OPINION is 1). Moreover, the timeliness of an audit report is decreased because the mean value of LAG is 71.671 days and the longest time to issue the audit report after the date of financial statements is 137 days. Therefore, it can be believed that the audit report lag influences the audit fee because the long time to issue the audit report could be one of the reasons why the audit time is extended and this leads the audit fee to increase.

5.2. Correlation relationship among variables

Before analyzing the regression relationship between the dependent variable and the independent variables in a multiple regression model, the priority is considering the correlation relationship between the dependent variable and independent variables through a correlation matrix, because if the independent variables and the dependent variable are highly correlated through the correlation coefficients, it would be possible that the independent variables influence significantly the dependent variables in the regression model. Moreover, the correlation matrix among the independent variables is one of the methods to test the multicollinearity phenomenon of the model.

Based on the correlation matrix between the independent variables and dependent variable LNFEE in Appendix B, with the observed significance level Sig. (2-tailed) smaller than 0.05, five of ten variables are highly correlated with the dependent variable LNFEE. They are LNFEE, COMPLX, LIABI, BIG4 and LAG, whose corresponding observed significance levels are 0.00, 0.00, 0.021, 0.00 and 0.043 respectively. Besides, the other variables (REC&INV, OPINION, SECTO, ROE and LOSS) are not highly correlated with the dependent variables LNFEE because their observed significance levels (Sig.) are larger than the statistical significance 0.05.

However, according to Tran Ngoc Minh (2006), correlation analysis measures only the linear correlation relationship between two variables, whereas the regression analysis through a regression model is estimating or forecasting one variable on the basis of the other variables. Therefore, considering the correlation relationship among variables could not be used to conclude the regression relationship between the dependent variable and independent variables in the research model.

5.3. Regression result

5.3.1. Relevance model

The regression result demonstrates that the adjusted R square is 45.4%. This means that the independent variables could only explain 45.4% of the change of the dependent variables LNFEE. However, to analyze whether the research model is relevant with the overall data, the hypothesis about the relevance model is tested. Therefore, the null hypothesis is created as the R squared of overall data equals 0.

Based on the above result, the significance level (Sig.) of F-ratio equals 0.000, is smaller than the statistical significance 0.05. Therefore, this is the basis on which to reject the above null hypothesis and it can be concluded that the regression model is completely relevant to the overall data.

Besides, the research results would be accurate and reliable because the compulsory assumptions to build a multiple linear regression model are not violated from the test result of this model (Appendix A).

5.3.2. Regression result

Based on the significance level (Sig.) of t-statistic of the independent in the table 4, only three of ten independent variables (SIZE, COMPLX, BIG4) influence the dependent variable LNFEE significantly and positively, when their significance levels (Sig.) are 0.005, 0.002 and 0.038, which are smaller than the statistical significance 0.5.

Then, to consider the relatively importance of the independent variables when explaining the change of the dependent variable LNFEE, this study uses the standardized coefficient beta to compare the relative importance of independent variables to the dependent variable. Therefore, based on the standardized coefficient beta of three variables (SIZE, COMPLX and BIG4) in Table 4, the COMPLX variable has the largest influence compared to the other variables whose standardized coefficient beta is 0.350.

5.3.3. Testing the research hypotheses

Based on the research result in Table 4, particularly the significance levels (Sig.) of F – ratio, the research hypotheses are tested.

Firstly, the hypothesis H1 assumes that if the size of a company is larger, the audit fee will be higher. Based on the significance level (Sig.) and the sign of standardize coefficient beta, the total assets is one of the factors influencing the audit fee significantly. Therefore, hypothesis

Table 3: Relevance model result

R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
0.729	0.532	0.454	0.46760	6.821	0.000

Table 4: Regression result

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	13.738	1.376		9.985	0.000
SIZE	0.153	0.052	0.316	2.923	0.005
COMPLX	0.055	0.017	0.350	3.283	0.002
REC&INV	0.105	0.237	0.043	0.443	0.660
LIABI	0.042	0.238	0.018	0.176	0.861
OPINION	0.060	0.190	0.030	0.313	0.756
SECTO	-0.113	0.123	-0.089	-0.919	0.362
ROE	-0.169	0.253	-0.071	-0.666	0.508
LOSS	-0.050	0.137	-0.037	-0.366	0.715
BIG4	0.596	0.282	0.219	2.118	0.038
LAG	0.003	0.003	0.092	0.906	0.368

H1 is accepted. This result is completely similar to many previous researches such as the research of Naser and Nuseibeh (2008), Gonthier-Besacier and Schatt (2006), Yidi Xu (2011), Ask and L.J. Holm (2013), Wang, O. and Chu (2013), Simunic (1980), Swanson (2008), etc. Consequently, audit companies in Vietnam consider the auditee size, which is represented by total assets, when determining the audit fee for public companies in Vietnam. The reason is that when the auditee size is larger, the complexity and risk in the audit process increase, so the audit tasks and audit time increase and this leads the audit fee to increase.

The auditee complexity, which is represented by the number of subsidiaries, branches, associates, affiliates and joint ventures, is one of the factors influencing the audit fee significantly and is positively based on the result of the significance level and the sign of the standardized coefficient beta. Therefore, hypothesis H2, which assumes that if a company has many more subsidiaries, branches, associates, affiliates and joint ventures, the audit fee will be higher, is accepted. This result is similar to many previous researches on audit fees such as the research of Yidi Xu (2011), Wang, O. and Chu (2013), Amba and Al-Hajeri (2013), Simunic (1980), Chan, Ezzamel and Gwilliam (1993). It can be explained that to minimize the detected risk and achieve the audit objectives, the auditors have to go to every subsidiary, branch, associate, affiliate and joint venture of the company to conduct the audit. And this will definitely cost many audit tasks, much audit time and costs in the audit process. Therefore, this may be one of the reasons why audit companies have to consider auditee complexity when determining the audit fee for public companies in Vietnam.

The research results demonstrate that the total receivables and inventories divided by total assets influence the audit fee insignificantly, so hypothesis H3, which assumes that if the company's total receivables and inventories divided by total assets are larger, the audit fee will

be higher, is rejected. This result is similar to the research of Yidi Xu (2011) and Wang, O. and Chu (2013). And the reason for this result is that the auditors may not consider the receivables and inventories as two complicated accounts to audit. Based on Yidi Xu (2011), receivables and inventories are usually used for earning management and are easier to manipulate by managers because the judgment of managers could have a large impact on the value of these two accounts as fair value or realizable value. Therefore, these accounts become unreliable and in order to decrease the audit risk, prudent auditors would choose not to rely on this ratio to determine the audit risk that in turn influences the audit fee.

Similarly, based on the significance level (Sig.), the total liabilities divided by total assets influences the audit fee insignificantly and this is why hypothesis H4 is rejected. As a matter of fact, this result is contrary to the authors' expectation, because in reality, when the company has a high leverage ratio, it would be the motivation for managers to manipulate their financial statements to impress the debtors and avoid debt covenant violation. This would lead the audit risk to increase and thus the audit fee. Nevertheless, based on the data in Vietnam, this result is not suitable for the above explanation from the agency theory and also is different from most of the prior researches.

The audit opinion is also one of the factors influencing the audit fee insignificantly based on the research result of the significance level (Sig.), so hypothesis H5 is rejected. This result is similar to many previous researches such as Vakilifard, Ebrahimi, Sadri, Davoodi and Allahyari (2014), Yidi Xu (2011), Wang, O. and Chu (2013). The main reason for this result is because the audit opinion in the audit report is expressed after the audit contract is signed. This means after determining the audit fee and signing the audit contract with the auditee, the audit company conducts the audit process and after that, the auditors express the audit opinion in the audit report. Moreover, because of the intense competition among audit companies, although the business and financial risk of the auditee may be high, some audit companies have the tendency towards the unqualified audit opinion when signing a contract with the auditee because they do not want to lose customers. That is why somehow the audit fee is not affected significantly by the audit opinion.

Hypothesis H6, which assumes that if a company operates in the real estate sector, the audit fee will be higher than for at company operating in another sector, is rejected, because based on the significance level (Sig.), the business sector influences the audit fee insignificantly. The reason for this result is that although the different business sectors have different complexities and risk levels, most public companies are operating in many business sectors at the same time. Therefore, this could be one of the reasons why the audit companies consider other factors to determine the audit fee instead of the business sector.

Hypothesis H7, which assumes that if a company has a lower return on equity (ROE), the audit fee will be higher, and hypothesis H8, which assumes that if a company has a continuous loss in three recent years, the audit fee will be higher, are two hypotheses relating to the financial conditions of auditees. Based on the research result, the two hypotheses are rejected

because two variables, which are ROE and the dummy variable, whether the auditee has had loss in three recent years, influences the audit fee insignificantly. In order to explain this result, Chan, Ezzamel and Gwilliam (1993) have given two reasons. Firstly, the audit companies could not know the importance of these factors clearly in the audit process and when determining the audit fee. Secondly, for the purpose of enhancing their reputation and finding more customers, audit companies might reduce the audit fee for the auditee having bad financial conditions, and this leads the influence level of financial conditions of the auditee on the audit fee to decrease. Lastly, there are some probabilities that the managers of the auditee company could manipulate these financial ratios and profits to boost their bonuses or impress outside investors by earnings management, so these ratios become more unreliable and that could be one of the reasons why the auditors still consider these factors but not take these as an important factors to decide the audit fee.

Moreover, hypothesis H9, which assumes that if a company has been audited by a Big 4 auditing company, the audit fee would be higher than for a company audited by another audit company, is accepted because based on the significance level (Sig.), the reputation of audit companies influences the audit fee significantly. The first reason for this result given by Chan, Ezzamel and Gwilliam (1993) is that thanks to experienced and professional auditors, the audit quality of Big 4 companies might be high and this leads to the audit fee increase. The second reason given by Yidi Xu (2011) is that the larger the public companies, the higher the demand for quality financial statements, and this leads to the demand for signing with large audit companies to increase. And the last reason is that in accordance with Yidi Xu (2011), it is not sure to conclude that the audit fee of Big 4 companies is high because the audit quality of Big 4 companies is higher than the other audit companies, but maybe because of the influence of the reputation of audit companies in the competitive market of audit fees.

Lastly, hypothesis H10, which assumes that if the audit report lag of the company is longer, the audit fee will be higher, is rejected, because the audit report lag influences the audit fee insignificantly based on the research result. The reason for this result is that the audit fee is determined by the audit company when signing the audit contract with the auditee and this has happened before the auditors issue the audit report. Therefore, this may be one of the reasons why the audit report lag influences the audit fee insignificantly.

6. Conclusions and recommendations

6.1. Conclusions

For the purpose of researching the determinants of audit fees for public companies in Vietnam, some important previous content will be summarized as follows:

Firstly, two theoretical frameworks for the existence of auditors are introduced. These are agency theory and information asymmetry theory. The agency theory indicates the benefit conflict between the agent and the principal, particularly the shareholders and the managers. In order to prevent abnormal behaviors of managers which can harm the benefit and wealth of shareholders, the shareholders have built some monitoring procedures and one of these procedures is the audit. However, to build these

procedures, the shareholders have to pay costs, which are called the agency costs, and the audit fee is one of the components of the agency costs. Whereas the information asymmetry indicates that although the shareholders are the actual owners of the company, they do not have access to all internal information about the financial and business condition of company, but only know through the financial statements created by the managers. Therefore, in order to guarantee the quality of financial statements, the shareholders need the auditors to confirm whether there are any material misstatements in the financial statements. And the shareholders have to pay the audit fee for the auditors.

Secondly, according to the previous researches, the opinions about audit fees are summarized in many aspects. Besides, this study introduces some different measurements of the determinants of audit fees in previous researches, and analyzes them to find the best measurement for the research model. Moreover, the different opinions about the relationship between the determinants and audit fees are the basics to build the research hypotheses.

Then, the research methodology is given in this study. Moreover, the research model is proposed with the measurements of the dependent variable and independent variables, and the research hypotheses are built based on the previous researches.

After that, the research model is analyzed based on the research methodology as presented. After analyzing the correlation among variables through the correlation coefficient, the research model is completely relevant to the overall data, and the regression relationship between the independent variables and the dependent variable is analyzed by the OLS method. The result shows that only three of ten variables influence the audit fee significantly. To explain this result, this study compares the result with the other researches and discusses some reasons based on the previous researches.

Finally, some recommendations are proposed to improve the effectiveness of audit fee determination and some limitations and research directions in the future are recommended.

6.2. Recommendations

Based on the research result, two recommendations are proposed for the state institutions and audit companies to improve the effectiveness of audit fee determination as follows:

Firstly, the state institutions need to propose some specific regulations about the basis for determining audit fees. At the moment, the regulations about audit fees are only proposed in Article 41 of the Independence audit Law (2011), which has generally explained that the audit fee has to depend on the audit tasks or the audit time. However, the audit fee does not depend only on the characteristics of the audit tasks, but also depends on the characteristics of the auditee as to the business and financial conditions. Particularly, the research result of this study has proved that besides the characteristics of audit companies, the audit fee for public companies in Vietnam also depends on the auditee size and auditee complexity. But because the state institutions have not already proposed a basis for determining audit fees, including the characteristics of the auditee, some audit companies would not be concerned about the risk characteristics when determining the audit fee. Therefore, in order to minimize unfair com-

petition in the audit market when some audit companies reduce their audit fee lower than the minimum fee for one audit process, the state institutions have to propose a more specific basis to determine the audit fee, not only the basis relating to the audit tasks or the experience of auditors, but also the basis relating to the characteristics of the auditees.

Secondly, besides the audit fee, the audit companies have to inform the auditees about the basis for calculating the audit fee. Because no one knows the auditee more clearly than the auditees, this would help the audit companies get much relevant information to determine the audit fee and build the audit process. Therefore, informing the auditees about the basis used for calculating the audit fee would be similar to taking the opinions of the auditees about their own business conditions and inherent risks.

7. Limitations and research directions in the future

Firstly, one limitation of this study is the sampling size, because in reality there are not many public companies in Vietnam announcing their audit fees like other countries in the world, this is why it is difficult to collect data and the sampling size is not large. Therefore, future research on the determinants of audit fees may overcome the difficulty about collecting the data and the sampling size will increase. Secondly, the question as to whether the audit fee is related to the audit quality is still under discussion and has to be researched specifically in the future. Finally, the competitive market of audit fees in Vietnam and the determinants of the competitive market of audit fees have to be researched thoroughly and specifically, so this research topic should be concerned to propose some useful recommendations to build a healthy competitive environment for audit fees in Vietnam.

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