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THE INFLUENCE OF BANKS ON AUDITOR CHOICE AND AUDITOR
REPORTING IN JAPAN

JIANG JIN

MPHIL

LINGNAN UNIVERSITY

2010

THE INFLUENCE OF BANKS ON AUDITOR CHOICE AND AUDITOR
REPORTING IN JAPAN

By
JIANG JIN

A thesis
submitted in partial fulfillment
of the requirements for the Degree of
Master of Philosophy in Business

Lingnan University

2010

ABSTRACT

The Influence of Banks on Auditor Choice and Auditor Reporting in Japan

by

JIANG Jin

Master of Philosophy

Debt as opposed to equity as the major source of financing and the influence of banks on the corporate governance of listed companies are unique features of the Japanese business environment. This thesis investigates how these features affect the choice of auditor by Japanese listed companies and auditor reporting by Japanese CPA firms on those companies. Pong and Kita (2006) provided some univariate analyses and indicated that Japanese companies tended to select the same external auditors as their main banks to reduce the agency costs. In this thesis, I further examine the influence of main banks on auditor selection by logistic regression and also investigate the influence of main banks on auditor reporting quality after controlling self-selection bias. Using data from Japanese listed companies in the Tokyo Stock Exchange over the 2002-2008 period, I provide empirical evidence that companies with more reliance on main bank loans are more likely to choose their main banks' external auditors. Using the Propensity Score Matching method and the Heckman two-step binary probit model to control for self-selection bias, the empirical results support the hypothesis that main bank auditors are more likely to issue modified opinions to the borrowing companies than non-main bank auditors, providing evidence of higher audit quality from main bank auditors. As a sensitivity test, I also use discretionary accruals as a measure of audit quality. The results indicate that companies who choose the same auditors as their main banks have higher audit quality than companies who choose different auditors from their main banks. My thesis contributes to the existing auditing literature in several ways. First, by studying the influence of debt financing on auditor choice and auditor reporting, this thesis extends the auditor market research that focuses mainly on the role of auditors in equity markets to the bank-based market. Furthermore, this thesis also complements auditing research on the influence of institutions on audit quality.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

(Jiang Jin)

September 10, 2010

CERTIFICATE OF APPROVAL OF THESIS


**THE INFLUENCE OF BANKS ON AUDITOR CHOICE AND
AUDITOR REPORTING IN JAPAN**

by


Jiang Jin

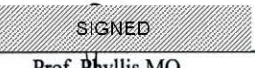
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REPORTING IN JAPAN

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Master of Philosophy

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The Influence of Banks on Auditor Choice and Auditor Reporting in Japan

Chapter 1 Introduction

This thesis examines how the influences from banks affect auditor choice and auditor reporting in Japan's audit market. Specifically, I study whether auditor choice of listed companies in Japan is influenced by banks that provide these companies with major debt financing and whether auditor reporting by Japanese CPA firms on borrowing companies is influenced by banks who hire the same auditors as the borrowing companies.

Prior research that examines auditor choice and auditor reporting has primarily focused on the audit markets in the U.S., Australia, the U.K. and other countries where companies rely heavily on well-developed equity markets for external financing. The research generally indicates that audits serve to monitor management, contributing to the firms' overall corporate governance, and thereby protecting shareholders' interests (e.g., Francis and Wilson, 1988). However, there is limited empirical research that examines the effectiveness of external audits in markets where debt is a more important source of corporate financing than equity capital. In Japan, the financial system is well known for being predominantly

bank-based and companies rely heavily on bank loans for external financing. In this situation, the major agency problem exists between managers and creditors, while the major agency problem in equity market-oriented countries is between managers and shareholders. In addition, many banks in Japan are also shareholders of the borrowing companies, thus creating a unique role for banks in the corporate governance of these companies. The institutional environment of Japan presents an interesting arena for the study of auditor choice and auditor reporting.

In equity market-oriented countries, external auditors serve to mitigate the agency problems between managers and shareholders. However, in these countries, non-controlling shareholders and other stakeholders often do not have adequate influence on managers to select their preferred external auditors. The controlling shareholders who have concentrated ownership and influential roles in corporate governance may choose low quality auditors in order to capitalize and sustain the opaque gains derived from weak internal corporate governance (Copley and Douthett, 2002; Karpoff, Malatesta and Walkling, 1996). The assurance of audit quality in this situation is mainly through imposed regulations, quality standards of the audit firms themselves, corporate governance of the auditees and perhaps a relatively high litigation risk.

In Japan, many companies depend extensively on debt financing through bank

loans. Many companies have a main bank which is often the largest creditor and a shareholder of the company. The main bank is not only the major source of financing but also has a significant role in the corporate governance of the borrowing companies. Before the 1980s, the main banks had dominant power in the Japanese economy and corporate governance, and they could have access to the private information of the borrowing companies easily and directly participated in firm management through placing bank employees on boards of directors. Since the 1980s, several Japanese financial liberalization programs including the 1996 “Big Bang” program have been promoted to relax the rules and regulations governing capital markets with an aim to make equity markets more open and free, thus encouraging companies to make greater use of equity financing. As a result of these liberalization programs, the main banks have lost their dominant power in the Japanese economy, as companies started to switch to equity financing (Osaki, 2005). However, banks still play an important role in corporate financing.

Extant literature has paid little attention to whether the main banks do rely on external auditors to enhance their monitoring of the borrowing companies and whether the main banks influence the selection of the external auditors of borrowing companies. Pong and Kita (2006) provided descriptive statistics on the influence of main banks on companies’ auditor choice for the year 2000. They

found that companies in Japan tend to select the same external auditors as their main banks. However, they just did some univariate analysis and did not establish econometric model to run multivariate regression.

In this thesis, I provide an in-depth empirical examination of the influence of a company's main bank on the auditor choice of the company and on auditor reporting behavior in Japan for the period 2002-2008. Based on agency theory, I expect that the more important the role of main banks in the borrowing companies' financing and corporate governance, the more likely that the borrowing companies will select their main banks' auditors as their external auditors. That is, the more dependence the companies have on main bank loans compared to equity, the more likely that the companies will select the same auditor as their main bank due to influences from the bank and the past economic relationship between the bank and the auditor. Given the bank's confidence in its auditor, using the same auditor as the bank could reduce default risk and consequently lower the cost of debt capital for the borrowing company. In addition, I expect main banks to influence the quality of auditor reporting as the bank is eager to know whether the borrowing company has continued to meet debt covenants. If the audit quality of the borrowing company's auditor cannot satisfy the requirements of the main bank, the main bank may pressure the borrowing company to fire the auditor. In addition, the auditor

may also lose the business as the external auditor of the main bank. Thus, given that main bank auditors will have much to lose if they do not provide quality audits, they should be more likely to issue modified opinions to the borrowing companies when appropriate, compared with the situation where the bank and the borrowing company choose different auditors.

I test my hypotheses by analyzing companies listed on the Tokyo Stock Exchange during the period 2002-2008. Consistent with my expectations, I find that companies with higher bank loans relative to equity are more likely to choose their main bank's external auditor as their own auditor, after controlling for other firm characteristic variables expected to affect auditor selection. Moreover, using the propensity score matching method and the Heckman two-step binary probit model to correct self-selection bias, I find that main bank auditors are more likely to issue qualified opinions than non-main bank auditors, indicating higher audit quality.

My thesis contributes to the existing auditing literature in several ways. First, there is little research that examines the demand for quality audits as a corporate governance mechanism in countries where company financing relies mainly on bank loans rather than on the equity market. By studying the influence of debt financing on auditor choice and auditor reporting, this thesis extends the audit market research that focuses mainly on the role of auditors in equity markets to the

bank-based market. Ashbaugh and Warfield (2003) study the role of external audits in Germany where companies also rely heavily on bank loans and find a positive relation between German companies' demand for quality audits and the interest of creditors. However, they did not specifically address the impact of creditors on auditor reporting. I complement their research by studying the influence of banks on auditor choice and auditor reporting in the unique institutional setting of Japan. Furthermore, this thesis complements auditing research on the influence of institutions on audit quality. For example, Chan, Lin and Wong (2010) study how institutional features such as the extent of state ownership, the maturity of capital markets and legal systems affect auditors' reporting decisions and find that a weaker institutional environment results in lower quality audits. Chan, Lin and Mo (2006) examine how auditor reporting is affected by political-economic institutions in China and conclude that government influence can reduce the audit quality of local auditors. However, I should point out that the political-economic institutions in China are very different from those in Japan. The interest of government owners of listed companies in China is also very different from the interest of major creditors of Japanese companies. However, I echo their findings that the institutional environment can have a significant impact on audit quality.

My study suggests that auditors in Japan play a monitoring role to mitigate the

conflicts between the management of the borrowing companies and their creditors (main banks), and that these companies will choose a suitable auditor to lower the cost of debt capital. Previous research mainly emphasizes the signaling effect of audit quality differentiation and indicates that hiring a high-quality auditor will be a signal of good corporate governance and credible financial reporting to investors (Palmrose, 1984). For my study, if borrowing companies choose the same external auditors as their main banks, they could improve the expectations of the main banks regarding the monitoring function of auditors, provide a signal to the major creditors on the quality of their financial reporting and mitigate the information asymmetry between the main banks and the borrowing companies, which will eventually lower the cost of debt capital for them. This unique agency relationship among company management, creditors (main banks) and auditors in Japan is quite different from the agency relationship among corporate management, shareholders and auditors in other well developed equity-oriented markets.

The remainder of the thesis is organized as follows: Chapter 2 describes the relevant institutional background in Japan and Chapter 3 develops the research hypotheses. Chapter 4 presents the research method. Chapter 5 discusses the empirical results and the sensitivity tests and Chapter 6 concludes.

Chapter 2 Institutional Background

2.1 Financial reporting and auditing in Japan

The Japanese accounting system is based on the “Financial Accounting Standards for Business Enterprises” which integrates the Japanese Commercial Code (JCC), Stock Exchange Law (SEL), and tax regulations. Under the JCC, corporations are required to provide annual financial statements to shareholders in accordance with its prescribed accounting rules. Under the SEL, corporations which offer securities to the public are required to file a registration statement containing audited financial statements with the Ministry of Finance (Taylor, 1997).

Large companies in Japan typically employ two types of auditors: corporate auditors and independent auditors. Corporate auditors are employees of a company elected at the shareholders’ meeting and they do not need to be certified public accountants. Very often, companies establish a board of corporate auditors to monitor the activities of management in the discharge of their duties and also try to ensure that no fraud or illegal act takes place (Pong and Kita, 2006). However, the effectiveness of corporate auditors has been questioned due to their frequent lack of independence from top management and their inability to prevent or detect frauds committed by management (Fukukawa, Mock and Wright, 2006). Thus, external

auditors are needed to evaluate the effectiveness of corporate auditors and audit the companies' financial statements (Fukukawa, Mock and Wright, 2006).

An important feature of the Japanese audit market is the strong presence of Big 4 audit firms through alliances with one or more large Japanese audit firms. The concentration level of the Big 4 in the Japanese audit market for listed companies was 84% in 2007 (Grant Thornton, 2007). This is a high level of concentration, although lower than that in the US and the UK which have both been over 95% in recent years (Grant Thornton, 2007).

Another important characteristic of the history of the Japanese audit market is that there has been relatively little auditor litigation as the country is much less litigious than the U.S. (Wingate, 1997; Ginsburg and Hoetker, 2004). However, litigation does occur and can have potentially devastating consequences for CPA firms. For example, in 2006, ChuoAoyama, a PricewaterhouseCoopers (PwC) affiliate in Japan, was involved in a major accounting fraud. In May 2006, the Financial Services Agency suspended the operations of ChuoAoyama (Skinner and Srinivasan, 2010). This suspension caused the loss of almost 30 percent of ChuoAoyama's clients (The Daily Yomiuri, 2006)¹. Thus, the litigation against ChuoAoyama caused reputation loss and serious damage to the market share of PwC in Japan.

2.2 Characteristics of the Japanese capital market

Between the Second World War and the 1980s, one traditional feature of the Japanese economy was the dominance of Keiretsu conglomerate groups, which provided a network for information-sharing and business combinations for their corporate member companies (Ouandlous and Philippatos, 1999). Most companies in Japan either belonged to the Keiretsu or were affiliated with group members of the Keiretsu. Corporate groupings composing the Keiretsu had reciprocal ownership interests, long term business contractual arrangements and close financial ties to Japanese banks, which were usually regarded as the core of each Keiretsu group. The major source of corporate financing was bank loans (Ouandlous and Philippatos, 1999).

Typically, most Japanese companies have a main bank, which is often the largest provider of debt financing (Morck et al., 2000; Hoshi et al., 1990). In addition, the main bank usually acts as a shareholder of the borrowing companies. Until recently, the banks in Japan were only allowed to hold a maximum of 5% of the shares in the borrowing companies. This proportion may seem relatively small. However, viewed from the power of Keiretsu groupings where the main banks and other companies often exchange equity shares with each other to form stable

shareholding blocks, this small holding can give the main bank an opportunity to exert a significant influence over the corporate governance of the borrowing companies (Bies, 2003). Thus, main banks in Japan can play a significant role in corporate governance of companies through simultaneously holding debt and ownership stakes and they frequently exert control through direct and indirect involvement in the management of their borrowing companies. For instance, banks may place their employees on the board of directors of the borrowing companies. The role of the main bank in the Japanese economy has led to stable and long-term relationships between Japanese banks and their corporate clients, in contrast to the banks in the U.S. or other western economies whose relationships with their corporate clients are often described as short-term, less stable and more costly (Ouandlous and Philippatos, 1999). For borrowing companies, having a main bank provides more stability and less fluctuations in cash flows compared with bank-independent companies (Hoshi et al., 1990). Even when the borrowing companies are in financial distress, the main bank can continue to deliver debt financing to rescue them and prevent them from bankruptcy (Sheard, 1989). During the period between Second World War and the 1980s, the core status of the main banks in Keiretsu Groups and the borrowing companies' significant economic dependence on them gave the main banks a dominant role in corporate governance.

The close ties that a main bank had with its customers gave it relatively easy access to private information in the borrowing companies. Thus the information gap between the main bank and its customers narrowed, which resulted in relatively less demand for high quality external auditing during that period. (Hoshi and Kashyap, 2001; Skinner and Srinivasan, 2010).

During the 1990s, ongoing economic problems in the Japanese economy necessitated a process of reforms in financial systems (Weinstein and Yafeh, 1998). As a consequence of the Japanese Big Bang reform in 1996, the relaxation of regulations in capital markets resulted in a shift toward equity from debt financing and easier access to raising capital by issuing shares, especially for some big and stable manufacturing corporations. The Japanese Big Bang program was supposed to have been completed by the end of March 2001 (Osaki, 2005). After a series of financial deregulation and liberalization programs during the 1990s, companies in Japan had more opportunities to obtain external financing from capital markets, especially from institutional and foreign investors. Consequently, the ownership interests of main banks in borrowing companies generally became smaller. The main banks gradually lost their dominant power in the corporate governance of the borrowing companies. They can no longer access the private information of borrowing companies or participate in corporate governance as easily. Therefore,

they must rely more on external auditors as a monitoring mechanism to mitigate moral hazard problems in the borrowing companies.

Chapter 3 Hypotheses Development

In this section, I develop two main hypotheses. The first hypothesis examines the influence of main banks on auditor choice by Japanese listed firms. The second hypothesis examines audit quality for borrowing companies that use the same external auditors as their main banks. I develop the above hypotheses from the following perspectives.

3.1 Agency theory and the monitoring role of audits

Prior research uses agency theory to explain the demand for audit services as a monitoring function to improve the principal-agent contractual relationship (Jensen and Meckling, 1976; Watts, 1977; Watts and Zimmerman, 1983). Agency theory helps explain the utility of audit services in terms of the role of audited financial statements in the contractual arrangements among managers, shareholders and debtholders (Palmrose, 1984). Jensen and Meckling (1976) discuss the agency costs generated by the divergence between managers' interests and those of bondholders, and suggest that bondholders will realize that managers' interests diverge from theirs; hence, the price investors will pay for bonds will reflect the effect of divergence between the managers' interests and theirs. Therefore, managers have

incentives to establish various covenants in indenture provisions to constraint their behavior in order to reduce the agency conflicts and hence increase bond prices.

In my analysis, the main banks will also take into account the effect of divergence between managers' interests and their own in determining the interest rates for loans. Managers will therefore find it in their interests to include various accounting-based covenants in lending agreements with the main bank to reduce agency costs and hence lower the interest rates that main banks charge. The enforcement of such accounting-based debt covenants creates a demand for audited financial statements and managers have incentives to employ a reliable independent external auditor to demonstrate that they will not manipulate the financial information or take actions to harm principals' interests (Watts, 1977; Chow, 1982; Francis and Wilson, 1988). Auditors lend credibility to financial information provided by management and help reduce management incentives and opportunities for exploiting information asymmetry (Palmrose, 1984). However, auditors are also agents and audit effort is unobservable, leading to a moral hazard problem and a new source of inefficiency (Palmrose, 1984; Antle, 1984; Baiman et al., 1991). The principal (main bank) will anticipate this new agency problem and consider the perceived efforts and quality of auditors of borrowing companies and incorporate their expectations into the contract price with borrowing companies. The extent to

which an audit will reduce agency costs depends on the level of independence and competence of the auditor (Watt and Zimmerman, 1983; Antle, 1984). The differences in managers' incentives and opportunities to exploit the information asymmetry for their own interests imply differences in the demand for audit service quality (Palmrose, 1984).

Many studies have investigated an association between agency cost variables and the selection of quality-differentiated auditors. DeFond (1992) finds a positive relationship between the percentage of debt in the capital structure and the selection of auditors with higher brand name reputation. Ashbaugh and Warfield (2003) examine auditor choice in the German audit market and find that debtholders have a greater demand for audit market leaders than for other auditors. Thus, the greater is the need for monitoring, the higher the quality of auditors is demanded (Palmrose, 1984). As Japanese firms typically have a high level of debt in the capital structure, high quality audits should be needed to improve the credibility of accounting information and to verify compliance with debt covenants.

DeAngelo (1981) defines audit quality as the joint probability of detecting and reporting material financial statement errors and concludes that the larger the size of an audit firm, the more likely it will supply a high level of audit quality. Prior auditing research usually treats the Big 4 (previously Big N) auditing firms as a

homogeneous brand-name group with high auditing quality (Palmrose, 1984; DeFond, 1992). The audit market in Japan is dominated by Big 4 audit firms who audit more than 80 percent of listed firms in Japan. As almost all big banks in Japan employ the Big 4 as their external auditors, I further expect that the main bank will treat their external auditors as important watch dogs in monitoring borrowing companies. Compared to non-main bank auditors, main-bank auditors should be more likely to signal their willingness to act in the interests of the main bank through making their greatest efforts to testify to the fairness of the financial information and report any breaches of debt covenants. An added incentive for main-bank auditors to report truthfully is provided by the economic connection they have with the main bank; monitoring the borrowing company well simultaneously maintains their position as the external auditor of the main bank and improves their chances of being selected as the external auditors of other clients of the main bank. Therefore, the external auditor of a main bank should be the preferred auditor that the main bank can trust and rely on. From the perspective of the borrowing company, the manager has incentives to hire the external auditors of the main bank to improve the expectations of the main bank and reduce the interest rates of bank loans.² As the main bank loans represent a significant part of total bank loans, lower interest rates of main bank loans will lead to lower interest rates of total bank

loans.³ The larger the percentage of debt capital, the more benefits the borrowing company will gain. Thus, I expect that the larger the proportion of main bank loans compared to equity capital, the more likely that the company will choose the same auditors as its main bank to reduce the costs of debt capital, as reflected in the following hypothesis:

H1: The higher a company's bank loans relative to its equity, the more likely the company will choose its main bank's external auditor as its own external auditor.

3.2 Auditor Reporting

Companies may have incentives to collude with auditors to manipulate financial statements to get opaque gains and to prevent declines in share price. Listed companies in the Tokyo Stock Exchange (TSE) in Japan have incentives to make side-contracts with auditors to facilitate their meeting of the TSE's Criteria for Assignment to the First Section Market⁴ or to avoid delisting. From the perspective of auditors, they may benefit from collusion with clients through gaining higher audit fees and maintaining client relationships. Thus, they may allow clients to manipulate the financial statements and not issue a modified opinion, which may lead to an increase in capital costs and trigger reassignment from First Section Market to Second Section Market or even delisting. Meanwhile, the auditors could

also bear the risk of incurring the cost of reputation loss and litigation. However, as mentioned above, in Japan litigation costs to auditors are essentially non-existent and thus, the legal system does not provide sufficient incentives for auditors to deliver quality audits, and reputation costs are very important in the Japanese audit market (Skinner and Srinivasan, 2010). In this aspect, the Japanese audit market is similar to that of China (Chan and Wu, 2010). As explained earlier, main bank auditors face even higher reputation costs because the main banks may influence the borrowing companies to fire them and they may also lose their positions as external auditors of the main bank. Furthermore, the main banks are usually the center of the Keiretsu group. The main banks may threaten their external auditors by asking all their borrowing clients not to use their audit services if they cheated the main banks. On the other hand, if the external auditor of a main bank does a good job, the external auditor may make significant inroads into the whole network around the main bank and get a substantial reputation gain. Therefore, the external auditor of a main bank has significant incentives to offer a high quality audit services for the borrowing companies of the main bank. Conversely, the main bank auditors have more reputation costs to incur if there is an audit failure. Thus, compared to non-main bank auditors, the main bank auditors should be less likely to collude with the managers of borrowing companies. This line of reasoning suggests the

following hypothesis:

H2: Compared to non-main banks' external auditors, main banks' external auditors are more likely to provide higher quality audits to borrowing companies.

Chapter 4 Research Method

4.1 Data collection

I collected auditor identities, audit opinion types, and client firm characteristics of listed Japanese companies on the Tokyo Stock Exchange for 2002-2008 from the Osiris Database (Bureau Vandijk Company). The 2002-2008 period was chosen because the Big Bang reform program was supposed to complete by 2001 (Osaki, 2005). And this period allowed me to examine the influence of banks on auditor choice and auditor reporting during a period when the banks had lost their dominant power but still maintained a significant influence over borrowing companies.

Following Morck et al. (2000) and Hoshi et al. (1990), I take the largest lender in each year as the main bank for each company. I obtained the name of largest lenders and the number of main bank loans from the Needs Database (Nikkei Inc.). In Japan, two or more banks often belong to one Financial Group and hire the same external auditors. In such cases, I treat the entire Financial Group as one main bank and sum the loans of each member bank to get the total main bank loans for a company. The Appendix provides information on the auditors of the main banks.

In my analysis, I excluded companies with missing financial or audit data. I also exclude financial institutions and insurance companies because they have

different financial reporting requirements. Panel A of Table 1 shows that the sample consists of 2095 firm-year observations of Japanese listed companies over the 2002-2008 sample period. Panel B presents the descriptive statistics for auditor choice over the period of the study. On average, 32 percent of companies have the same external auditors as their main banks. Panel C of Table 1 provides statistics for the type of audit opinions issued. Following previous empirical studies (e.g., Chan et al., 2006), I classify qualified opinions, adverse opinions and disclaimers as “modified” opinions and in my sample, there were only 5 adverse opinions and disclaimers combined. As shown in Table 1, the percent of modified opinions decreased dramatically since the year 2002. One possible explanation for this phenomenon is that in April, 1999, Japanese accounting standards began a process of reforming, which is often called “Bing Bang reform of accounting standards” (Asami, 2006). As it took some years for Japanese companies to adapt to the new accounting standards, this could explain why the percentage of modified opinions is relatively high during the early years of my sample. Panel D shows the descriptive statistics on the frequencies of modified versus clean opinions that main bank and non-main bank auditors issued during the sample period. On average, main bank auditors issued more modified opinions than did non-main bank auditors (4.8% vs. 3.4%). This difference is 4.8 percent vs. 3.0 percent after correcting for

self-selection as explained later.

[Insert Table 1 about here]

4.2 Model specification

In this study, I use two logistic regression models to test the auditor choice and the auditor reporting decisions.

$$\begin{aligned} \text{Auditor_choice} = & \beta_0 + \beta_1 \text{MBankloan_equity} + \beta_2 \text{Size} + \beta_3 \text{ROA} + \beta_4 \text{Leverage} \\ & + \beta_5 \text{Market} + \beta_6 \text{No.Subsidiary} + \beta_7 \text{Current_ratio} + \beta_8 \\ & \text{Inventory} + \beta_9 \text{Growth} + \beta_{10} \text{year2007} + \beta_{11} \text{year2008} + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Auditor_opinion} = & \beta_0 + \beta_1 \text{Auditor_choice} + \beta_2 \text{Size} + \beta_3 \text{ROA} + \beta_4 \text{Leverage} \\ & + \beta_5 \text{Current_ratio} + \beta_6 \text{Beta} + \beta_7 \text{Inventory} \\ & + \beta_8 \text{Opinion_lag} + \beta_9 \text{Market} + \beta_{10} \text{Loss} + \varepsilon \end{aligned} \quad (2)$$

The dependent variable for Model (1), Auditor_choice, equals 1 if the external auditor of the borrowing company is the same as its main bank, and 0 otherwise.⁵

The test variable MBankloan_equity, which is the ratio of main bank loans to equity, measures the degree of a company's reliance on its main bank for debt financing.

The larger the MBankloan_equity, the more the company depends on main bank loans rather than equity, and I hypothesized that as this ratio increases, companies will be more likely to choose the same external auditor as their main bank.

The dependent variable for Model (2), Auditor_opinion, equals 1 for modified opinions and 0 otherwise. I use the frequency of modified opinions to measure audit

quality. Several studies (DeFond et al., 2000; Chan et al., 2006; Wang et al., 2008) suggest that the frequency of modified opinions has reasonable power to capture variations in audit quality in different research settings. DeAngelo (1981) defined audit quality as the joint probability that a given auditor will both discover (competence) and report (independence) a breach on a given client's audit. Auditors with greater independence are expected to be more resilient to client pressure to issue a clean audit report when a modified report is appropriate (DeFond et al., 2000). The test variable in model (2), Auditor_choice, is the same as the dependent variable in Model (1). I expect that the main bank auditors are more likely to issue modified opinions to the borrowing companies.

4.3 Control variables for Model (1)

I include company characteristic variables, such as client size, current ratio, leverage and return on total assets, which reflect the financial condition of the firms (Dopuch, Holthausen and Leftwich, 1987), in the Auditor_choice model. I use the logarithm of the company's year-end total assets to proxy for client size. Larger corporations, which are well known and established in the market place, are more able to attract investors in the equity market (Ouandlous and Philippatos, 1999). In contrast, smaller corporations must rely more heavily on loans from their main

banks than larger corporations and thus should be more likely to hire the same auditors as their main banks. Hence, I expect the sign of the Size coefficient to be negative. I include ROA (net income before tax over year-end total assets) to measure companies' profitability. Several prior studies have found that firm performance (profitability) may affect the choice of auditors (e.g., Sainty et al., 2002). More profitable companies are more likely to hire their main banks' auditors to testify to their performance to the main bank.

As mentioned above, the stocks listed in the TSE are separated into the First Section for larger and better performing companies and the Second Section for mid-sized companies. Thus, I include the variable Market (First vs. Second section) to reflect different auditor choice behaviors of companies listed in these two market sections and expect that companies in the First Section are more likely to select the main bank auditor. Palmrose (1984) indicates that the complexity and diversity of an organization's activities and operations influence agency costs. Complexity and diversity mean a potential for increases in the number of agency relationships as well as the remoteness of principals from the observation of agents' actions. Accordingly, I include the number of subsidiaries in the auditor choice model to capture organizational diversity and complexity, and expect that the more subsidiaries a company has, the more likely it will choose its main bank auditor to

reduce agency costs.

To control for the overall level of debt, I use the leverage variable, which is the ratio of year-end total liabilities to total assets and expect that companies with higher leverage will be more dependent on their main bank and thus more likely to choose the main bank auditor as a significant part of the total liability normally consists of bank loans. To control for short-term financial liquidity, I use the current ratio (*current_ratio*) in the auditor choice model and expect that companies with higher financial liquidity have less reliance on main bank loans and are thus less likely to choose the same external auditors as their main banks. I also consider the ratio of inventory to year-end total assets as it reflects companies' financial condition, i.e., a higher ratio, *ceteris paribus*, indicates a weaker financial condition. Thus, I expect that companies with a high ratio of inventory to total assets will be more likely to choose their main bank's external auditor to lower their capital costs.

Anderson et al. (2004) report that firms with greater growth potential inclined to choose high-quality auditors in order to benefit from the signaling effect and enhance their reputation. I proxy for growth by the ratio of total sales of the current year divided by total sales of the previous year. I expect that companies with high growth potential are more likely to choose the main bank's auditors. I also control for the year effect in 2007 and 2008. As previously discussed, in 2006,

ChuoAoyama Audit Corporation, PwC's Japanese affiliate, was suspended by the Financial Services Agency. In 2007, Misuzu, which is a new name for ChuoAoyama after resuming operation, was dissolved because of additional accounting frauds. These two events may have influenced companies' auditor choice in 2007 and 2008 respectively. For example, assume the external auditor of one company is PwC before 2007 while its main bank's auditor is KPMG. This company may be reluctant to change its external auditor from PwC to KPMG before the PwC scandals occurred, because it may have established a long-term relationship with PwC and felt it would be costly to terminate this relationship. However, the company should be more willing to switch its auditor from PwC to KPMG in 2007 or 2008 because of the PwC scandals.

4.4 Control variables for Model (2)

Financial characteristic variables are also included in the opinion model. As larger companies tend to be more financially stable than smaller companies and more profitable companies are less likely to manipulate financial statements than others (DeAngelo, 1981; Chan, Lin and Mo, 2006), I expect that Size and ROA will be negatively associated with the probability of receiving a modified opinion (Chen et al., 2001; Schwartz and Menon, 1985). For profitability, I also include a dummy variable loss which equals 1 if the net income before tax is less than zero. For

financial liquidity, I expect that companies with higher leverage will be more likely to receive modified opinions, while companies with higher current ratios will be less likely to receive modified opinions. The ratio of inventory to total assets is also considered as it suggests that a modified opinion is more likely if a firm is in poor financial condition.

Prior studies find that audit opinion type is highly persistent (Lennox, 1999, 2000). Consequently, I include the type of opinion in the previous fiscal year and expect that companies that received modified opinions in the previous year will be more likely to receive modified opinions in the current year. As mentioned above, the companies listed on Tokyo Stock Exchange are separated into the First and Second Section Markets based on company size and performance. Thus, I also include the variable Market in the audit opinion model and expect that companies in the First Section Market are less likely to receive qualified opinions. According to Dopuch, Holthausen, and Leftwich (1987), market returns capture information above and beyond that reported in the financial statements and auditors may use market return measures to infer information incorporated in market prices. Thus, I include a stock market variable Beta, a key parameter in the capital asset pricing model (CAPM), as a potential determinant of auditor opinions. Beta measures the return on a company's stock in relation to the market as a whole. I expect that the

higher a company's expected market return (the larger value of Beta), the less likely the firm will obtain a qualified audit report. Table 2 summarizes the descriptive statistics on the regression variables and variable definitions used.

[Insert Table 2 about here]

4.5 Matched propensity score

The test variable Auditor_choice in model (2) is the dependent variable in model (1) and the exogeneity of this variable, is based on the assumption that client firms randomly choose their audit firms (Ireland and Lennox, 2002). However, Model (1) indicates that companies may self-select their preferred auditors according to firm characteristics and other unobservable variables. This may cause a potential self-selection bias if the estimation procedures of OLS ignore the issue of non-random selection of auditors (Maddala, 1991). The traditional approach to control for self-selection bias in the accounting and auditing literature is the two-step Heckman selection model. In the first step the researcher uses instruments to estimate the inverse Mills' ratio (IMR), the ratio of the probability density function over the cumulative distribution function of a distribution, which is commonly applied in regression analysis to take account of selection bias. In the second step the IMRs are included in the primary model of interest as a control for

the effects of self-selection (Greene, 1981). Researchers usually use the two-step Heckman selection model to control for selectivity with respect to the company's choice of Big 4 versus non-Big 4 auditors (e.g., Khurana and Raman, 2004).

Francis and Lennox (2008) examine the potential pitfalls associated with using the Heckman procedure to control for self-selection bias and assess its application in accounting research. They demonstrate that the selection model is quite sensitive to minor changes in model specification and they suggest the use of matched propensity scores as an alternative approach to the two-step Heckman model to control for self-selection bias. Clatworthy, Makepeace, and Peel (2009) also find that Heckman two-step corrections for selection bias in audit fee models concerning Big 4 audit premiums are very sensitive to the model specification and the sample used. They also employ the propensity matching methods to deal with the self-selection problem.

Following the methods they used, I create a matched sample based on the predicted probabilities from the auditor choice logistic regression using the nearest neighbor matching method. In my analysis, the companies choosing main bank auditors are matched to those choosing non-main bank auditors on the basis of the predicted probability of employing a main bank auditor. I first predict the propensity for a company to choose a main bank auditor based on the auditor choice

model and then sort the sample by the predicted probabilities. For each company in the experimental sample (to-be-matched company) actually having the same auditor as its main bank, I identify two adjacent companies (candidate companies) that have the closest predicted probability as potential matches. I then employ the following matching rule: (a) if only one of the two candidate companies has a different auditor from the main bank, I choose that one as the matching company, (b) if both candidate companies have different auditors from their main banks, I choose the one with the closest predicted probability, (c) if both candidate companies have the same auditors as their main banks, I determine that there is no suitable match and drop this “to-be-matched” company. I apply this rule to each “to-be-matched” company actually choosing a main bank auditor and create matching pairs. If two matching pairs share the same matching company which actually has no non-main bank auditor, I keep the matched pair with the smaller difference in predicted probabilities. The goal of this rule is to ensure that the sample of firms choosing the same auditor as their main banks have similar characteristics as the sample of firms choosing different auditors. The mean value of absolute difference in the propensity scores of each matched pair is 0.00016, and the maximum value is 0.0089, so companies choosing main bank auditors and companies choosing non-main bank auditors are very closely matched. Through this propensity score matching, I obtain

1130 firm-year observations in the subsample. Then I estimate the logistic model for auditor opinion using the companies in the matched-pair sub-sample.

Chapter 5 Empirical Results

5.1 Descriptive statistics and univariate analysis

Table 3 presents descriptive statistics on auditor opinions and company characteristics by auditor type based on 2095 firm-year observations over the sample period 2002-2008. Significant differences can be found between the two auditor types along three company characteristics, namely MBank_equity, Leverage and Market. Consistent with my expectations, companies choosing the same auditors as their main banks are more likely to have a higher ratio of bank loans to equity, to have higher leverage, and to be included in the First Section Market. Although the two-tailed P-value is not significant for the audit opinion mean test, the mean value of audit opinion for companies choosing main bank auditors is significantly more than the mean value of audit opinion for companies choosing non-main bank auditors indicating that main bank auditors render more modified audit opinions.

[Insert Table 3 about here]

5.2 Auditor Choice

Table 4 presents the logistic regression results for the auditor choice model. All of

the significant coefficients in the model are in the expected directions. As predicted by H1, and indicated by the significant positive coefficient for the test variable, *MBankloan_equity*, companies with higher ratios of main bank loans to equity are more likely to choose the same auditors as their main banks. The results support the hypothesis that the more dependent companies are on main bank loans, the more likely they will choose their main banks' external auditors to lower their capital costs. The coefficient of the Market variable is significant at the 1 percent level, which indicates that companies which are in the First Section Market are more likely to choose the same external auditors as their main banks.

[Insert Table 4 about here]

5.3 Auditor Opinion

Table 5 presents the mean values of firm characteristics included in the auditor choice and auditor opinion models partitioned by auditor type for the matched-pair subsample with 1130 firm-year observations. There is no significant difference in firm characteristics included in two models, which indicates that the self-selection bias has been corrected very well through the propensity score matching process.

[Insert Table 5 about here]

Table 6 presents the empirical results for the auditor opinion Model for both

the original sample with 2095 firm-year observations and the matched-pair subsample with 1130 firm-year observations. The coefficients for Auditor_choice in both the original sample and the Propensity Matching Score sub-sample after correcting for self-selection bias are significant at the 5 percent level. The results are consistent with the hypothesis that main bank auditors are more likely to issue modified opinions. As predicted, previous audit opinions correlate with current audit opinions. Smaller and less profitable firms are more likely to receive modified opinions. Companies in the First Section Market are less likely to receive qualified opinions than those in the Second Section Market.

[Insert Table 6 about here]

5.4 Sensitivity Tests

Four sets of sensitivity tests were conducted to examine the robustness of the empirical results. First, I employ the Heckman two-step model to control the self-selection bias. A major limitation of the Propensity Score Matching approach is that matching is based only on observable variables and so it cannot control for self-selection based on the unobservable variables (Heckman et al., 1997). Some unobservable factors could influence both auditor choice and auditor opinion, such as company policy and culture. Heckman (1979) derives a two-step method to

correct for selectivity bias in linear regression models with normal errors, and Dubin and Rivers (1989) employ the same basic conceptual framework to probit and logit models, developing a two-stage binary probit/logit method to control for self-selection bias in discrete-choice models. To address the self-selection problem, I first simplify my model as follows:

$$\text{Auditor Choice Equation: Auditor_Choice}=\alpha X+\beta Z+\mu$$

$$\text{Auditor Opinion Equation: Auditor_Opinion}=\delta\text{Auditor_Choice}+\gamma Z+\theta W+\varepsilon;$$

Where X is a vector of variables that only affect auditor choice but have no direct effect on auditor Opinion, and Z is a vector of variables that affect both auditor choice and auditor opinion. W is a vector of variables that only affect auditor opinion but have no direct effect on auditor choice, while u and ε are error terms correlated with each other.

In the first step, I construct the Inverse of Mills ratio (Imills – different notation from what you used on a prior page), λ_1 and λ_0 respectively, from the auditor choice probit model. Then, for companies choosing main bank auditors (Auditor_choice=1), the auditor opinion equation is:

$$[\text{Auditor_opinion}|\text{Auditor_choice}=1, Z, W]=\delta+\gamma Z+\theta W+\rho\sigma_\varepsilon \frac{\varphi(-\alpha X-\beta Z)}{1-\Phi(-\alpha X-\beta Z)}+\varepsilon \quad (3)$$

For companies choosing Non-main bank auditors (Auditor_Choice=0), the auditor opinion equation is:

$$[\text{Auditor_opinion}|\text{Auditor_choice}=0, Z, W] = \delta + \gamma Z + \theta W + \rho \delta_{\varepsilon} \frac{-\varphi(-\alpha X - \beta Z)}{\Phi(-\alpha X - \beta Z)} + \varepsilon \quad (4)$$

Where $\varphi(\bullet)$ and $\Phi(\bullet)$ are the normal density and cumulative distribution functions,

respectively: $\lambda_0 = \frac{-\varphi(-\alpha X - \beta Z)}{\Phi(-\alpha X - \beta Z)}$, $\lambda_1 = \frac{\varphi(-\alpha X - \beta Z)}{1 - \Phi(-\alpha X - \beta Z)}$

I combine equations (3) and (4) into the auditor opinion logit model:

$$\text{Auditor_opinion} = \delta \text{ Auditor_Choice} + \gamma Z + \theta W + \text{Imills} + \varepsilon$$

Thus, in the second step, I add the Inverse Mills ratio in the auditor opinion logit model to correct for selectivity bias. The final results are presented in Table 7.

The coefficient of Auditor_choice is still significantly positive and consistent with the results of the original logit regression of the auditor opinion Model. Thus, the results of the Heckman logit two-stage method also provide empirical evidence that main bank auditors are more likely to issue modified opinions than non-main bank auditors after controlling the self-selection bias.

[Insert Table 7 about here]

Second, I treat the member banks in a Financial Group as independent banks instead of treating the entire Financial Group as a main bank. Based on this criterion, I recalculate the main bank loans and rerun the auditor choice and auditor opinion models (including Propensity Matching Score Model and Heckman two-step model). The multivariate results in Table 4, 6 and 7 are qualitatively invariant to this alternative criterion.

Third, as mentioned above, main banks are usually the shareholders in the borrowing companies and their maximum ownership is capped at 5 percent. Although the direct ownership main banks can own is limited to 5 percent, they may have indirect ownership through their subsidiaries or members of Keiretsu Groups. Thus, the actual ownership rights of main banks in borrowing companies may be understated. The main banks may exert these rights to influence auditor selection in borrowing companies. However, it is difficult to measure the indirect ownership rights of main banks. Therefore, I rely on the direct ownership rights that main banks have to proxy for the actual ownership rights to test their influence on auditor choice in borrowing companies. Including the Main Bank Ownership variable in the auditor choice model, I finally get 1276 firm-year observations. The regression result shows that the coefficient of the Main Bank Ownership variable (MBank_Ownership) is significantly positive (0.2969), which indicates that the more ownership rights that main banks have in borrowing companies, the more likely that borrowing companies will choose main bank auditors. The results for MBankloan_equity and other control variables are insensitive to including the MBank_ownership variable and remain qualitatively consistent with the original results.

Fourth, prior accounting research suggests that the absolute value of

discretionary accruals in audited financial statements is an indicator of the degree to which management is allowed by auditors to exercise accruals-based earnings management. (Becker et al. 1998) Thus, discretionary accrual is another way to measure audit quality and high quality audit is associated with conservative discretionary accruals. Following Krishnan (2003), I estimate discretionary accruals using the cross-sectional version of the Jones (1991) accruals estimation model.

Discretionary accruals are estimated using the cross-sectional Jones model as follows:

$$TACCR_{i,t}/TAS_{i,t-1} = a_1 1/TAS_{i,t-1} + a_2 \Delta REV_{i,t}/TAS_{i,t-1} + a_3 PPE_{i,t}/TAS_{i,t-1} + e_{i,t}$$

Where $TACCR_{i,t}$ is total accruals for firm i in year t , $TAS_{i,t-1}$ is total assets in year t , $\Delta REV_{i,t}$ is revenues in year t less revenues in year $t-1$, $PPE_{i,t}$ is property, plant, and equipment at the end of year t , $e_{i,t}$ is the error term.

According to Krishnan (2003), total accruals are calculated as the difference between net income before extraordinary items and discontinued operations and cash flows from operating activities. Consistent with prior research, I estimate the cross-sectional Jones model separately for each combination of industry code and calendar year. Instead of using the two-digit US SIC codes, I use 4-digit GICS codes for Japanese listed companies. The error term from this Jones model represents the discretionary accruals. Table 8 reports the differences in three types

of discretionary accruals between companies choosing main bank auditors and those choosing non main bank auditors: absolute value of discretionary accruals, income-increasing (positive) discretionary accruals and income-decreasing (negative) discretionary accruals. The results indicate that companies choosing main bank auditors report less discretionary accruals than companies choosing non main bank auditors in all three cases. The differences in mean value are statistically significant at the 5 percent level for the absolute value of discretionary accruals and income-increasing discretionary accruals. Overall, these results are consistent with hypothesis 2 that audit quality is higher for main bank auditors than non main bank auditors.

[Insert Table 8 about here]

Chapter 6 Conclusions

I examine whether auditor choice is affected by the influence of main banks under Japan's institutional environment and analyze the auditor opinions based on the type of auditors chosen, i.e., main bank auditors versus others. I expect that companies with higher ratios of main bank loans to equity have stronger incentives to choose the same external auditors as their main banks in order to reduce capital costs. I also expect that main bank auditors are less likely to take part in audit collusion and more likely to issue modified opinions to the borrowing companies than non-main bank auditors because of their economic relationship with the main bank.

Using data on Japanese listed companies from the Tokyo Stock Exchange, I provide empirical evidence that companies with more reliance on main bank loans are more likely to choose their main banks' external auditors. Using the Propensity Score Matching method and the Heckman two-step binary probit model to control for self-selection bias, the empirical results support the hypothesis that main bank auditors are more likely to issue modified opinions to borrowing companies than non-main bank auditors, providing evidence of higher audit quality from main bank auditors. My findings contribute to the auditing literature by providing empirical evidence of the economic influence of creditors (main banks) on the auditor choice

of the borrowing companies and also on the audit quality of the auditors in a bank-based market. There are two primary implications of my results.

First, unlike dispersed shareholders who can only rely on security laws to prevent auditor collusion with managers, main banks in Japan can discipline their auditors by cutting off their economic relationship with them if they provide substandard work. This may shed light on future analytical auditing research concerning agency problems among creditors, managers and auditors.

Second, my study also has implications for auditing practice. Given that main bank auditors tend to provide higher quality audits, main banks could consider requiring borrowing companies to hire their external auditors in debt agreements to enhance audit quality.

There are several limitations of this study. First, I do not include audit fees in the auditor choice model as Japanese listed companies do not disclose audit fee information. Second, I do not consider the influence of indirect ownership rights of main banks in borrowing companies on auditor choice as it is difficult to measure. Despite these limitations, my exploratory research provides an initial understanding of the influence of banks on auditor choice and auditor reporting in a bank-based debt financing economy. Future research can further explore the role of auditors in similar economies.

Notes:

1. Shortly after the suspension, PwC acted quickly to stem client attrition by setting up the new PricewaterhouseCoopers Aarata. Some of ChuoAoyama's auditors moved to the new firm (Skinner and Srinivasan, 2010). ChuoAoyama resumed operations on September 1, 2006 under the Misuzu name. However, by this time, Misuzu had 30 percent fewer clients than did ChuoAoyama prior to its suspension (The Daily Yomiuri, 2006).
2. During the sample period, some main banks switched their auditors. However, only some of their borrowing companies followed their main banks to switch to the new auditors. Therefore, this indicates that it is the borrowing companies' voluntary behavior to choose the same auditor as their main banks, rather than being imposed by main banks.
3. I calculate the ratio of financial expense to total bank loans to proxy for the interest rates of total bank loans. The results indicate that the mean value of interest rates for companies who chose main bank auditors is significantly less than that for companies who chose non-main bank auditors (p-value is 0.044).
4. The Rules & Regulations of the Tokyo Stock Exchange list the Summary of Criteria for Assignment to the First Section and Reassignment from the First Section to the Second Section and draw a boundary line between the First and Second Section markets in several respects such as number of shares listed, distribution of shares, listed market capitalization, amount of net assets, amount of profit, market capitalization, opinion on financial statements and trading volume. Companies which are above the boundary lines in all these aspects can be assigned to the First Section while companies which are below the boundary lines in any aspect are assigned or reassigned to the Second Section market.
5. In some years, two banks merged into one larger bank; the larger bank may employ two auditors of the two merged banks. In this situation, I let Auditor_choice equal 1 only if the external auditor of the borrowing company is the same as one of these two auditors.

Appendix. The Main Banks in my sample and Their Auditors

Name of Bank	2002	2003	2004	2005	2006	2007	2008
Chuo Mitsui Trust	DTT	DTT	DTT	DTT	DTT	DTT	DTT
DBJ			CA	CA	CA	Misuzu	DTT
Hachijuni Bank				DTT	DTT	DTT	DTT
Hiroshima Bank				AZ	AZ	AZ	AZ
Mizuho Financial Group	CA & SH	SH	SH	SH	SH	SH	SH
Norinchukin Bank	CA	CA	CA	CA	CA	SH	SH
Resona Group		SH	SH	SH&DTT	SH&DTT	DTT	DTT
Daiwa Bank	SH						
Asahi Bank	SH						
Shinsei Bank	DTT	DTT	DTT	DTT	DTT	DTT	DTT
SMBC	AS	AS	SH	AZ	AZ	AZ	AZ
The Bank of Yokohama	DTT	DTT	DTT	DTT	DTT	DTT	DTT
Sumitomo Trust						AZ	AZ
Mitsubishi UFJ Financial Group					DTT	DTT	DTT
BOTM	DTT	DTT	DTT	DTT			
UFJ	CA&DTT	CA	CA	CA			
Yamaguchi Bank	AS	AS	AZ	AZ	AZ	AZ	AZ
Chugoku Bank	AS	AS	AZ	AZ			
Hokkoku		SH	SH	SH	SH	SH	SH
Kyoto	DTT	DTT	DTT	DTT	DTT	DTT	DTT
Shizuoka	DTT	DTT	DTT	DTT	DTT	DTT	DTT
77BANK	DTT	DTT	DTT	DTT	DTT	DTT	DTT
Chiba	SH	SH	SH	SH	SH	SH	SH

Notes:

(1) Auditor abbreviation- CA: ChuoAoyama (member of PWC); AZ: AZSA (member of KPMG)

AS: Asahi (member of AA; SH: Shin Nihon (member of EY)

(2) Bank abbreviation- DBJ: Development Bank of Japan; BOTM: Bank of Tokyo-Mitsubishi

SMBC: Sumitomo Mitsui Bank Corporation

(3) Member banks of Financial Group-Mizuho Financial Group: Mizuho Bank, Mizuho Corporate Bank and Mizuho Trust and Banking

Member banks of Resona Financial Group: Resona Bank, Saitama Resona Bank and the Kinki Osaka Bank

Member banks of Mitsubishi UFJ Financial Group: Bank of Tokyo-Mitsubishi UFJ and Mitsubishi UFJ Trust and Banking

Table 1. Descriptive information on data selection, auditor choice and auditor opinions

	2002	2003	2004	2005	2006	2007	2008	2002-2008
<i>Panel A: Data Selection</i>								
Sample Firms	149	198	199	262	303	617	367	2095
	2002(%)	2003(%)	2004(%)	2005(%)	2006(%)	2007(%)	2008(%)	2001-2008(%)
<i>Panel B: Types of auditor Choice</i>								
Main Bank Auditor	64(43)	62(31)	63(32)	85(32)	94(31)	173(28)	119(32)	660(32)
Non-Main Bank Auditor	85(57)	136(69)	136(68)	177(68)	209(69)	444(72)	248(68)	1435(68)
Total	149	198	199	262	303	617	367	2095
	2002(%)	2003(%)	2004(%)	2005(%)	2006(%)	2007(%)	2008(%)	2001-2008(%)
<i>Panel C: Types of audit opinion</i>								
Unqualified	118(80)	175(88)	198(99)	259(99)	296(98)	608(99)	360(98)	2014(96)
Modified	31(20)	23(12)	1(1)	3(1)	7(2)	9(1)	7(2)	81(4)
Total	149	198	199	262	303	617	367	2095

Table 1. Descriptive information on data selection, auditor choice and auditor opinions

Panel D: Auditor Opinion by Auditor Type

	Main Bank Auditors					Non-Main Bank Auditors				
	Modified	%	Unqualified	%	Total	Modified	%	Unqualified	%	Total
2002	12	18.8	52	81.2	64	19	22.4	66	77.6	85
2003	10	16.1	52	83.9	62	13	9.6	123	90.4	136
2004	1	1.6	62	98.4	63	0	0	136	100	136
2005	2	2.4	83	97.6	85	1	0.1	176	99.9	177
2006	3	3.2	91	96.8	94	4	1.9	205	98.1	209
2007	3	1.7	170	98.3	173	6	1.4	438	98.6	444
2008	1	0.8	118	99.2	119	6	2.4	242	97.6	248
Total	32	4.8	628	95.2	660	49	3.4	1386	94.2	1435

Table 2. Descriptive Statistics and Variable Definitions*Panel A: Descriptive Statistic of Regression Variables*

Variable	Mean	Sd	min	median	Max
Auditor_choice	0.315	0.465	0	0	1
Auditor_opinion	0.039	0.193	0	0	1
Opinion_lag	0.042	0.201	0	0	1
MBankloan_equity	0.180	0.237	-0.573	0.103	2.685
Leverage	0.637	0.149	0.174	0.652	1.221
Current_ratio	1.318	0.564	0.076	1.208	4.971
Size	19.030	1.545	15.094	18.976	23.187
ROA	0.037	0.046	-0.276	0.035	0.411
Loss	0.111	0.314	0	0	1
growth	0.048	0.116	-0.841	0.041	1.563
Market	0.877	0.328	0	1	1
Beta	0.882	2.020	-0.120	0.840	92.000
No.Subsidiary	19.890	47.058	0	2	534
Inventory	0.132	0.076	0	0.125	0.526

Panel B: Variable Definitions

Variable	Definition
Auditor_choice	Dummy variable, which equals 1 if the firm's auditor is the same as its main bank, and 0 otherwise
Auditor_opinion	Dummy variable, which equals 1 if the firm's audit opinion is modified for the current fiscal year, and 0 otherwise. I classify qualified opinions, adverse opinions and disclaim as "modified opinions"
Opinion_lag	Dummy variable, which equals 1 if the firm's audit opinion is modified for the previous fiscal year, and 0 otherwise
MBankloan_equity	The ratio of year-end main bank loans to shareholders funds (equity)
Leverage	The ratio of year-end total liabilities to total assets
Current_ratio	The ratio of year-end current assets to current liabilities
Size	The natural logarithm of year-end total assets (Japan Yuan)
ROA	The ratio of net income before tax to year-end total assets
Loss	Dummy variable, which equals 1 if the net income before tax less than zero, otherwise 0.
Market	Dummy variable, which equals 1 if the company is in the First Section Market in the Tokyo Stock Exchange
Beta	Beta coefficient of the Capital Asset Pricing Model
Inventory	Year-end inventory divided by year-end total assets
Growth	(Total sales of current year divided by total sales of previous year)-1
Year2007	Dummy variable, which equals 1 if the fiscal year is 2007
Year2008	Dummy variable, which equals 1 if the fiscal year is 2008
Mymills	Inverse Mills ratio in the Heckman two-step model

Table 3. Descriptive statistics of firm characteristic variables partitioned by Auditor Type (N=2095)

Firm Characteristics	Statistics	Non-Main Bank's Auditor	Main Bank's Auditor	P-Value
Auditor_opinion	Mean	0.034	0.048	0.1139
	S.D.	0.182	0.215	
MBankloan_equity	Mean	0.170	0.202	0.0047***
	S.D.	0.205	0.294	
Leverage	Mean	0.631	0.651	0.0042***
	S.D.	0.147	0.152	
Current_ratio	Mean	1.332	1.289	0.1049
	S.D.	0.555	0.582	
Size	Mean	18.974	19.151	0.0150**
	S.D.	1.559	1.506	
ROA	Mean	0.037	0.036	0.5953
	S.D.	0.047	0.043	
Loss	Mean	0.109	0.115	0.6627
	S.D.	0.311	0.319	
Growth	Mean	0.048	0.050	0.7405
	S.D.	0.119	0.111	
Market	Mean	0.861	0.912	0.001***
	S.D.	0.346	0.283	
Beta	Mean	0.889	0.866	0.8102
	S.D.	2.431	0.333	
No.Subsidiary	Mean	18.756	22.356	0.1038
	S.D.	43.560	53.838	
Inventory	Mean	0.130	0.134	0.2768
	S.D.	0.074	0.080	

Notes: All p-values are two-tailed; ***, ** and * represent statistical significance at 1%, 5% and 10%, respectively.

Table 4. Logistic Regression Results for Auditor Choice Model

	Predicted Sign	Coefficients	Z-statistics	P-Value
Explanatory Variables				
Constant	?	-1.5297	-1.72	0.086*
MBankloan_equity	+	0.6769	2.68	0.007***
Leverage	+	0.1882	0.34	0.731
Market	+	0.5768	3.06	0.002***
No.Subsidiary	+	0.0011	0.89	0.376
Current_ratio	-	-0.0365	-0.3	0.766
Size	-	-0.0022	-0.05	0.964
ROA	+	0.4581	0.38	0.705
Inventory		0.7066	1.06	0.288
Growth	+	0.2522	0.58	0.564
Year_dumb2007	?	-0.1957	-1.68	0.093*
Year_dumb2008	?	-0.0235	-0.17	0.864
Pseudo R-squared				0.0121
Sample Size				2095

Notes: All p-values are two-tailed; ***, ** and * represent statistical significance at 1%, 5% and 10%, respectively.

Table 5. Mean value of firm characteristics partitioned by Auditor Type for the matched-pairs subsample (N=1130)

Firm Characteristics	Non-Main Bank's Auditor	Main Bank's Auditor	P-Value
MBankloan_equity	0.182	0.184	0.9208
Leverage	0.640	0.646	0.5422
Current_ratio	1.322	1.294	0.4069
Size	19.148	19.125	0.7984
ROA	0.037	0.036	0.6958
Loss	0.122	0.115	0.7131
Beta	0.855	0.863	0.6996
Market	0.915	0.904	0.5338
Inventory	0.132	0.134	0.5419
No.Subsidiary	21.393	20.142	0.6651
Growth	0.046	0.049	0.6692

Notes: All p-values are two-tailed.

Table 6. Logistic regression results for Auditor Opinion Model

	Predicted Sign	Original Sample		Sub-sample after PSM	
		Coefficients	P-Value	Coefficients	P-Value
Explanatory Variables					
Constants	?	-2.2527	0.2190	-2.0295	0.4550
Auditor_Choice	+	0.5906	0.0290**	0.8943	0.0300**
Opinion_lag	+	3.4178	0.0000***	3.9867	0.0000**
Leverage	+	-1.6405	0.1560	-1.3844	0.4270
Current_ratio	-	0.0276	0.9200	-0.0136	0.9730
Size	-	0.0001	0.9990	-0.0462	0.7750
ROA	-	-7.7441	0.0200**	-5.2152	0.3060
Loss	+	0.2202	0.6250	0.7356	0.2630
Beta	-	-0.1069	0.7990	0.3805	0.5150
Market	-	-0.8326	0.0510*	-1.2283	0.0540*
Inventory	+	1.3068	0.4680	0.2741	0.9180
Pseudo R2			0.2570		0.3524
Sample Size			2095		1130

Notes: All p-values are two-tailed; ***, ** and * represent statistical significance at 1%, 5% and 10%, respectively.

Table 7. Heckman second-stage Logit regression results for Audit Opinion Model

	Predicted Sign	Original Sample		Adjusted by Inverse	
		Coefficients	P-Value	Coefficients	P-Value
Explanatory Variables					
Constants	?	-2.2527	0.2190	-0.2166	0.943
Auditor_Choice	+	0.5906	0.0290**	0.5501	0.046*
Opinion_lag	+	3.4178	0.0000***	3.3566	
Leverage	+	-1.6405	0.1560	-2.2550	0.101
Current_ratio	-	0.0276	0.9200	0.0466	0.8670
Size	-	0.0001	0.9990	0.0142	0.8980
ROA	-	-7.7441	0.0200**	-8.0797	0.0170**
Loss	+	0.2202	0.6250	-0.1951	0.6670
Beta	-	-0.1069	0.7990	-0.0922	0.8270
Market	-	-0.8326	0.0510*	-1.1957	
Inventory	+	1.3068	0.4680	1.0426	0.5670
Inverse Mills	?			-1.3799	0.4000
Pseudo R2			0.2570		0.258
Sample Size			2095		2095

Notes: All p-values are two-tailed; ***, ** and * represent statistical significance at 1%, 5% and 10%, respectively.

Table 8 Mean value of discretionary accruals partitioned by Auditor type

Type of Accruals	Mean		p-value
	main bank auditors	non main bank auditor	
Absolute Discretionary Accruals	0.0221	0.0247	0.0408**
Income-increasing Discretionary	0.0212	0.0251	0.0298**
Income-decreasing Discretionary	-0.0227	-0.0246	0.2001

Notes: all p-values are one-tail. The sample consists of 1115 firm-year observations. The number of cross-sectional regressions based on combination of 4-digit GICS code and calendar year is 49.

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