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Disclosure of the Going Concern Assumption and the Japanese Main Bank System

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Abstract

The purpose of this study is to consider whether the disclosure of note regarding the going concern assumption (hereafter, "GC note") can trigger state-contingent governance by a main bank, and examine how state-contingent governance by a main bank influences borrowers' accounting behavior. This study focuses on discretionary accruals for those firms that disclose a first-time GC note. Using a propensity score matching procedure, I find that such firms have negative discretionary accruals in proportion to the ratio of the main bank's lending to firm's total assets. These results can be considered consistent with Tan's (2013) explanation —namely, that the transfer of control rights to the lender may make a borrower's financial reporting more conservative. Various studies point out that debt covenant violation triggers the allocation of control rights (Christensen, Nikolaev, & Wittenberg-Moerman, 2016; Tan, 2013). Given the current study's findings, it may be that GC-note disclosure may also act as such a trigger.

Keywords: going concern, main bank system, control rights, discretionary accruals

1. INTRODUCTION

Governance by a main bank has been considered a major institutional feature of the Japanese economy. Aoki (1994) prepares a conceptual framework to undertake comparative analysis of the monitoring characteristic between the Anglo–American market-oriented financial system and the Japanese bank-oriented financial system. This framework includes three stages of the monitoring process—namely, ex ante (credit evaluation and screening), interim (checking the ongoing management and operation), and ex post (verifying the financial state and action based on it). Especially, the most striking aspect of the main bank system is thought to be the role that a main bank plays at the ex post stage (Sheard, 1994). The literature suggests that in Japan, main banks play an important role in the restructuring firms (Kaplan & Minton, 1994; Kang & Shivdasani, 1997). However, following the burst of the so-called bubble economy, financial institutions faced very serious bad-loan problems and Japanese main bank system began to receive criticism (Hanazaki & Horiuchi, 2000). For example, Peek and Rosengren (2005) point out that troubled Japanese bank provided additional credit to insolvent borrowers (so called zombie firms) to avoid the realization of losses on their own balance sheets. Hoshi (2006) shows that productivity decreased at the industry level when an industry became dominated by zombie firms.

At the same time that bubble economy burst, reforms to accounting and auditing systems started to facilitate corporate financing through the capital market. According to "Kigyokeiei to Zaimuhoukoku ni kannsuru Kennkyuukai Houkokusyo" (in Japanese; "Study Group Report on Corporate Management and Financial Reporting" [English translation]), published by the Ministry of Economy, Trade and Industry in April 2001, Japanese firms had not been asked to actively disclose information to external stakeholders, as the monitoring of firms had been exclusively delegated to banks and a large proportion of the funding was provided by them. Additionally, the system of the disclosing GC notes (on which this study focuses) had been introduced to respond to the information demands of investors. Following the burst of the bubble economy, the financial collapse of

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listed companies was considered a social problem, and so the need to protect external stakeholders arose. The system for disclosing GC notes was introduced in Japan in the first fiscal year following March 1, 2003. The main characteristic of GC note disclosure in Japan is that management has the primary responsibility of evaluating the GC assumption. Management should identify the existence of any events or situations that cast substantial doubt on the GC assumption, and it also has the duty to disclose countermeasures (i.e., management improvement plan) by which to eliminate or greatly improve these conditions.

One of the functions of the GC note is to make firms disclose risk information. On the other hand, the introduction of such a system may affect the behavior of the main bank, which is considered to have private information on borrowers. The main bank may be involved in the preparation of a management improvement plan disclosed concurrently with the GC note, and in making a decision on whether to finance to that plan. For example, Arrk Corporation, a company listed with the first section of the Tokyo Stock Exchange, disclosed a GC note in May 2009. The GC note of this company includes the contents that main banks require when a company undertakes more active restructuring. In addition, Arrk Corporation had a concern about the violation of a consolidated net asset maintenance provision in the debt covenant within the same fiscal year, but the main bank accepted to retraction of this provision and drafted a new covenant. This case indicates that main banks will participate in preparing borrowers' management plans and renegotiate a loan with borrowers' firm at the time of GC note disclosure. Previous study also confirms that the GC-note disclosure promotes the implementation of initiatives by which to recover company performance. Inaba (2010) explains that a situation in which a GC note is continuously disclosed makes it difficult to raise funds and undertake business activities; for this reason, many management teams look to execute an effective management plan, in the hopes of bringing their company into a situation where it is not necessary to disclose the GC note. Inaba (2010) also says that the bank (i.e., main bank) is one of the potential supporters.

Based on the foregoing discussion, disclosing a GC note may trigger the management intervention by a main bank.[1] This study considers whether the disclosure of GC note triggers state-contingent governance by a main bank; it also examines how state-contingent governance by a main bank influences borrower's accounting behavior.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Information content of going-concern opinions (notes)

Some studies suggest that GC opinions simply reflect what investors already know about a company's financial condition, and that they did not provide new information (Elliott, 1982; Dodd et al., 1984). More recently studies, however, find that GC opinions may contain the information that affects user's decision-making under certain conditions. For example, Menon and Williams (2010) observe negative excess returns when a first-time GC opinion is received. The relation is more pronounced when the GC opinion cites problems with obtaining financing. Amin, Krishnan, and Yang (2014) document a significant and positive relation between the issuance of the first-time GC opinion and the firm's subsequent cost of equity capital.

Carson et al. (2013) also point out that GC opinion has potential consequences with regard to lenders. For example, Chen et al. (2016) explain that a GC opinion is likely to convey incremental information to lenders in two ways. First, the auditor communicates information about the quality of financial report, for debt contracting purposes. Namely, a "GC opinion may indicate that a basic assumption of accounting model (i.e., that the firm will persist as a going concern) is violated, undermining the usefulness of the financial statements to lenders as an effective monitoring tool" (p. 125). Second, a GC opinion conveys an auditor's private information about a client's credit risk. It documents a significant positive relation between GC opinion and the loan interest rate; it also reports that lenders are reducing the loan size and loan maturity and increasing the probability of requiring collateral following the GC opinion.

These studies suggest that the while the contents of a GC opinion can be beneficial to financial statement users, but there may be little consideration regarding whether these users originally had private information about the client firm. For example, if lenders have private information about a client firm's credit-worthiness, a GC opinion that cites a problem with securing funding would be less informative than if there were no private information available.

[1] Since Japanese firms can easily raise funds through the capital market and cross-shareholding between main bank and borrower firms have been gradually resolved by introducing book-to-market accounting; in such circumstances, the incentive for the main bank to intervene in the borrower's management is thought to be weakened (Hirota & Miyazima, 2001; Hirota, 2009). Therefore, it is important to understand the timing of the main bank's intervention in borrower's management.

There is a question why the GC-note disclosure ,which makes firms to disclose risk information, may affect the behavior of the main bank that is considered to have private information on borrowers. Inaba (2010) suggests that GC-note disclosure encourages a client firm to restructure itself; additionally, a GC note can trigger the renegotiation of loan contract terms (Chen et al., 2016). These features also appeared in the case of Arrk Corporation's GC note, mentioned in the previous section. This means that disclosing GC note may be a trigger of the allocation of control rights. In the following, I look to consider the role of a GC note as a trigger of the allocation of control rights between lenders and borrowers; because the renegotiation of loan contract terms and the active monitoring role that lenders play are mainly discussed in terms of incomplete contract theory.

2.2 State-contingent allocation of control rights, and accounting behavior

The timing of when creditors will acquire the control rights of a company is mainly discussed in terms of incomplete contract theory, which suggests that it is impossible to anticipate or specify in advance all future situations, financial contracts are inherently incomplete. Aghion and Bolton (1992) shows that it is efficient to allocate control rights contingent on the realization of the signal, that is, the borrower will have full control of the firm as long as the state signal is sufficiently high, but the control rights will be transferred to the creditors if the signal is low. A contractible signal is thought to reflect the underlying economic of the borrower.

In reality, the adopted signal is considered to be at least observable and verifiable between parties. Accounting information would be one of the major candidates. In recent years, accounting researchers have paid attention to the role of accounting information within incomplete contract. For example, Christensen, Nikolaev, and Wittenberg-Moerman (2016) point out that "Rather than relying on monetary incentives to motivate a desirable action in various future states, which is generally costly and may not be feasible, it is more efficient to allocate decision rights to the party that has incentives to take the efficient action. In view of this, accounting-based covenants become a control allocation device that serves as the basic for the transfer of decision rights to creditors."(p. 410). They also explain that "incomplete contract theory offers a compelling perspective for explaining two common aspects in debt contracting: renegotiating and the active role lenders play in borrower's corporate governance" (p. 416).

Empirical evidence supports this view. Tan (2013) examines the firm level's financial reporting choices following debt covenant violation. He predicts that the transfer of control rights makes a firm's financial reporting more conservative, for two reasons. First, creditors try to gather information to grasp a firm's current state. Thus, conservative accounting that recognizes bad news earlier than good news will support such an information acquisition process. Second, accounting conservatism prompts efficient contracting. Tan (2013) explains that accounting conservatism is beneficial to creditors, in two ways. First, when managers retain control rights, they have incentives to overstate earnings and net assets, but delay losses. He explains that conservative accounting can offset biases caused by a prior manager's aggressive accounting policies. Second, inefficient investments would be more transparent and less likely to be implemented under more conservative accounting. Tan (2013) shows that firm's financial reporting becomes more conservative following covenant violation.

2.3 The role of a going concern note in triggering the allocation of control rights

Christensen, Nikolaev, and Wittenberg-Moerman (2016) and Tan (2013) suggest that covenant violation is what triggers the allocation of control rights. It is also important to note that shifting of control rights affects a borrower's accounting policy. Nonetheless, these explanations may only partially applicable to the main bank's monitoring, because the financial contract between the main bank and the borrower firm may be implicit and relational. The main bank may not use an explicit contract such as a covenant. Kochiyama and Nakamura (2016) predict that a close relationship between a firm and its main bank can affect the use of financial covenants. Specifically, the main bank may not pay attention to public information (e.g., accounting information) in monitoring a borrower' firm, as main banks have private channels by which to gather information on borrowers' financial positions (i.e., through transaction accounts). They find that accounting-based covenants are more likely to be used by firms with low levels of dependence on the main bank.

This finding suggests that the main bank's monitoring may reduce contracting costs, which include costs that arise from moral hazard (e.g., opportunistic accounting policy choices made by managers), monitoring of contract performance, and renegotiation costs (Watts & Zimmerman, 1986; Scott, 2006). However, since no financial covenant is established, there is a danger that the timing of main-bank intervention in management may become ambiguous. If the disclosure system of GC note and management improvement plan makes it easier for the main bank to intervene in management, such inefficiency is expected to be attenuated. Therefore, I predict that the GC-

note disclosure system complements state-contingent governance by the main bank. These relations can be summarized as shown in Figure 1.

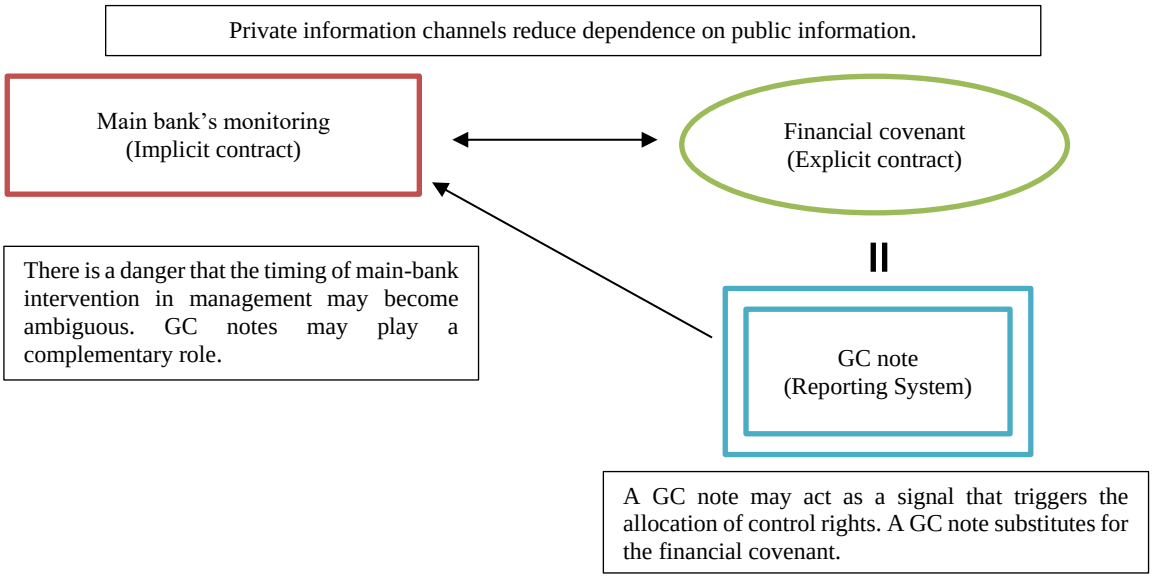

Figure 1. Monitoring by the main bank and, the GC-note disclosure system

Unlike covenant violation, GC-note disclosure does not expressly specify the transfer of control rights from the borrower to the lender. In the case of debt covenant violation, the lender acquires the rights, which forces the firm to pay the loan balance. Therefore, there is a need to consider why GC-note disclosure virtually increases a lender's bargaining power. I predict it is because GC-note disclosure may give rise to "mein yose". In other words, the main bank may need to bear a heavier burden, compared to banks other than the main bank (hereafter, "non-main banks"). As a result of GC-note disclosure, non-main banks collect the loan amounts as soon as possible and will not offer additional loans. There are two possible reasons for this. First, there is a difference in the quality and quantity of the private information regarding the borrower firm. Because of information asymmetry among lenders or between a non-main bank and managers, a non-main bank will not respond to lending. Second, main banks enjoy financial rent, but non-main banks do not. Midorikawa (2008) points out that because non-main banks have less trading volume than main banks, non-main banks do not enjoy enough rent to work to rectify a borrower's financial difficulty. A main bank may need to raise funds independently in support of the borrower's reorganization (i.e., restructuring) and the credit risk is more concentrated. Under such circumstances, whether or not the borrower can survive depends on the attitude of the main bank with regards to lending.

It follows from this that I predict that the transfer of control rights from managers to the main bank virtually start at the time of the disclosing the first-time GC note. Tan (2013) asserts that creditors prefer the use of conservative accounting for monitoring purposes. Additionally, control rights may include the right to decide upon accounting policy choices. In this study, I develop the following hypothesis.

Hypothesis: Compared to a financially distressed company lacking a GC note, a financially distressed company with a first-time GC note will make more conservative accounting choices (i.e., lower earnings and net assets) in proportion to the main bank's lending.

3. RESEARCH DESIGN

3.1 Measurements of discretionary accruals

This study focuses on discretionary accruals among firms that disclose a first-time GC note. In line with Kothari, Leone, and Wasley (2005) and Kaszink (1999), I run the following regression models. Using the estimated coefficients, I estimate the nondiscretionary component of total accruals. Discretionary accruals are the difference between total accruals and estimated nondiscretionary accruals.

According to Kothari et al. (2005),

$$\frac{ACC_{i,t}}{A_{i,t-1}} = \alpha_1\left(\frac{1}{A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta SAL_{i,t}}{A_{i,t-1}} - \frac{\Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3(\frac{PPE_{i,t}}{A_{i,t-1}}) + \alpha_4(ROA\_NI_{i,t}) + \varepsilon_i$$

$$\frac{ACC_{i,t}}{A_{i,t-1}} = \alpha_1\left(\frac{1}{A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta SAL_{i,t}}{A_{i,t-1}} - \frac{\Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3(\frac{PPE_{i,t}}{A_{i,t-1}}) + \alpha_4(ROA\_OI_{i,t}) + \varepsilon_i$$

where $ACC_{i,t}$ denotes total accruals, defined as the difference between net incomes before extraordinary items and cash flow from operations; $\Delta SAL_{i,t}$ denotes annual changes in revenues; $\Delta REC_{i,t}$ denotes annual changes in receivables; $PPE_{i,t}$ denotes property, plant, and equipment subject to depreciation; $ROA\_NI_{i,t}$ denotes net income based-return on assets (ROA) (i.e., divide net incomes by total assets at the beginning of the year); $ROA\_OI_{i,t}$ denotes the ordinary income-based return on assets (ROA) (i.e., divide net incomes before extraordinary items by total assets at the beginning of the year); and $A_{i,t-1}$ denotes total assets at the beginning of the year.

According to Kasznik (1999),

$$\frac{ACC_{i,t}}{A_{i,t-1}} = \alpha_1\left(\frac{1}{A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta SAL_{i,t}}{A_{i,t-1}} - \frac{\Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3(\frac{PPE_{i,t}}{A_{i,t-1}}) + \alpha_4(\frac{\Delta OCF_{i,t}}{A_{i.t-1}}) + \varepsilon_i$$

where $\Delta OCF_{i,t}$ denotes annual change in cash flow from operations. The other variables are identical to those listed above.

These models are estimated through a cross-sectional approach (DeFond & Jiambalvo, 1994). If the number of observations is less than 15 for each industry-year portfolio, I drop such observations. I use Nikkei Industry Middle Classification codes.

Kothari et al. (2005) point out that a discretionary accrual model may not be properly estimated when applied to firms with extreme levels of performance. To address this problem, they control for the effect of performance on accruals. It is expected that firms that disclose a first-time GC note have extremely poor performance, and so discretionary accruals are apt to be negative. The current study therefore adopts a performance-controlled model. Kothari et al. (2005) use net incomes before extraordinary items to calculate ROA. However, research results suggest that Japanese firms record extraordinary items more readily than US firms (Inoue, 2016). Taking this difference into consideration, I calculate ROA in two patterns, using either net incomes before extraordinary items or net incomes. To confirm the robustness of results, I also use the modified CFO Jones model (Kaszink, 1999): research results suggest that in the Japanese context, a modified CFO Jones model is superior to other models (Suda & Shuto, 2004).

3.2 Inspection model

This study looks to test whether financially distressed firms disclosing a first-time GC note make conservative accounting choices (i.e., lower earnings and net assets) in proportion to the main bank's lending. I use the following model.

$$\begin{aligned} daccROA\_OI_t \; or \; daccROA\_NI_t \; or \; daccOCF_t \\ &= \beta_0 + \beta_1 MBL_{t-1} + \beta_2 MBL_{t-1} \times GC\_First_t + \beta_3 GC\_First_t + \beta_4 MBS_{t-1} \\ &+ \beta_5 MB\_CHANGE_t + \beta_6 BIG\ N_t + \beta_7 BIG\ N_t \times GC\_First_t + \beta_8 INST_{t-1} + \beta_9 DIR_{t-1} \\ &+ \beta_{10} Log\_SIZE_t + \beta_{11} ROA_t + \beta_{12} LEV_t + Year + Industry + \varepsilon_i \end{aligned}$$

In line with Kothari et al. (2005), $daccROA\_OI_t$ represents discretionary accruals, using ordinary income-based ROA, and $daccROA\_NI_t$ represents discretionary accruals, using net income-based ROA. $daccOCF_t$ represents discretionary accruals in line with Kaszink (1999).

MBL_{t-1} indicates the ratio of loans from the main bank to total assets.[2] $MBL_{t-1} \times GC\_First_t$ indicates an interaction term between MBL_{t-1} and GC_First_t. GC_First_t is an indicator that takes the value of 1 if the firm

[2] I draw main bank data from the Nikkei corporate governance evaluation system (Cges) data, from which two kinds of main bank data are available. One comprises data of the main bank that is the firm's largest lender; the other one comprises the data of the main bank that is identified by the Nissay Basic Res. Center. I adopt the latter main bank dataset.

discloses a first-time GC note, and 0 otherwise. The variable of interest is $MBL_{t-1} \times GC\_First_t$. If the firms disclosing a first-time GC note select conservative accounting choices (i.e., lower earnings and net assets) in proportion to MBL_{t-1}, the predicted sign will be negative.

The other variables are controls. MBS_{t-1} indicates shareholding by the main bank. Japanese banks are permitted to hold up to 5% of the stocks of a firm, in line with the Anti-Monopoly Act; the predicted sign of MBS_{t-1} is expected to be either negative or positive. Umezawa and Ebihara (2016) predict that if the main bank monitors a borrower as a block holder, the financial reporting quality will improve; based on this argument, the predicted sign will be negative. However, this argument may not be applicable to firms in financial distress. Goto and Uchida (2012) explain that "Japanese stock exchange also impose a rule that firms are subject to delisting from Japanese stock markets after two consecutive fiscal year of negative net worth" (p. 459). Therefore, "bank shareholders have an incentive to keep a distressed firm from posting negative net worth and from falling into a state of default in order to avoid a decline in shareholder value" (p. 459). Based on this argument, the main bank —as a block holder— may not promote conservative accounting choices. MB_CHANGE_t is an indicator that takes the value of 1 if the main bank changes between the beginning and the end of the fiscal year, and 0 otherwise. I predict that the main bank's variables affect the next period firm's accounting behavior. Changing the main bank may affect the results. $BIG\ N_t$ is an indicator that takes the value of 1 if the audit firm is a member of Big-N (Azsa, ShinNihon, Tohmatsu, Arata, Misuzu), and 0 otherwise. The literature finds that clients of Big-N audit firms are less likely to engage in earnings management (Francis, Maydew, & Sparks, 1999). $BIG\ N_t \times GC\_First_t$ is an interaction term between $BIG\ N_t$ and GC_First_t. In the situation where the GC assumption does not hold, the selection of accounting policy is more carefully verified by auditors. Under such circumstances, Big-N audit firms may encourage conservative accounting choices. $INST_{t-1}$ indicates shareholding by institutional investors. Charitou, Lambertides, and Trigeorgis (2007) explain that institutional investors of distressed firms have incentives to mitigate earnings-decreasing accruals. This is because "downward earnings behavior may adversely affect share prices and the market value of their shareholdings." (p. 274). Based on this argument, the predicted sign of $INST_{t-1}$ is expected to be positive. DIR_{t-1} indicates shareholding by the firm's directors. The firm's directors of distressed firms may also have incentives to manipulate earnings upward (e.g., in order to avoid an executive turnover). The predicted sign of DIR_{t-1} is expected to be positive. I also include variables that reflect a firm's fundamentals: Log_size_t indicates the natural logarithm of total assets, ROA_t indicates an ordinary income-based ROA, LEV_t indicates the ratio of total liabilities to total assets. $Year$ is a year dummy, and $Industry$ is a industry dummy.

3.3 Going-concern model

Using the propensity score matching procedure, I prepare the control sample. The control sample consists of firms that are distressed but do not disclose a GC note. In line with DeFond, Raghunandan, and Subramanyam (2002), I estimate the following probit model.

$$Prob(GC\_First_t) = \beta_0 + \beta_1(LEV_t) + \beta_2(LIQ_t) + \beta_3(ROA_t) + \beta_4(Log\_SIZE_t) + \beta_5(CLEV_t) + \beta_6(LLOSS_t) + \beta_7(INVEST_t) + \beta_8(FUTURE\_F_t) + \beta_9(BIG\ N_t) + \beta_{10}(OP\_CASH_t) + Year + Industry + \varepsilon$$

The dependent variable, GC_First_t, is an indicator that take the value of 1 if the firm discloses a first-time GC note, and 0 otherwise. LEV_t indicates the ratio of total liabilities to total assets. LIQ_t indicates the ratio of current assets to current liabilities. ROA_t indicates an ordinary income-based ROA.[3] Log_SIZE_t indicates the natural logarithm of total assets. $CLEV_t$ indicates the annual change in LEV_t. $LLOSS_t$ is an indicator that takes the value of 1 if the firm reports a negative net income in the previous year. $INVEST_t$ indicates the ratio of short and long-term investment securities (including cash and cash equivalents) to total assets. $FUTURE\_F_t$ is an indicator that takes the value of 1 if the firm issues equity or debt in the subsequent year. $BIG\ N_t$ is an indicator that takes the value of 1 if the audit firm is a member of the Big N, previously defined. OP_CASH_t indicates the ratio of operating cash flow to total assets. $Year$ is a year dummy, and $Industry$ is a industry dummy.

I exclude market-based measures, because by including them, the number of firms with a first-time GC would greatly decrease. I also exclude audit fee-related variables, given data limitation. Finally, I exclude the variable

[3] DeFond et al. (2002) originally use the *PROBANKZ*, which indicates the probability of bankruptcy score introduced by Zmijewski (1984). *PROBANKZ* consists of LEV_t, LIQ_t, and ROA_t. When I include this variable in the model and undertake propensity score matching, I find no significant difference in the mean value of *PROBANKZ* between the treatment and control groups at a balanced property check. However, I do observe significant differences in the mean values of the component variables of *PROBANKZ*. Therefore, I divide *PROBANKZ* into LEV_t, LIQ_t, and ROA_t and include these variables in the model.

$REPORTING\ LAG$, which indicates the number of days between the fiscal year end and the earnings announcement. This is because $REPORTING\ LAG$ may be a consequence of the GC note (opinion) process, rather than a cause. Studies predict that auditors may spend more time auditing troubled firms, because they follow additional audit procedures and because they spend more time meeting with client managers (Mutchler, Hopwood & McKeown, 1997). A longer reporting lag may be a unique characteristic of firms with a GC note.[4]

3.4 Sample selection

The data used to create financial variables are obtained from the Nikkei NEEDS-Financial Quest; data pertaining to governance variables are obtained from the Nikkei Cges. Audit firm data are manually collected from Kaisya Shikihou (in Japanese).

Table 1 shows to the sample selection process. I start with all firms covered by Nikkei NEED-Financial Quest from 2003 to 2016. The initial sample consists of 51,848 firm-year observations (558 first-time GC note and 51,290 non-GC note initial sample).[5] These observations satisfy the conditions that (1) Nikkei company code exists, and that (2) a fiscal period must have 12 months. I require sample firms to have discretionary accruals. This reduces the sample by 6,246 firm-year observations. I also require sample firms to have data required to compute other financial variables. This reduces the sample by 11 firm-year observations.

I then eliminate observations for which governance data were not available on the Cges database. This reduces the sample by 27,329 firm-year observations. I can obtain governance data from Nikkei Cges between May 2005 and March 2014. I predict that governance variables affect the next period firm's accounting behavior. I also prepare the variable MB_CHANGE_t. Both the previous and current year's main bank codes are required. Therefore, the sample begins in year 2006 and ends in year 2014. In addition, there are some missing values in main bank data which is obtained from Nikkei Cges. With necessary modification, I drop the observations which have missing values.[6]

Table 1. Sample selection

	First-time GC note	**Non-GC note**	**Total**
Initial sample (years 2003-2016)	558	51,290	51,848
Cannot calculate discretionary accruals	41	6,205	6,246
Cannot calculate other financial variables	0	11	11
Cannot obtain governance data	338	26,991	27,329
Not financially distressed	-	13,705	13,705
Cannot obtain audit firm data	0	4	4
Subtotal	179	4,374	4,553
Omitted due to the perfect correlation	0	132	132
Observations for Going-concern model	179	4,242	4,421
Omitted by caliper	33	-	
Propensity score matched sample	146	146	292

I eliminate firms (with non GC-note) that are not financially distressed because the literature suggests that GC opinion is generally issued to distressed firms (DeFond et al., 2002). In line with DeFond et al. (2002), I regard a distressed firm as a firm with a negative net income or a negative operating cash flow. This reduces the sample by 13,705 firm-year observations. Lastly, I require the sample firms to have audit firm data. This reduces the sample by 4 firm-year observations.

[4] Amin, Krishnan and Yang (2014) use propensity score matching procedures to obtain the control group. That research adopts four variables—namely, *PRBNK* (the probability of bankruptcy), *LNASSET* (the natural logarithm of total assets), *LOSS* (dummy variables that tales the value of 1 if the net income is negative), and *INVEST* (the proportion of investments in short and long-term securities and total assets). I exclude several variables, but there might be fewer problems in light of the purpose of obtaining the control group. Even so, excluding several variables is one limitation of this study.

[5] If a firm discloses a GC note in at least one year in the 2003 to 2016 period, I exclude such firm from the non-GC note initial sample. For example, if a firm disclosed a GC note as of 2009, the observations of this company as of 2008 and as of 2010 are not included in the non-GC note initial sample.

[6] Nikkei Cges records the main bank's data. Specifically, main bank's Nikkei Company Code [TPBNK_NCODE], main bank's name [TPBNK_NAME], loans from the main bank [DEBT_TPBNK] and shareholding by the main bank [RTO_TPBK] are recorded. Nikkei Cges also records shareholding by institutional investors [INST] and shareholding by the firm's directors [DIR] ("[ ]" indicates item code in database). However, these variables have missing values. I have to consider whether missing value means zero or an unidentified value. To deal with this problem, I try the following steps. Firstly, using the financial data which is available on Nikkei NEEDS-Financial Quest, I calculate the total of debt ([Short-Term Loans Payable] + [Current Portion of Long-Term Loans Payable] + [Long-Term Loans Payable]). Then, I substitutes zero for the data of missing value for the item of loan from main bank [DEBT_TPBNK] if the total of debt that I calculate is zero at the same fiscal year end. I drop the observation whose missing value is not converted into zero with above modification. Lastly, I substitutes zero for the data of missing value for the items of shareholding ([RTO_TPBK], [INST] and [DIR]).

A total of 132 firm-year observations are omitted from Going-concern model (subsection 3.3) due to the perfect correlations between dependent variables and some industry dummies. A sample of 179 first-time GC note and 4,242 non-GC note firm-year observations is left for GC model. I compute the propensity scores by estimating a GC model. Specifically, I adopt a one-to-one matching without replacement. In addition, I impose a caliper distance of 3%. The matched sample includes 146 first-time GC note and 146 non-GC note firm-year observations.

4. RESULTS

4.1 Propensity score matching

I confirm the propensity score matching results. Table 2 shows the descriptive statistics on the full sample for the variables used in propensity score matching (i.e., Going-concern model). I winsorize all continuous variables at the 1% and 99 % levels.

Table 2. Descriptive statistic (Going-concern model)

	N	mean	sd	min	p25	p50	p75	max
GC_First	4,421	0.040	0.197	0	0	0	0	1
LEV	4,421	0.563	0.224	0.062	0.411	0.588	0.738	0.973
LIQ	4,421	2.252	2.674	0.336	1.087	1.469	2.179	19.290
ROA	4,421	-0.011	0.055	-0.267	-0.028	0.000	0.018	0.101
Log_SIZE	4,421	10.031	1.525	6.774	9.008	9.932	10.878	14.494
CLEV	4,421	0.019	0.064	-0.144	-0.013	0.012	0.043	0.264
LLOSS	4,421	0.333	0.471	0	0	0	1	1
FUTURE_F	4,421	0.222	0.415	0	0	0	0	1
INVEST	4,421	0.231	0.160	0.024	0.117	0.190	0.298	0.800
OP_CASH	4,421	-0.006	0.079	-0.315	-0.036	-0.004	0.039	0.206
BIG N	4,421	0.703	0.457	0	0	1	1	1

All variables are defined in Appendix.

Table 3 presents the results of estimating the GC model. The pseudo R-squared is just over 46%, and the area under the receiver operating characteristic (ROC) curve is 0.943. These suggest that the model has a good fit.

Table 3. Estimating the Going-concern model

	GC_first	
	coeff	z-stat
LEV	2.267***	6.473
LIQ	-0.009	-0.240
ROA	-8.448***	-9.650
Log_SIZE	-0.146***	-3.465
CLEV	0.304	0.413
LLOSS	0.931***	8.148
INVEST	-0.689	-1.586
FUTURE_F	0.319***	2.983
OP_CASH	-0.908*	-1.829
BIG N	-0.257**	-2.519
Constant	-2.328***	-3.841
Year and Industry	yes	
Observations	4,421	
Pseudo R-squared	0.463	

*** p < 0.01, ** p < 0.05, * p < 0.1

All variables are defined in Appendix. I estimate the following probit model.

$$Prob(GC\_First_t) = \beta_0 + \beta_1(LEV_t) + \beta_2(LIQ_t) + \beta_3(ROA_t) + \beta_4(Log\_SIZE_t) + \beta_5(CLEV_t) + \beta_6(LLOSS_t) + \beta_7(INVEST_t) + \beta_8(FUTURE\_F_t) + \beta_9(BIG\ N_t) + \beta_{10}(OP\_CASH_t) + Year + Industry + \varepsilon$$

The coefficients on LEV_t, $LLOSS_t$ and $FUTURE\_F_t$ are significant and positive at p < 0.01. The coefficients on ROA_t (p < 0.01), Log_SIZE_t (p < 0.01), $BIG\ N_t$ (p < 0.05), and OP_CASH_t (p < 0.1) are significant and negative. These results suggest, approximately, that as performance worsens, the probability that a firm will disclose a GC note increases. However, unexpected results are obtained regarding $FUTURE\_F_t$ and $BIG\ N_t$. A possible reason for $FUTURE\_F_t$ is that firms with extremely poor performance tend to issue preferred stock in Japan (Fukuda & Cao, 2014). The coefficient on $BIG\ N_t$ is significant and negative because Big-N audit firms may prefer firms that are financially healthy and therefore do not have an incentive to conduct "window-dressing". If a client's "window-dressing" were to come to light, a Big-N auditor might shoulder litigation and reputation costs. Big-N auditors can enjoy the quasi-rents on account of their high-quality of audits. The problems of litigation and reputation cost are more serious for Big-N than non-Big-N auditors; therefore, to preclude the possibility of these costs being incurred, big-N auditors may avoid working with firms that have financial troubles.

Table 4 present the results of a balanced property check. I winsorize all continuous variables at the 1% and 99% levels. I conduct univariate tests for comparisons of means and medians for firms that had issued a first-time GC note (*GC_First* = 1) and those that had none (*GC_Fisrt* = 0). There are no significant differences among the variables.

Table 4. Balanced property check

	Mean		Median		Difference			
	(1)	(2)	(3)	(4)	(1) - (2)		(3) - (4)	
	GC_First = 1	*GC_First* = 0	*GC_First* = 1	*GC_First* = 0	Mean	t-stat	Median	z-stat
LEV	0.732	0.733	0.779	0.757	-0.001	-0.054	0.022	0.973
LIQ	1.448	1.439	1.063	1.090	0.009	0.058	-0.027	-1.548
ROA	-0.079	-0.083	-0.062	-0.058	0.004	0.415	-0.003	-0.437
Log_SIZE	9.478	9.528	9.458	9.506	-0.050	-0.311	-0.048	-0.085
CLEV	0.076	0.082	0.068	0.055	-0.006	-0.510	0.013	0.283
LLOSS	0.658	0.616	1	1	0.041	0.728	0	0.729
INVEST	0.197	0.199	0.144	0.160	-0.002	-0.116	-0.017	-1.139
FUTURE_F	0.384	0.363	0	0	0.021	0.362	0	0.362
BIG N	0.521	0.514	1	1	0.007	0.117	0	0.117
OP_CASH	-0.039	-0.026	-0.022	-0.016	-0.013	-0.605	-0.006	-0.628
P_SCORE	0.270	0.274	0.230	0.231	-0.004	-0.156	-0.001	-0.128

All variables are defined in Appendix. *P_SCORE* denotes the estimated propensity score.

4.2 Hypothesis test

Table 5 reports the descriptive statistics of the sample firm-year observations, to test H1. I winsorize all continuous variables at the 1% and 99% levels. The mean (median) value of $daccROA\_OI_t$ is –0.002 (–0.008); that of $daccROA\_NI_t$ is –0.006 (–0.005); that of $daccOCF_t$ is –0.028 (–0.025); that of MBL_{t-1} is 0.089 (0.079); that of ROA_t is –0.081 (–0.062); and that of LEV_t is 0.732 (0.767). The descriptive statistics generally suggest that the sample firms are financially distressed.

Table 5. Descriptive statistic (hypothesis test)

	N	Mean	sd	min	p25	p50	p75	max
daccROA_OI	292	-0.002	0.115	-0.486	-0.051	-0.008	0.043	0.762
daccROA_NI	292	-0.006	0.105	-0.294	-0.063	-0.005	0.042	0.346
daccOCF	292	-0.028	0.093	-0.399	-0.068	-0.025	0.017	0.236
MBL	292	0.089	0.076	0	0.032	0.079	0.128	0.377
GC_First	292	0.5	0.5	0	0	0.5	1	1
MBS	292	0.015	0.019	0	0	0	0.034	0.050
MB_CHANGE	292	0.068	0.253	0	0	0	0	1
BIG N	292	0.517	0.501	0	0	1	1	1
INST	292	0.085	0.120	0	0.005	0.036	0.106	0.526
DIR	292	0.151	0.166	0.000	0.010	0.093	0.239	0.626
Log_SIZE	292	9.503	1.360	6.405	8.655	9.501	10.319	13.780
ROA	292	-0.081	0.091	-0.490	-0.111	-0.062	-0.020	0.042
LEV	292	0.732	0.212	0.093	0.625	0.767	0.876	1.222

All variables are defined in Appendix.

Table 6 is a correlation matrix. The Pearson (Spearman) correlation between MBL_{t-1} and $daccROA\_OI_t$ is –0.088 (–0.036); that between MBL_{t-1} and $daccROA\_NI_t$ is –0.058 (–0.030); that between mbl_{t-1} and $daccOCF_t$ is 0.078 (0.089). The Pearson (Spearman) correlation between MBL_{t-1} and MBS_{t-1} is 0.230 (0.222). When a firm secures a large amount loan from its main bank, the firm's shares tend to be owned by the main bank. The Pearson (Spearman) correlation between MBL_{t-1} and ROA_t is 0.226 (0.241), and that between MBS_{t-1} and ROA_t is 0.268 (0.236). It is expected that within the sample, any firms with a higher level performance depends more heavily on its main bank than lower-performing firms.

Table 6. Correlation matrix (hypothesis test)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) *daccROA_OI*		0.963	0.660	-0.036	-0.045	0.061	0.025	-0.047	0.034	0.003	0.155	0.263	0.001
(2) *daccROA_NI*	0.945		0.684	-0.030	-0.014	0.072	0.015	-0.026	0.035	-0.006	0.174	0.318	0.030
(3) *daccOCF*	0.649	0.707		0.089	-0.028	0.113	-0.034	0.028	-0.050	-0.015	0.186	0.605	0.085
(4) *MBL*	-0.088	-0.058	0.078		0.018	0.222	-0.077	0.011	-0.231	0.081	-0.012	0.241	0.375
(5) *GC_First*	-0.053	-0.010	-0.014	0.041		0.000	0.081	0.007	0.054	0.059	-0.005	-0.026	0.057
(6) *MBS*	-0.007	0.016	0.088	0.230	0.008		-0.129	0.129	-0.117	-0.192	0.216	0.236	0.051
(7) *MB_CHANGE*	-0.020	-0.016	-0.031	-0.096	0.081	-0.139		-0.009	0.095	0.091	0.030	0.014	0.022
(8) *BIG N*	-0.079	-0.051	0.029	-0.006	0.007	0.105	-0.009		0.090	-0.105	0.247	0.150	0.049
(9) *INST*	0.045	0.053	-0.045	-0.202	0.029	-0.141	0.076	0.082		-0.052	0.479	-0.101	-0.021
(10) *DIR*	0.028	0.008	-0.005	0.019	0.051	-0.274	0.088	-0.043	-0.109		-0.302	0.001	-0.059
(11) *Log_SIZE*	0.148	0.159	0.195	-0.067	-0.018	0.185	0.018	0.248	0.506	-0.266		0.316	0.308
(12) *ROA*	0.165	0.276	0.581	0.226	0.024	0.268	0.014	0.151	-0.110	-0.056	0.330		0.128
(13) *LEV*	0.017	0.024	0.116	0.389	-0.003	0.094	0.043	0.044	0.044	-0.040	0.354	0.218	

Pearson (Spearman) correlations are below (above) the diagonal. All variables are defined in Appendix.

Table 7 reports the ordinary least squares (OLS) regression results with respect to H1. In Panel A, *MBL* (*GC_First = 0*) indicates that β_1 (the coefficient on MBL_{t-1} without a GC note) is not insignificant. *MBL* (*GC_First = 1*) indicates that $\beta_1 + \beta_2$ (the coefficient on MBL_{t-1} with a first-time GC note) is negative and statistically significant. These results are consistent with H1. I find that financial distressed firms with a first-time GC note tend to make conservative accounting choices (i.e., lower earnings and net assets) in proportion to the main bank's lending. On the other hand, this relation is not observed among financially distressed firms that lack a first-time GC note. It is expected that disclosing a first-time GC note may trigger the allocation of control rights. In addition, Table 7, Panel B shows that β_2 (the coefficient on $MBL_{t-1} \times GC\_First_t$) is negative and statistically significant.[7] This means that firms with a first-time GC note tend to make accounting choices that are more conservative, compared to firms without a GC note.

Table 7. Hypothesis test

Panel A	*daccROA_OI*		*daccROA_NI*		*daccOCF*	
	coeff	t-stat	coeff	t-stat	coeff	t-stat
MBL (GC_First = 0)	0.118	0.760	0.073	0.468	0.029	0.260
MBL (GC_First = 1)	-0.378***	-2.630	-0.363***	-2.665	-0.217**	-2.207
GC_First	0.043	1.615	0.042	1.611	0.020	1.061
MBS	0.060	0.160	-0.007	-0.018	-0.112	-0.422
MB_CHANGE	-0.017	-0.737	-0.017	-0.701	-0.019	-1.113
BIG N (GC_First = 0)	-0.020	-0.966	-0.018	-0.866	-0.005	-0.314
BIG N (GC_First = 1)	-0.035**	-2.106	-0.032*	-1.827	-0.014	-1.075
INST	0.018	0.269	0.045	0.675	0.003	0.062
DIR	0.053	1.027	0.029	0.564	-0.001	-0.043
Log_SIZE	0.007	0.821	0.003	0.352	-0.002	-0.397
ROA	0.201*	1.688	0.336***	2.851	0.632***	6.912
LEV	0.018	0.431	0.023	0.594	0.009	0.311
Constant	-0.089	-0.943	-0.042	-0.469	0.036	0.546
Year and Industry	yes		yes		yes	
Observations	292		292		292	
R-squared	0.147		0.166		0.436	
Adj R-squared	0.0112		0.0331		0.346	

Panel B	*daccROA_OI*		*daccROA_NI*		*daccOCF*	
	coeff	t-stat	coeff	t-stat	coeff	t-stat
MBL	0.118	0.760	0.073	0.468	0.029	0.260
MBL × GC_First	-0.496***	-2.664	-0.436**	-2.370	-0.245*	-1.829
GC_First	0.043	1.615	0.042	1.611	0.020	1.061
Constant	-0.089	-0.943	-0.042	-0.469	0.036	0.546
Control Variables	yes		yes		yes	
Year and Industry	yes		yes		yes	
Observations	292		292		292	
R-squared	0.147		0.166		0.436	
Adj R-squared	0.0112		0.0331		0.346	

*** p < 0.01, ** p < 0.05, * p < 0.1

All t-statistics are based on White's (1980) heteroscedasticity-corrected standard errors. All variables are defined in Appendix. I run the following model.

$$daccROA\_OI_t \; or \; daccROA\_NI_t \; or \; daccOCF_t = \beta_0 + \beta_1 MBL_{t-1} + \beta_2 MBL_{t-1} \times GC\_First_t + \beta_3 GC\_First_t + \beta_4 MBS_{t-1} + \beta_5 MB\_CHANGE_t + \beta_6 BIG\ N_t + \beta_7 BIG\ N_t \times GC\_First_t + \beta_8 INST_{t-1} + \beta_9 DIR_{t-1} + \beta_{10} Log\_SIZE_t + \beta_{11} ROA_t + \beta_{12} LEV_t + Year + Industry + \varepsilon_i$$

5. CONCLUSIONS

In this study, I consider within the Japanese context whether the GC-note disclosure triggers state-contingent governance by a main bank, and examine how state-contingent governance by a main bank influences a borrower's accounting behavior. Main banks have private information channels to determine the financial condition of their borrowers; therefore, both the dependence on accounting information (accounting-based covenant) and the related contract cost may be relatively low. However, the implicit contract and the relational banking between a borrower and its main bank may bring about inefficiencies—that is, the main bank cannot promptly intervene in a borrower's management. I predict that the disclosure of a GC note and a management improvement plan may play a role in mitigating this inefficiency. The empirical findings in this study are consistent with this expectation.

[7] The results with the other variables are identical to those in Table 7, Panel A; to conserve space, I omit those results.

This study contributes to the literature in the following respects. First, the literature finds that GC-note disclosure promotes corporate restructuring and may portend that the main bank may play a role in supporting such initiatives (Inaba, 2010). However, why main banks are more likely to support firms that disclose a GC note than financially distressed firms lacking a GC note has not been examined. The current study considers why this is so. Second, the literature has considered debt covenant violation a trigger that works to transfer control rights from the borrower to the lender (Tan, 2013; Christensen, Nikolaev, & Wittenberg-Moerman, 2016). The current study suggests that the GC-note disclosure also act as such a trigger.

This study has some limitations. First, it does not consider the definition of "main bank." This study adopts main bank data from the Nikkei Cges database, and so, I do not directly observe main-bank characteristic (i.e., refinancing, loan tenure, collateral). Given the limitations in this main bank data, the number of firm-year observations in this study is small; this could possibly affect the results. Second, I focus on first-time GC notes; I do not focus on the introduction of a GC-note reporting system. The timing of main-bank intervention in the borrower firm's management may differ before and after the introduction of a GC-note disclosure system. These issues are left to future research.

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APPENDIX 1: VARIABLE DEFINITION

Inspection model	
$daccROA\_OI_t$	discretionary accruals (in year *t*), using ordinary income-based ROA in line with Kothari, Leone, and Wasley (2005)
$daccROA\_NI_t$	discretionary accruals (in year *t*), using net income-based ROA in line with Kothari, Leone, and Wasley (2005)
$daccOCF_t$	discretionary accruals (in year *t*) in line with Kaszink (1999)
MBL_{t-1}	the ratio of loans from the main bank (at the end of year *t-1*) to total assets (at the end of year *t-1*)
GC_First_t	an indicator that takes the value of 1 if the firm discloses a first-time GC note, and 0 otherwise (at the end of year *t*)
MBS_{t-1}	shareholding by the main bank (at the end of year *t-1*)
MB_CHANGE_t	an indicator that takes the value of 1 if the main bank changes (between the beginning and the end of year *t*), and 0 otherwise
$BIG\ N_t$	an indicator that takes the value of 1 if the auditor is a member of the Big N (at the end of year *t*)
$INST_{t-1}$	shareholding by institutional investors (at the end of year *t-1*)
DIR_{t-1}	shareholding by the firm's directors (at the end of year *t-1*)
Log_SIZE_t	the natural logarithm of total assets (at the end of year *t*)
ROA_t	the ratio of net incomes before extraordinary items (in year *t*) to total assets (at the end of year *t-1*)
LEV_t	the ratio of total liabilities (at the end of year *t*) to total assets (at the end of year *t*)
Going-concern model	
GC_First_t	an indicator that takes the value of 1 if the firm discloses a first-time GC note, and 0 otherwise (at the end of year *t*)
LEV_t	the ratio of total liabilities (at the end of year *t*) to total assets (at the end of year *t*)
LIQ_t	the ratio of current assets (at the end of year *t*) to current liabilities (at the end of year *t*)
ROA_t	the ratio of net incomes before extraordinary items (in year *t*) to total assets (at the end of year *t-1*)
Log_SIZE_t	the natural logarithm of total assets (at the end of year *t*)
$CLEV_t$	change in *Lev* (during the year *t*)
$LLOSS_t$	an indicator that takes the value of 1 if the firm reports a negative net income in the previous year (i.e., in year *t-1*)
$INVEST_t$	the ratio of short and long-term investment securities including cash and cash equivalents (at the end of year *t*) to total assets (at the end of year *t*)
$FUTURE\_F_t$	an indicator that takes the value of 1 if the firm issues equity or debt in the subsequent year (i.e., in year *t+1*)
$BIG\ N_t$	an indicator that takes the value of 1 if the auditor is a member of the Big N (at the end of year *t*)
OP_CASH_t	the ratio operating cash flow (in year *t*) to total assets (at the end of year *t*)