Influence of Ownership Structure on Accounting Conservatism
- Evidence from Japanese Listed Companies -

Abstract:

  The notion that Japan is unique in its corporate governance and information environment has been well established in the academic field. This study seeks to explore how such uniqueness in ownership structure, one of the most important building blocks of corporate governance, affects accounting conservatism. In particular, this study also investigates the combined effects of ownership structure and other primary determinants of accounting conservatism (i.e., debt contracting and the regulatory efficacy of accounting standards) on navigating management's compliance to the conservative principal. I find that stable shareholdings are negatively related with the degrees of conservative accounting in Japanese listed firms. Moreover, debt contracting is latent in disciplining conservative accounting practice, which could be attributed to the unique financing arrangements in Japan. On the other hand, accounting standards prove to be relatively effective in regulating accounting decisions to report earnings conservatively, thus restoring the credibility of accounting reports in Japan.

1. Introduction

This paper focuses on effects of ownership structure, which is a crucial building block of corporate governance, on accounting conservatism. This study also investigates the role of debt contracting and the regulatory efficacy of accounting standards in navigating management's compliance to conservatism principal under influence of different ownership structure. This study differentiates itself from prior studies in that it also aims to disentangle how correlations between ownership structures and the above-mentioned determinants, i.e., capital structure and accounting regulations, affect accounting conservatism in Japan.

The first ownership structure discussed is stable shareholdings. Corporate governance in Japan has commonly been compared to that in the Anglo-American business world. Specifically, compared to the widely dispersed shareholding in the U.S., shares are owned by a relatively small network of shareholders in Japan. On the other hand, financial institutions affiliating to the same conglomerate, as well as companies with long-term business partnership, comprise a large proportion of shareholding in a typical Japanese listed firm. In the meantime, Japanese listed firms still rely primarily on banks for financial funding. In other words, the unique bank-firm relationship might result in a different information environment where debtholders' standing in the firm resemble that of the shareholders (e.g., Choi [2007]). Furthermore, it is also possible that the closely-held ownership structure either gives rise to private comminution channels for debtholders other than pubic accounting information (e.g., Kang and Shivdasani [1995], Kang and Shivdasani [1996]) or alleviates interest conflicts between the debtholders and shareholders (e.g., Anderson et al. [2003]). In addition, to the extent interests of shareholders and debtholders are intertwined as proportion of stable shareholding increases, major loss recognition would on the contrary cut back on their economic gains in the long run. Thus, I posit that a higher proportion of stable shareholdings leads to lower demands for accounting conservatism.

The second ownership structure examined in this study is involvement of foreign capitals. While some existing literature links foreign investors with improved information transparency and operation efficiency, others maintain that foreign investors face more severe asymmetric information and higher monitoring costs such that they are unable to execute the presumable influence. Considering the uniqueness of Japan's capital market, a higher proportion of foreign shareholding thereby does not necessarily lead to a higher level of accounting conservatism.

As an important feature of this study, I also examine how debt contracting and efficiency of accounting standards' ruling on accounting policies, when interacting with

ownership structures, would influence accounting conservatism. The correlation between ownership structure and financial leverage is worth noting because debt contracting has traditionally been deemed as in favor of conservatism across different accounting regimes. Notwithstanding, debtholders are likely to hold different needs for bad news as stated earlier under a unique information environment, which would affect the level of accounting conservatism adopted by management. On the other hand, prior research also suggests that accounting standards activate conformity in speed with which bad news is reflected into earnings (e.g., Lawrence et al. [2013]). Nonetheless, firms domiciled in different countries often face different accounting practices and regulations. Therefore, whether accounting standards could still play an active role in facilitating contracting beyond its institutional structure is also of research interest. Following prior studies, this study defines ruling efficacy of accounting standards as non-discretionary conservatism. This study aims to disentangle how these factors (i.e., stable/foreign shareholdings, debt contracting, non-discretionary conservatism), when combined, predict the level of accounting conservatism chosen by Japanese listed firms by incorporating interaction terms into the regression model (e.g., a market-based model (i.e.,Basu [1997]), an accrual-based model (i.e., Ball and Shivakumar [2006])).

I find that the proportion of stable shareholdings, which is a more common shareholding structure in Japan, is negatively related with the degrees of conservative accounting in Japanese listed firms. Moreover, consistent with the expectation, debt contracting is latent in disciplining conservative accounting practice, which could be attributed to the unique financing arrangements in Japan. Similarly, the interaction term between debt contracting and stable shareholdings remains negative, suggesting that demands for accounting conservatism from debtholders are not effective enough to suppress the negative influence of stable shareholdings. This in turn reflects a multi-facet firm-bank relationship in Japan. On the other hand, test results indicate a relatively powerful enforcement environment in Japan as commitment to timely loss recognition will compel management to rectify assets balance even in firms with higher proportion of stable shareholders when asset value is over evaluated.

Finally, although foreign equity displays little relevance to the level of accounting conservatism, it exhibits higher demands of conservative accounting information when there is a change in capital structure or under a well-rounded disclosure environment. For example, the correlation between leverage and foreign equity is positive, which implies that, as proportion of foreign equity increases, a constrained financial leverage is more likely to evoke higher level of accounting conservatism. Findings in this study also suggest that a proper enforcement mechanism will benefit the capital market as it

assists in monitoring from foreign investors.

This study extends the extant literature as it not only focuses on the effect of a specific type of ownership but also seeks to explore the cross-effects of debt contracting and accounting standards disciplines. This study also shed new insights to the existing conservatism literature on the nature of debt contracting, i.e., creditors' monitoring function in different information environment where creditors' economic gains coincide with those of large shareholders. These findings are of potential interest to both regulators and international investors. More importantly, this study adds to our understanding on the impact of institutional differences on accounting quality. While authorities and academia strive to accommodate international accounting standards, progress may lag on a practical level. In other words, imitating and adopting newer accounting standards cannot really account for changes in earnings quality, due to the environments of various countries in which economies grew in indigenously.

In general, the analyses report consistent results with the hypotheses in this study. However, this study still has several limitations stated as follows. First, I could not entirely rule out the possibilities that test results are biased due to model misspecification and measurement errors in proxies for accounting conservatism. Second, this study fails to consider other drivers for accounting conservatism suggest in earlier research (e.g., interest conflicts between shareholders and management). Finally, research design in this study fails to take the endogeneity concerns into consideration. Specially, although little evidence is found with regards to the influence of foreign equity on accounting conservatism, it is still possible that foreign investors incline to choose firms with lower information asymmetric and such firms are thus expected to be more sensitive to bad news.

The remainder of this study proceeds as follows. Section 2 describes the features of the institutional settings in Japan. Section 3 develops the hypotheses and specifies the measures and empirical models used for hypothesis testing. Section 4 summarizes the sample selection process and presents the descriptive statistics. The test results of the main regressions, and robustness checks are presented in Section 5. Finally, Section 6 concludes and presents implications of the findings.

2 Literature Review

2.1 International Studies

The effects of ownership on financial reporting received prominence from the work of Jensen and Meckling [1976]. As ownership structures are inherently more disperse in

3

Anglo-American settings, the research interest of the literature mainly has been confined to managerial ownership (e.g., Warfield et al. [1995], Cheng and Warfield [2005],Erickson et al. [2006], Lafond and Roychowdhury [2008], Kim and Lu [2011], Kannan et al. [2014], and Basu et al. [2016]). However, research attempts to explore the influence of ownership on accounting conservatism is still limited. Velury and Jenkins [2006] examines the impact of institutional monitoring on earnings quality (i.e., reporting timeliness). They find that, while institutional ownership is positively correlated with timely disclosure in general, such effects are impaired as institutional ownership becomes concentrated.

On the other hand, a growing body of literature has sought to understand the economic effects of concentrated ownership on a firm's informational environment across the globe. The presence of large shareholders is traditionally viewed as optimal as large shareholders are more incentivized than small shareholders to engage in monitoring activities (e.g., Shleifer and Vishny [1986], Huddart [1993]). In other words, the theoretical advantage of concentrated ownership is that bigger shareholders have higher incentives and ability to become effective monitors of management. However, the interests of large shareholders are not necessarily aligned with those of other investors, and therefore, it is inconclusive whether the presence of large shareholders reduces information asymmetry.

For instance, Haw et al. [2004] show that large control ownership, in the absence of extra-legal regularities, induces aggressive income management for a large sample from 9 East Asian and 13 west European economies. [1] In addition, combining firm-level data and country-level institutional differences, Attig et al. [2008] examine the influence of multiple large shareholders on the cost of equity financing in 21 countries in East Asia and Europe[2]. While evidence confirms that the presence of large shareholders lowers equity cost, Attig et al. [2008] suggests that such effects are more likely to hold in firms whose voting power is proportionate to the voting size between large shareholders. Boubaker et al. [2014] investigate the relationship between concentrated ownership and earnings management in a French setting. The authors conclude that controlling shareholders choose to conceal opportunistic practices to prioritize their own interests.

Collectively, effects of ownership concentration are relatively sensitive to institutional

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[1] The analysis subjects in East Asia are Hong Kong, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand; the analysis subjects in Europe include Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the U.K.

[2] The analysis subjects in East Asia are Hong Kong, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand; the analysis subjects in Europe include Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the U.K.

arrangements across countries and regions, such that these empirical findings are not readily generalizable. In this sense, Japanese listed firms provide an interesting context for examining the influence of ownership structures on firm performance. The following subsection summarizes some institutional features that are salient to Japan and discusses how these features affect management's disclosure decisions.

2.2 Ownership Structure in Japan

While accounting standards that originated in common-law countries (e.g., the US, UK, Australia, and Canada) prioritize shareholder protection, accounting standards based in code-law countries (e.g., Germany, France, and Japan) are characterized as stake-holders oriented (e.g., Ball et al. [2003]).

Japanese corporate ownership is typically concentrated among strategically oriented shareholders rather than fragmented among liquid investors, which has been widely known as cross shareholding. Japanese corporate ownership differs from the structure of multiple large shareholdings in the U.S. in that: (1) a cross-shareholder holds the shares as a friendly insider sympathetic to incumbent management; (2) when disposal of shares is inevitable, a cross shareholder consults the firm or at least gives notice of its intention to sell; (3) rather than focusing on returns to equity or the control rights of the firm, cross shareholders focus on enhancing amicable relationships with each other and emphasize stable development through cross-shareholdings; (4) there is a strong bank influence on firms affiliated to the same large business groups (e.g., Prowse [1992], Sheard [1994], Yafeh [2000]). As documented by Aoki [1990] and Guo et al. [2015], cross shareholding ownership alters the corporate governance environment in Japanese firms in two critical ways. First, it makes hostile take-over attempts difficult which enables management to focus on long-term value creation for the firm without paying undue attention to short-term pressures arising from the market for corporate control. For example, Jiang and Kim [2000] argue that to the extent that cross-shareholdings improve the flow of information among investors in the same business group, it substantially reduces information asymmetry and enhances the relevance of accounting information. Shuto and Kitagawa [2011] find that institutional ownership alleviates bond investors' concern about management incentives and increases debt-contracting efficiency. On the other hand, such arrangements also imply that cross shareholders take only a passive role in corporate governance, thereby delegating considerable discretion to management (e.g., Denis and McConnell [2009]).

Teshima and Shuto [2008] and Shuto and Takada [2010] present initial evidence of the relationship between managerial ownership and conservatism for Japanese listed

companies. Evidence in their studies supports the incentive alignment perspective regarding managerial ownership that the asymmetric timeliness of earnings is inversely associated with extremely high or low managerial ownership. Evidence from Shuto and Iwasaki [2014] further suggests that management has a strong propensity for earnings smoothing once the proportion of stable shareholders begins to increase. In general, evidence provided in prior studies supports the conjecture that conditional accounting conservatism varies across firms with different ownership structure in Japan. A recent study by Nagata and Nguyen [2017] examines the influence of ownership structure on management earnings forecasts. They find that firms with greater bank ownership are more likely to withhold private information and make material changes in their management forecasts less timeously.

Recent research has also placed an on-going evolution of the Japanese business system under the spotlight (e.g., Noda [2013], He and Shen [2014], Ullah [2017]). Much of this emerging literature focuses on the role of foreign investors in strengthening monitoring mechanisms to deter management's opportunistic behavior. Ahmadjian and Robbins [2005] set out to investigate the effects of foreign ownership on firm behavior under a typical stakeholder-oriented Japanese institutional framework. Using a sample set of 1108 observations from 1991 to 2000, the authors find that the influence of foreign investors on disinvestment is restricted by the level of existing domestic shareholders. These findings are complemented by Desender et al. [2016]. Whilst acknowledge that foreign ownership contributes to changes in governance processes, Desender et al. [2016] also suggest that the effects of foreign investors are profound only for firms with lower domestic ownership concentration.

Collectively, it cannot be denied that the roles of differential stakeholders in corporate governance and accounting information are constantly evolving in response to rapidly changing business environments and increased competition in Japan. As there is still a lack of adequate empirical evidence on the effects of institutional differences on accounting conservatism, this study aims to reassess the relevance of these stakeholders to accounting information quality.

3 Hypothesis Development and Research Design

3.1 Hypothesis Development

I choose Japan as the subject of this research for the following reason. Corporate ownership in Japan is concentrated among a stable network of investors with close business ties. Rather than economic gains, these shareholders acquire shares based on

strategic needs. Their long investment horizons would possibly prevent them from fulfilling a monitoring and advisory role in management (e.g., Sheard [1994]). Bhagat et al. [2004] and Chen et al. [2007], among others, argue that while minority shareholders and institutional investors aiming for short-term trading gains tend to require timely disclosure of bad news, large shareholders with greater access to private information might discourage such disclosure owing to their longer investment horizons. Table 1 shows some of the similarities and differences between listed firms in Japan and the U.S.

Table 1 Similarities and Differences between Japan and the U.S

	Japan	U.S.A
Dispersed Shareholdings	×	○
Bank Dependence	○	×
Monitoring System	○	○
Two-step impairment test	○	○

Given the preceding discussion on Japan's institutional background, banks in Japan not only play an important role as underwriters and lenders to the firms, but also carry the same corresponding responsibilities as shareholders (e.g., Sheard [1994], Kang and Shivdasani [1995], Kang and Shivdasani [1996]). Arguing from the perspective of governance in the bank system, Kang and Liu [2008] cast doubt on the bank monitoring theory and point out that a close bank-firm relationship leads to wealth being transferred from bank to borrowers through credit misallocation. Choi [2007] also indicates effects of a firm's bank dependence on conditional conservatism might significantly differ in a bank-centered economy (e.g., Japan) and a market-centered economy (e.g., the U.S.).

Based on past research, I first expect that a higher percentage of stable shareholders reduces the needs for accounting conservatism in Japanese listed firms. On the other hand, as debt contracting is conducted more extensively through inside networks in Japan, I thereby posit that creditors' monitoring will be less effective as the percentage of stable shareholdings increases.

H1: Companies with higher stable shareholdings are more likely to have a lower level of accounting conservatism.

H2: With respect to change in debt contracting, companies with higher stable shareholdings still exhibit lower levels of conservatism.

7

On the other hand, whether foreign investment is positively related with firm performance and accounting quality has been of great research interest in the literature (e.g., Jiang and Kim [2004], David et al. [2006], Leuz et al. [2009], Liu et al. [2017]). To sum, two competing views are dominating research on the impact of foreign investors. The first one, termed as governance spillover hypothesis, conjectures that foreign investors' superior knowledge and fiduciary duties enable them to execute influence on the firm's corporate governance and stimulate high quality public information. The other one, known as information asymmetry hypothesis, posits that distance and other information barrier limits foreign investors monitoring capability.

Combined with the discussion in Section 2.2, I thereby propose the following hypothesis with regards to foreign shareholdings of Japanese listed companies in its null form.

H3: Companies with higher foreign shareholdings are more likely to have a higher level of accounting conservatism.

On the other hand, accounting standards applied in a country could also lead to variation in accounting quality (e.g., Barth et al. [2008], Peng et al. [2008], Ahmed et al. [2013]). Prior research also infer that accounting standards are more likely to improve accounting quality when rigorously enforced. For instance, Lawrence et al. [2013] show that the timing of impairment loss disclosure is tallied with the requirements mandated by accounting standards. Based on these findings, Lawrence et al. [2013] further specify the mandatory power of statutory regulations in accounting conservatism as "non-discretionary conservatism", which creates an environment conducive to contracting thereby mitigating conflicts of interest. In other words, accounting standards, when strongly enforced, are expected to constrain, if not eliminate, accounting opportunism.

As the third largest securities market in the world, Japan has long been honored as an economic power with high quality of law enforcement (e.g., Cooke [1992]). However, the fallout from recent corporate scandals, such as those involving Olympus and Toshiba, has overshadowed Japan's legacy. Moreover, Japan, together with Germany, is traditionally viewed as a polar case of the U.S in terms of corporate governance style. Hence, it is uncertain whether the theory of non-discretionary conservatism could be readily applied to countries with different institutional features (e.g., Bushman et al. [2004]). This leads to the final hypotheses in this study:

H4: Non-discretionary conservatism is less effective to impel accounting conservatism in firms with higher stable shareholdings.

8

3.2 Variable explanation

To investigate the effect of ownership structure on conservatism in Japan, the following five variables are used in the analysis.

In this study, $STABLE$ represents the percentage of shares owned by the largest to the tenth-largest shareholders and other individuals or companies affiliated to the company as defined by Quants Research. The data was manually collect from Quants Research. An important limitation of this metric is that this measure includes managerial shareholders. Although managerial ownership still constitutes a relatively small fraction of total shareholdings in Japanese listed firms (e.g., Shuto and Takada [2010], Shuto and Kitagawa [2011]), test results in this study may biased by this limitation.

$J.FOREIGN$ represents the percentage of shares owned by foreign individuals or institutions in Japan. This data was also collected from Quants Research. Foreign investors are usually perceived to be more sophisticated in terms of investment experience and the ability to analyze accounting information (e.g., Wang et al. [2008]). Thus, higher proportion of foreign investors are expected to improve information transparency.

As discussed in introduction, reduced incentive in monitoring from creditors leads to lower demands for accounting conservatism. In this study, I employ the measure $CLEVMV_{t-1}$ to represent the effects from the creditors. It is measured as the change in total liabilities deflated by beginning-of-period market value of shareholder equity. It is conceivable that intense conflicts of interest between lenders and borrowers prompt considerable monitoring from creditors. When a tight monitoring system is already in place, the extra cost to supervise the additional financial liabilities should be almost zero. Simply put, if supplementary monitoring can be implemented at no additional cost, then it is logical for creditors to seek for more conservatism. This renders the predicted sign for $CLEVMV_{t-1}$ to be positive. On the contrary, management, as the other party in a debt contract, has the incentive to deny loss recognition so as not to inflate the debt ratio. A unique governance mechanism (e.g., lenders' insensitivity to change in the borrower's capital cost, a more powerful network of shareholders) can easily trigger such discretions over loss recognition.

In this study, to test H4, the measure of ASSET-BTM ($ABTM_{t-1}$) is employed to explore the effects of accounting standards enforcement on the level of accounting conservatism. $ABTM_{t-1}$ serves as a bench mark for the need to write off underperforming assets. As demonstrated in Lawrence et al. [2013], when $ABTM_{t-1}$ grows higher, a loss is more likely to ensue if management commits to accounting standards.

3.3 Research Design

3.3.1 Modified Basu Model

In line with Lafond and Roychowdhury [2008] and Ahmed and Duellman [2013], this study employs a variation of Basu's asymmetrical timeliness coefficient model to test the hypotheses developed in Section 3.1. Under the framework of Basu [1997], an asymmetric timeliness measure (ρ_3) captures the incremental timeliness of current earnings and recognizes economic losses versus economic gains.

$$E_t = \rho_0 + \rho_1 DR_t + \rho_2 R_t + \rho_3 DR_t * R_t + \varepsilon_t \qquad\qquad \text{Eq.1}$$

E_t denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t$-$1. R_t denotes the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t. DR_t is a dummy variable that equals 1 if R_t is negative and is 0 otherwise. Accordingly, asymmetric timeliness measure (ρ_3) will be positive if bad news is incorporated into earnings information in a timelier manner than is good news.

Model 1:

$E_t = \rho_0 + \rho_1 DR_t + \rho_2 R_t + \rho_3 DR_t * R_t + \rho_4 X_{t-1} + \rho_5 DR_t * X_{t-1} + \rho_6 R_t * X_{t-1} + \rho_7 DR_t * R_t * X_{t-1} + \rho_8 CLEVMV_{t-1} + \rho_8 DR_t * CLEVMV_{t-1} + \rho_9 R_t * CLEVMV_{t-1} + \rho_{10} DR_t * R_t * CLEVMV_{t-1} + \rho_{11} ABTM_{t-1} + \rho_{12} DR_t * ABTM_{t-1} + \rho_{13} R_t * ABTM_{t-1} + \rho_{14} DR_t * R_t * ABTM_{t-1} + year\ fixed\ effects + indusrty\ fixed\ effects + \varepsilon_t$

Model 2:

$E_t = \rho_0 + \rho_1 DR_t + \rho_2 R_t + \rho_3 DR_t * R_t + \rho_4 D.X_{t-1} + \rho_5 DR_t * D.X_{t-1} + \rho_6 R_t * D.X_{t-1} + \rho_7 DR_t * R_t * D.X_{t-1} + \rho_8 CLEVMV_{t-1} + \rho_8 DR_t * CLEVMV_{t-1} + \rho_9 R_t * CLEVMV_{t-1} + \rho_{10} DR_t * R_t * CLEVMV_{t-1} + \rho_{11} ABTM_{t-1} + \rho_{12} DR_t * ABTM_{t-1} + \rho_{13} R_t * ABTM_{t-1} + \rho_{14} DR_t * R_t * ABTM_{t-1} + \rho_{15} CLEVMV_{t-1} * D.X_{t-1} + \rho_{16} DR_t * CLEVMV_{t-1} * D.X_{t-1} + \rho_{17} R_t * CLEVMV_{t-1} * D.X_{t-1} + \rho_{18} DR_t * R_t * CLEVMV_{t-1} * D.X_{t-1} + \rho_{18} ABTM_{t-1} * D.X_{t-1} + \rho_{17} DR_t * ABTM_{t-1} * D.X_{t-1} + \rho_{18} R_t * ABTM_{t-1} * D.X_{t-1} + \rho_{19} DR_t * R_t * ABTM_{t-1} * D.X_{t-1} + year\ fixed\ effects + indusrty\ fixed\ effects + \varepsilon_t$

X_t denotes ownership characteristics salient to Japan with respect to prior research. In view of Japan's unique institutional environment, variables representing stable shareholding $(STABLE)$ and foreign investors $(J.FOREIGN)$ are included in the regressions.

Model 1 is the base line estimation equation in this study. The interaction term $DR_t * R_t * X_{t-1}$ indicates the level of accounting conservatism for a particular ownership type.

H1 predicts that companies choose less conservative accounting policy when proportion of stable shareholders are relatively higher. Thus, the predicted sign for $DR_t * R_t * STABLE_{t-1}$ is negative. On the other hand, $DR_t * R_t * J.FOREIGN_{i,t-1}$ measures the influence of foreign investors. When the presence of foreign investors is effective in improving the sensitivity of earnings to bad news, the sign for the abovementioned interaction terms is predicted to be positive.

As predicted in previous research, variation in leverage generates different demands for timely loss recognition from creditors' side (e.g., LaFond and Watts [2008], Nakamura [2009]). Hence, an increase in debt contracting is likely to induce stricter monitoring of the debtholders, implying a higher level of accounting conservatism. In this case, the sign for $DR_t * R_t * CLEVMV_{t-1}$ is expected to be positive.

$ABTM_{t-1}$ is included in this model to verify the effects of accounting standards on management. Evidence documented in Lawrence et al. [2013] show that non-discretionary conservatism explains a substantial proportion of variation in conservative accounting choices. They find that management commits to accounting standards and recognizes impairment losses in accordance with the decrease in the asset values. The predicted sign for $DR_t * R_t * ABTM_{t-1}$ is positive. Nevertheless, in view of the discussion in the previous sections, it is logical to assume that when influential shareholders discriminate loss recognition, monitoring from the creditors alone may not be effective enough to offset the negative impact of other stakeholders.

$SIZE_{t-1}$ is considered in Model 1 to control for firm size (e.g., Lafond and Roychowdhury [2008], Ahmed and Duellman [2013]). $SIZE_{t-1}$ is natural logarithm of the company's market capitalization.

Model 2 is developed based on Model 1 to test the cross effects of debt contracting (non-discretionary conservatism) and ownership structure. Analyzing their interaction terms would thus generate a fuller picture of the effects of ownership under different circumstance. In Model 2, a dummy variable $D.X_{t-1}$ is employed to examine the level of conservatism shown by companies with higher proportion of stable ownership or foreign ownership. $D.STABLE_{t-1}$ and $D.JLFOREIGN_{t-1}$ take the value of one if the proportion of stable ownership or foreign ownership is above their means. I expected the sign on $DR_t * R_t * D.STABLE_{t-1}$ and $DR_t * R_t * D.JFOREIGN_{t-1}$ to be negative. The signs on $DR_t * R_t * D.STABLE_{t-1}$ and $DR_t * R_t * D.FOREIGN$ are the same in Model 1.

For instance, as the predicted sign on $D.STABLE_{t-1}$ is negative, a positive coefficient on $CLEVMV_{t-1} * D.STABLE_{t-1}$ then indicates the negative effects of stable shareholdings are neutralized. In a similar vein, sign on $CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ are expected to be positive as foreign investors could still restrain management incentives and other

shareholders' disclosure preference when financial capacity becomes constrained. As indicated in Section 3.2, the measure of $CLEVMV_{t-1}$ proposes two alternative scenarios over the influence of leverage change. In other words, when the sign on interaction terms between $CLEVMV_{t-1}$ and $D.STABLE_{t-1}$ turns to negative, it then infers that stable shareholding enables firms to adopt less conservative accounting policy as monitoring from debt holders is compromised. A negative sign on interaction terms between $CLEVMV_{t-1}$ and $D.JFOREIGN_{t-1}$ then suggest the presence of foreign equity does not counteract managerial discretion. On the other hand, the expected sign on all interaction terms with $ABTM_{t-1}$ is positive as strictly enforced accounting standards are anticipated to restore conservative reporting in face of any institutional infrastructure.

3.3.2 GLM-SELECT

In this section, I examine how ownership structure affect accounting conservatism by letting the main ownership variable interact with leverage and ASSET-BTM ratio. As indicated in the introduction, I posit that, given the unique information environment in Japan, the level of conservatism is determined by the extent to which interests of contracting parties involved are opposed or intertwined. For example, accounting numbers would be less conservative as influence of the stable shareholders outplays that of creditors. Furthermore, the interplay of different forces affected by accounting conservatism could potentially lead to even lower sensitivity to economic losses. Hence, it is crucial to disentangle the reciprocal effects between these stakeholders.

On the other hand, one of the greatest challenges faced by empirical analysis is the selection of a valid set of variables which best fit the observed data. In an effort to advance the findings in this study, I perform a general linear models (GLM) selection procedure proposed by Osborne et al. [2000]. General linear model selection is a diagnostic technique emphasizes the accuracy of a model and more importantly accommodates interaction terms under a linear regression framework. In other words, it improves predictive performance on the cross-effects between the predictors and in the meantime balances goodness of fit. Model 3 is used to assess the influence of ownership structure on firm-level conservatism in Japan. Two metrics for accounting conservatism (i.e., T_SCORE, CONSKEW) are employed as the dependent variable in each model.

Model 3:

$dependent = \alpha_0 + \alpha_1 CLEVMV_{t-1} + \alpha_2 ABTM_{t-1} + \alpha_3 STABLE_{t-1} + \alpha_4 CLEVMV_{t-1} * STABLE_{t-1} +$

$\alpha_5 ABTM_{t-1} * STABLE_{t-1} + \alpha_6 J.FOREIGN_{t-1} + \alpha_7 CLEVMV_{t-1} * J.FOREIGN_{t-1} + \alpha_8 ABTM_{t-1} *$

$J.FOREIGN_{t-1} + controls + \varepsilon_t$

where

$dependent_t$:

T_SCORE_t :　　a firm-year conservatism measure devised in Khan and Watts [2009].

$CONSKEW_t$:　　the difference between the skewness of cash flows from operating activities and the skewness of net income using a three-year rolling window.[3]

ownership variable:

$STABLE_{t-1}$:　　the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research

$J.FOREIGN_{t-1}$:　the percentage of shares owned by foreign individuals or institutions in Japan

controls include interacting terms and the following variables.

$CLEVMV_{t-1}$:　　change in total liabilities deflated by beginning-of-period market capitalization

$ABTM_{t-1}$:　　total assets deflated by the sum of market capitalization and total assets minus common equity, both measured at the end of fiscal year $t-1$

$SIZE_{t-1}$:　　natural logarithm of the company's market capitalization.

PPE_{t-1}:　　the proportion of property, plant and equipment assets to total assets in year $t-1$.

$WEAK_t$:　　a dummy variable takes the value of 1 if $LROA_t$ or LR_t is below 5% and 0 otherwise. $LROA_t$ is a lag indicator for ROA, computed as the average value of ROA_{t-1} and ROA_{t-2}. LR_t is a lag indicator for ROA, computed as the average value of R_{t-1} and R_{t-2}. ROA_t is measured as income before extraordinary items deflated by book value of total assets, both measured at the end of fiscal year t. R_t is the buy-and-hold return on common stock for the twelve months ending three months after the end

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[3] $CONSKEW_t = \mathrm{E}(\frac{(COF_{i,t}-\mu COF_{i,t})}{\sigma COF_{i,t}})^3 - \mathrm{E}(\frac{(NI_{i,t}-\mu NI_{i,t})}{\sigma NI_{i,t}})^3$
where
COF_t: cash flow from operating activities deflated by total assets at the end of year t.
NI_t: net income deflated by total assets at the end of year t.
$\mu COF_{i,t}$: mean of cash flow from operating activities.
$\sigma COF_{i,t}$: standard deviation of the distribution of cash flow from operating activities.
$\mu NI_{i,t}$: mean of net income.
$\sigma NI_{i,t}$: standard deviation of the distribution of net income.

$DEBT_{t-1}$ ：   of fiscal year t.

$DEBT_{t-1}$ ：   proceeds from the issuance of bonds in year t－1 deflated by market capitalization of common equity at the end of year t－1.

GW_{t-1} ：   book value of goodwill deflated by total assets, both measured at the end of fiscal year t－1.

$INTA_{t-1}$ ：   book value of intangible assets deflated by total assets, both measured at   the end of fiscal year t－1.

RD_{t-1}:   expenditure on research and development deflated by total sales, both measured at the end of fiscal year t－1

$lnAGE_{t-1}$ ：   the natural logarithm of firm age

The first dependent variable employed in the model is T_SCORE_t, which measures the degree of conditional conservatism suggested in Khan and Watts [2009]. Based on the framework of Basu [1997], they define conditional conservatism as a function of firm size ($SIZE$), marker-to-book ratio (MTB), and market value leverage ($LEVMV$). Although Basu's [1997] approach has been validified in extant literature, controversy still remains regarding its model specification and choice of deflator (e.g., Dietrich et al. [2007]). To ameliorate the concerns, I followed Givoly and Hayn [2000] and employed $CONSKEW_t$ as a non-market-based measure for accounting conservatism. It is computed as the difference between the skewness of net income and the skewness of cash flows from operating activities using a three-year rolling window. The two measures have been extensively applied in previous studies (e.g., García Lara et al. [2016], Zhang [2008]) and present advantage of allowing me to perform tests on a firm-year level. Both T_SCORE_t and $CONSKEW_t$ are positively correlated with the level of conservatism.

As outlined in the previous section, I expect that larger proportion of stable ownership will counteract conservative disciplines. Therefore, I expect that it will negatively associate with the response variables (T_SCORE_t and $CONSKEW_t$) and will be included in the selected model. In contrast, when firms with a larger proportion of foreign shareholders cut loss and abandon poorly performing projects in a timelier manner, $J.FOREIGN_{t-1}$-related items will be positively linked with T_SCORE_t and $CONSKEW_t$.

To identify the combined effects of accounting standards or leverage on accounting conservatism, this section also focuses on the interpretation of the coefficients on the interaction terms. I expect that the existing firm-bank relationship in conjunction with higher concentration in ownership will compromise banks' monitoring efficiency. Interaction terms involve $CLEVMV_{t-1}$ are thereby intended to capture the effect of leverage. To the extent the needs for timelier loss recognition diminishes, coefficient on

dual interaction term ($CLEVMV_{t-1} * X_{t-1}$), when associate with stable shareholdings, is expected to be negative. Prior study infers that non-discretionary conservatism ($ABTM_{t-1}$) impels accounting conservatism and rules out opportunistic accounting choices. Therefore, I expect the inclusion of measure $ABTM_{t-1}$ will offset the negative influence of stable shareholdings. Therefore, estimate for $ABTM_{t-1} * STABLE_{t-1}$ is positive. On the other hand, sign on the dual interaction terms ($CLEVMV_{t-1} * X_{t-1}$ and $ABTM_{t-1} * X_{t-1}$) associated with foreign shareholdings is expected to be positive if foreign equity is positively correlated with accounting conservatism.

$controls$ include interacting terms and the following predictors. PPE_{t-1} stands for the tangibility of assets and is measured as the proportion of property, plant and equipment assets to total assets in year t−1. Due to the effects of learning curve and survival bias, older and larger firms are more likely to be predictable than younger ones. Moreover, firm age also indicates the length and quality of bank-firm relationship. For Japanese listed companies, firm age data is collected from Quants Research database. Other variables controlling for firm's characteristics affect accounting policy and conservatism include the proportion of intangible assets ($INTA_{t-1}$) and goodwill (GW_{t-1}) in the total assets. Together with RD_{t-1}, those variables are included to control for investment uncertainty and growth opportunity. $WEAK_t$ is a dummy variable, taking a value of one if the firm experienced depressed stock performance or a decline in profitability during the last fiscal year. It is supposed to control for the profitability and the non-discretionary component in conservatism. $DEBT_{t-1}$, on the other hand, controls for capital collected from open market where bond securities can be actively traded. I expect that participants in this market, who might be exposed to more risks if the value of bond fluctuates, will closely follow the issuer's activities and demands transparency.

4. Sample selection

The initial sample pool for Japanese listed firms consists of all listed firms on NIKKE Financial Request. Stock return data from NPM Daily Return Database (Financial Data Solutions). Companies with (a) fiscal year ending other than March; (b) missing data to compute the measure of ASSET-BTM (i.e., and market capitalization or total assets); (c) with negative shareholders' equity; (d) who had changed their year-end in the middle of a fiscal year were excluded from the observations. To reduce analytical complexity, financial institutions were also excluded from the analyses. The computation of $CONSKEW_t$ reduces the sample size by 1457 observations in the GLM analysis. Ownership-related data are manually collected from Quants Research issued by Toyo

Keizai from the fiscal year 2003 to 2015.

Table 2 Process of Sample Selection

	initial sample
	30437
1 analytical complexity	Δ10492
2 required accounting data	Δ1502
3 negative common equity and asset write-downs	Δ25
4 required data for ownership	Δ163
total	18255
5. required cash flow data	Δ1457
subtotal	16798

5. Descriptive Statistics and Test Results

5.1 Descriptive Statistics

Table 3 reports the descriptive statistics of variables used in this study. A correlation matrix for the variables, with Spearman correlations in the upper quadrant and Pearson correlations in the lower quadrant is provided in Appendix 2. The regression results for calculation of T_SCORE are provided in Appendix 3.

Panel A shows the proportion of shares owned by stable shareholders ($STABLE_{t-1}$) and foreign investors ($J.FOREIGN_{t-1}$), respectively. The median value for stable shareholdings (0.491) is lower than its mean value (0.505). A similar trend can be observed for foreign shareholdings (mean 0.103 vs. median 0.062), indicating concentration of ownership for companies in high percentiles. Pearson correlation coefficient on foreign shareholdings ($J.FOREIGN_{t-1}$) with firm size ($SIZE_{t-1}$) is 0.669*. These findings are consistent with evidence documented in Jiang and Kim [2004] that foreign investors tend to choose companies with larger market capitalization.

Table 3 : Panel A

	mean	p25	median	p75	sd
$STABLE_{t-1}$	0.505	0.391	0.491	0.616	0.150
$D.STABLE$	0.481	0.000	0.000	1.000	0.500
$J.FOREIGN_{t-1}$	0.103	0.013	0.062	0.160	0.113
$D.JFOREIGN_{t-1}$	0.389	0.000	0.000	1.000	0.488

Notes:

$STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $D.STABLE_{t-1}$: a dummy variable takes the value of one if the proportion of stable shareholders is above the mean and zero otherwise. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $D.JFOREIGN_{t-1}$: a dummy variable takes the value of one if the proportion of foreign shareholders is above the mean and zero otherwise.

Panel B summarizes statistics for key variables employed in the analyses. The first three variables are proposed by Basu [1997] to predict the level of accounting conservatism. E_t denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t. R_t is the buy-and-hold return on common stock for the 12 months ending three months after the end of fiscal year t. DR_t is a dummy variable, taking a value of 1 if R_t is negative, and zero otherwise. The mean value of DR_t is 0.554, indicating more Japanese firm experienced negative return across the analysis period.

Table 3 : Panel B

	mean	p25	median	p75	sd
E_t	0.077	0.051	0.095	0.151	0.377
DR_t	0.554	0.000	1.000	1.000	0.497
R_t	0.034	−0.182	−0.030	0.135	2.400
$ABTM_{t-1}$	1.036	0.851	1.019	1.187	0.362
$BTMD_t$	0.530	0.000	1.000	1.000	0.499
ACC_t	−0.033	−0.060	−0.032	0.004	0.070
ΔCF_t	0.001	−0.027	0.001	0.031	0.134
$D\Delta CF_t$	0.476	0.000	0.000	1.000	0.499
$CLEVMV_{t-1}$	0.023	−0.068	0.000	0.079	3.920
T_SCORE_t	0.130	−0.043	0.097	0.239	0.371
$CONSKEW_t$	0.060	−0.413	0.032	0.569	0.697

Notes:
E_t denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t−1. R_t: the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t−1. DR_t: dummy variable, taking a value of 1 if R_{t-1} is negative, and 0 otherwise. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $BTMD_t$: a dummy variable takes a value of 1 if $ABTM_{t-1}$ is higher than 1 and 0 otherwise. ACC_t: accruals in year t deflated by average total assets. ΔCF_t: changes in cash flows from operations deflated by average total assets. $D\Delta CF_t$: a dummy variable, taking the value of 1 if $\Delta CF_t$is negative and 0 otherwise. $CLEVMV_{t-1}$: change in total liabilities deflated by beginning-of-period market capitalization. T_SCORE_t: a firm-year conservatism measure devised in Khan and Watts [2009]. $CONSKEW_t$. the difference between the skewness of cash flows from operating activities and the skewness of net income using a three-year rolling window.

$ABTM_{t-1}$ denotes ASSET-BTM measured at the end of fiscal year t−1, computed as the

book value of total assets deflated by the sum of market capitalization and total assets minus common equity. Following is a dummy variable $BTMD_t$, which takes a value of 1 if $ABTM_{t-1}$ is higher than 1 and 0 otherwise. More than half of Japanese firms have lower market values than their book values ($BTMD_t$= 0.53).

Panel C presents the statistics for the control variables in this study. Firm size ($SIZE$) and firm age (AGE) are included as they are likely correlated with ownership structure and information asymmetry. $LEVMV_{t-1}$ is calculated as book value of total liabilities deflated by market value of common equity at the end of fiscal year t－1. $DEBT_{t-1}$, on the other hand, denotes proceeds from debt issuance deflated by market capitalization at the end of fiscal year t－1. Public debt accounts for only about 9% of the total liabilities in Japan. This is consistent with the discussion in Section 2 that banks play a much more dominant role as a source of firm financing in Japan compared to the U.S.

Table 3: Panel C

	mean	p25	median	p75	sd
$LEVMV_{t-1}$	2.182	0.550	1.237	2.514	4.695
$DEBT_{t-1}$	0.005	0.000	0.000	0.000	0.022
PPE_{t-1}	0.298	0.166	0.281	0.400	0.184
$SIZE_{t-1}$	10.102	8.885	9.943	11.247	1.960
$lnAGE_{t-1}$	4.086	3.951	4.220	4.369	0.491

Notes

$LEVMV_{t-1}$: book value of total liabilities deflated by market value of common equity at the end of fiscal year t－1. $DEBT_{t-1}$:　proceeds from debt issuance deflated by market capitalization, both measured at the end of year t－1. PPE_{t-1}: proportion of property, plant and equipment assets to total assets, measured at the end of year t－1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t－1. $lnAGE_{t-1}$: the natural logarithm of firm age.

5.2 Main Results

Table 4 presents main test results of the modified Basu model and assess the association between ownership structure and conservatism for Japanese listed firm. In each panel, the first column presents the regression results for Model 1, which measures the homogeneous effect of each ownership type across all firms. The third column presents the regression results for Model 2, which examines effects of higher concentration in ownership by replacing the proportion of shares by a dummy variable. The estimations are performed using a fixed effects model. Estimates for interaction terms on control variables are not shown for brevity. Two-tailed P-values are reported in the apprentice.

5.2.1 Test Results for Modified Basu Model (Model 1)

Panel A reports test results for Japanese listed firms. As per H1, I posit that stable ownership, which places importance on maintaining a long-term business ties with the firm and the management, engenders lower demand for conservative accounting. Consistent with my expectation, the coefficient on $DR_t * R_t * STABLE_{t-1}$ is significantly negative for both model specifications (-0.559^{***}), indicating that on average, the level of conservatism decreases as the proportion of stable shareholders increases. In model 2, ownership proxy is replaced by a dummy variable, taking a value of one if the number of stable shareholders is above the overall mean in the sample pool. As shown by the results, the coefficient on $DR_t * R_t * D.STABLE_{t-1}$ is negative and statistically significant at the 1% level (-0.664^{***}), suggesting that firms with larger stable shareholdings (above the mean) become less timely in recognizing economic losses relative to economic gains.

On the other hand, under H3, I include the proportion of foreign investors to evidence whether foreign ownership is associated with higher corporate transparency and lower information asymmetry (e.g., Jiang and Kim [2004], Guo et al. [2015]). The results show that the coefficient on $DR_t * R_t * J.FOREIGN_{t-1}$ is statistically positive and economically important compared to other control variables included in the model. For example, one-unit change in foreign ownership could drives loss recognition by almost the same value (0.971^{***}). However, although estimate on $DR_t * R_t * J.FOREIGN_{t-1}$ in Model 2 is positive, it lacks sufficient explanatory power (0.167). One possible explanation for the reduced significance is the inclusion of the interaction term of $DR_t * R_t * ABTM_{t-1} * D.JFOREIGN_{t-1}$.

5.2.2 Test Results for Modified Basu Model (Model 2)

Model 2 also investigates how ownership structure affects levels of accounting conservatism under different circumstances. First, with regards to the interaction term between $CLEVMV_{t-1}$ and $D.STABLE_{t-1}$, the coefficient is significantly negative (-0.422^{***}). As estimate for $DR_t * R_t * CLEVMV_{t-1}$ is insignificant (-0.237), it is uncertain how change in leverage influence accounting conservatism. However, given the coefficient on $DR_t * R_t * D.STABLE_{t-1}$ is significantly negative, it is reasonable to infer that stable shareholdings either depresses timely loss recognition even when leverage continues to rise or provokes managerial discretion to avoid triggering debt covenants.

On the other hand, estimate for $DR_t * R_t * CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ is positive and statistically significant (0.120^*). This again infers that foreign investors, when work on their own, are less efficient in proving accounting quality. Finally, estimate for $DR_t * R_t * ABTM_{t-1}$ (0.233^*) indicates a high level of regulatory effect in Japan. In the

meantime, estimates for $DR_t * R_t * ABTM_{t-1} * D.STABLE_{t-1}$ and $DR_t * R_t * ABTM_{t-1} * D.JFOREIGN_{t-1}$ are both significantly positive (0.589*** and 0.305*). In other words, non-discretionary conservatism is adequately effective to improve conservative accounting in Japan. These test results reject H4 in this study, which predicts effects of regulatory enforcement will be neutralized in view of a closely connected shareholding structure.

Table 4 Test Results for Basu Model

	Model 1		Model 2	
	estimates	P−value	*estimates*	P−value
$DR_t * R_t$	0.069	(0.510)	0.221	(0.078)
$DR_t * R_t * CLEVMV_{t-1}$	0.004	(0.824)	−0.237	(0.099)
$DR_t * R_t * ABTM_{t-1}$	0.601***	(0.000)	0.233*	(0.038)
$DR_t * R_t * STABLE_{t-1}$	−0.559***	(0.000)		
$DR_t * R_t * D.STABLE_{t-1}$			−0.664***	(0.000)
$DR_t * R_t * CLEVMV_{t-1} * D.STABLE_{t-1}$			−0.422***	(0.000)
$DR_t * R_t * ABTM_{t-1} * D.STABLE_{t-1}$			0.589***	(0.000)
$DR_t * R_t * J.FOREIGN_{t-1}$	0.971***	(0.000)		
$DR_t * R_t * D.JFOREIGN_{t-1}$			0.167	(0.163)
$DR_t * R_t * CLEVMV_{t-1} * D.JFOREIGN_{t-1}$			0.120*	(0.031)
$DR_t * R_t * ABTM_{t-1} * D.JFOREIGN_{t-1}$			0.305*	(0.017)
$DR_t * R_t * SIZE_{t-1}$	−0.027***	(0.000)	−0.035***	(0.000)
intercept	0.534***	(0.000)	0.404***	(0.000)
F	27.71		29.19	
N	18255			

Notes:

E_t denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t−1. R_{t-1}: the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t−1. DR_t: dummy variable, taking a value of 1 if R_{t-1} is negative, and 0 otherwise. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company. $D.STABLE_{t-1}$: a dummy variable takes the value of one if the proportion of stable shareholders is above the mean and zero otherwise. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $D.JFOREIGN_{t-1}$: a dummy variable takes the value of one if the proportion of foreign shareholders is above the mean and zero otherwise. $CLEVMV_{t-1}$ is measured as the change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t−1. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

In summary, test results in this section provide supports that stable shareholdings are

negatively associated with accounting conservatism. Evidence in this section also indicates that regulations in Japan is relatively more effective in facilitating accounting conservatism. In the next section, a model selection technique is employed to determine a more powerful predicting model with regards to the combined effects of the factors discussed in this section.

5.2.3 Test Results for GLM-SELECT

This section presents test results for general linear model selection (GLM-SELECT hereafter) which detect the relationship between firm level conservatism and ownership structure. In order to reduce the selection bias, the adaptive least absolute shrinkage and selection operator (LASSO) is implemented as the selection method (Tibshirani [1996] and Wu and Liu [2009]). It allows predictors to enter or leave the model individually, through which only non-zero parameters would be retained in the model. I applied the Adjusted R-square statistic ($Adj. R^2$), Akaike's information criterion (AIC), Corrected Akaike's information criterion ($AICC$) and Bayesian information criterion (BIC)/ Schwarz Bayesian information criterion (SBC) to evaluate the quality of the models produced by GLM-SELECT. In all the tests, BIC/SBC introduces a much stronger penalty over the other criterion.

Figure 1 reports the selection process. The upper plots show how the model evolves through the selection process. Each colored line represents the value taken by a different variable. The vertical axis reveals the fit statistics of the variables and assesses the relative importance of the effects selected at any step of the selection process. The horizontal axis provides information as to when effects of the selected variables enter the model. The lower plot in the panel shows the stopping criterion used to choose the model and how it changes as variables enter or leave the model. The vertical gray line connecting the upper plot and the lower plot indicates the maximum number of steps, which when reached, denotes the termination of the selection process. The effects chosen by then are viewed as the optimal model to explain the response variable.

Table 5 reports the test results for ordinary least square regression based on the original model (OLS model hereafter) and the model determined by GLM-SELECT (GLM model hereafter). Estimates on control variables are not reported for brevity. It should be noted that careful attention is needed on interpretation of test results in this section due to measurement error with regards to the dependent variables (T_SCORE_t and $CONSKEW_t$) applied in the model.

21

5.2.3.1 Test Results for Model 3

Panels A and B in Table 5 report test results for models chosen by GLM-SELECT. H1 predicts that stable shareholdings generate a lower demand for accounting conservatism. Estimate for $STABLE_{t-1}$ is significantly negative (-0.176^{***}) in the CONSKEW specification. This is consistent with the prediction in this study that higher proportion of stable shareholdings reduces bad news sensitivity. On the other hand, sign on $CLEVMV_{t-1}$ is statically positive in the OLS model (0.032^{***}), indicating that leverage serves as a primary driver for conservatism. Moreover, consistent with the expectation in this study, coefficients on $CLEVMV_{t-1} * STABLE_{t-1}$ are significantly negative in the OLS model and the GLM model (-0.067^{***} and -0.025^{***}). This implies that despite the existence of increased needs for conservatism, earnings are still prone to be less responsive to bad news in the presence of high stable shareholdings, which offer supports for H2.

Under H4, I also predict that a weakening enforcement environment will fail to improve accounting quality which manifests as a negative association between the measure $ABTM_{t-1}$ and the dependent variables. Sign on the interaction term $ABTM_{t-1} * STABLE_{t-1}$ is 0.084^{***} in the T_SCORE specification. This result holds when the dependent variable changes to CONSKEW, where coefficient on $ABTM_{t-1} * STABLE_{t-1}$ is also statistically positive (0.061^*), suggesting that negative effects of stable shareholdings are offset when assets are over evaluated. These results again reject H4 for Japanese listed firms.
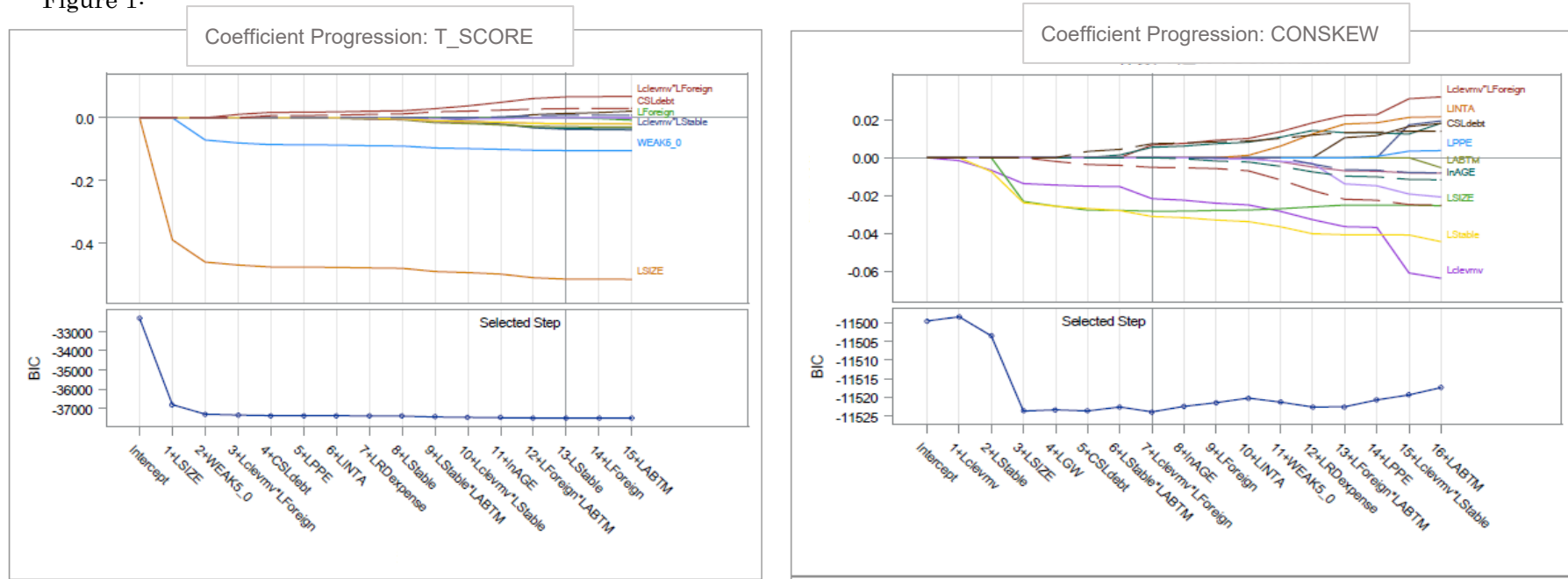
This study also predicts that foreign investors do not necessarily promote accounting conservatism and spur changes in accounting practices. However, sign on the individual effect of $FOREIGN_{t-1}$ lacks sufficient explanatory power in both of the T_SCORE and CONSKEW specifications, thereby influence of foreign investors are inconclusive in this test. Nonetheless, the interaction term of $ABTM_{t-1} * FOREIGN_{t-1}$ is significantly positive and is included in the model (0.243^{***}), implying that foreign investors are more vigilant in asset overvaluation and assist in accounting conservatism.

Findings in this section are similar with those in the previous section with regards to the cross effects between debt contracting and foreign equity. Coefficient on $CLEVMV_{t-1} * J.FOREIGN_{t-1}$ is significantly positive in both specifications (0.088^{***} and 0.009^{**}) while the individual effect of $J.FOREIGN_{t-1}$ is not statistically significant and excluded from the model. This again implies that effects of foreign investors alone are not enough to make an impact in conventional accounting practices.

To sum, findings in this section offer support for H1 that stable ownership depresses accounting conservatism in Japan even when circumstance (change in leverage) predicts

the opposite. H4 is rejected as the interaction term with *ABTM* ratio for stable shareholdings is significantly positive. No significant evidence is found to explain effects of foreign shareholdings on accounting conservatism in this analysis. Prior studies suggest that the involvement of foreign investors in corporate governance practice can be an effective way to lower agency cost. However, based on test results in this test, foreign investors, despite their expertise and experience, may still play a secondary role in corporate monitoring as they still lack opportunity to observe day-to-day accounting practices.

Figure 1:

Coefficient Progression: T_SCORE

Coefficient Progression: CONSKEW

Notes:

T_SCORE_t: a firm-year conservatism measure devised in Khan and Watts [2009]. $CONSKEW_t$. the difference between the skewness of cash flows from operating activities and the skewness of net income using a three-year rolling window. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $CLEVMV_{t-1}$ is measured as the change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t−1. PPE_{t-1}: proportion of property, plant and equipment assets to total assets, measured at the end of year t−1. $DEBT_{t-1}$: proceeds from debt issuance deflated by market capitalization, both measured at the end of year t−1. $lnAGE_{t-1}$: the natural logarithm of firm age. $WEAK_t$: a dummy variable takes the value of 1 if $LROA_t$ or LR_t is below 5% and 0 otherwise. $LROA_t$ is a lag indicator for ROA, computed as the average value of ROA_{t-1} and ROA_{t-2}. LR_t is a lag indicator for ROA, computed as the average value of R_{t-1} and R_{t-2}. ROA_t is measured as income before extraordinary items deflated by book value of total assets, both measured at the end of fiscal year t. R_t is the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t. GW_{t-1}: book value of goodwill deflated by total assets, both measured at the end of fiscal year t−1. $INTA_{t-1}$: book value of intangible assets deflated by total assets, both measured at the end of fiscal year t−1. RD_{t-1}. expenditure on research and development deflated by total sales, both measured at the end of fiscal year t−1.

Model 3:

$T\_SCORE_t (CONSKEW_t) = \alpha_0 + \alpha_1 CLEVMV_{t-1} + \boldsymbol{\alpha_2} ABTM_{t-1} + \alpha_3 STABLE_{t-1} + \alpha_4 CLEVMV_{t-1} * STABLE_{t-1} + \alpha_5 ABTM_{t-1} * STABLE_{t-1} + \alpha_6 J.FOREIGN_{t-1} +$
$\alpha_7 CLEVMV_{t-1} * J.FOREIGN_{t-1} + \alpha_8 ABTM_{t-1} * J.FOREIGN_{t-1} + controls + \varepsilon_t$

Table 5 Test Results for GLM-SELECT

Panel A： T_SCORE_t

		OLS		GLM	
		estimates	P − value	*estimates*	P − value
$CLEVMV_{t-1}$	?	0.032***	(0.000)		
$ABTM_{t-1}$	+	−0.089**	(0.002)		
$STABLE_{t-1}$	−	−0.027	(0.607)		
$CLEVMV_{t-1} * STABLE_{t-1}$	−	−0.067***	(0.000)	−0.025***	(0.000)
$ABTM_{t-1} * STABLE_{t-1}$	−	−0.015	(0.748)	0.084***	(0.000)
$J.FOREIGN_{t-1}$	−	0.182	(0.059)		
$CLEVMV_{t-1} * J.FOREIGN_{t-1}$	−	0.028	(0.160)	0.088***	(0.000)
$ABTM_{t-1} * J.FOREIGN_{t-1}$	−	0.249***	(0.000)	0.243***	(0.000)
intercept		1.223***	(0.000)	0.128***	(0.000)
$Adj − R^2$		0.266		0.130	
N		18255			

Notes:

T_SCORE_t: a firm-year conservatism measure devised in Khan and Watts [2009]. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $CLEVMV_{t-1}$ is measured as the change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

Table 5 Test Results for GLM-SELECT

Panel B：$CONSKEW_t$

		OLS		GLM	
		estimates	P − value	*estimates*	P − value
$CLEVMV_{t-1}$	?	−0.025	(0.204)	−0.002**	(0.009)
$ABTM_{t-1}$	+	0.085	(0.184)		
$STABLE_{t-1}$	−	−0.074***	(0.000)	−0.176***	(0.000)
$CLEVMV_{t-1} * STABLE_{t-1}$	−	0.015	(0.627)		
$ABTM_{t-1} * STABLE_{t-1}$	−	0.084	(0.432)	0.061*	(0.028)
$J.FOREIGN_{t-1}$	−	−0.171	(0.272)		
$CLEVMV_{t-1} * J.FOREIGN_{t-1}$	−	0.069	(0.125)	0.009**	(0.009)
$ABTM_{t-1} * J.FOREIGN_{t-1}$	−	0.169	(0.277)		
intercept		0.148	(0.109)	0.201***	(0.000)
$Adj − R^2$		0.003		0.003	
N		16798			

Notes:

$CONSKEW_t$. the difference between the skewness of cash flows from operating activities and the skewness of net income using a three-year rolling window. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $CLEVMV_{t-1}$: the change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets －common equity, both measured at the end of fiscal year t−1. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

6. Additional Test

6.1 Accrual Model

As a final test, I employed a modified accrual model to examine the degree of conditional conservatism in this section. In line with Basu [1997], Ball and Shivakumar [2006] argue that conservatism also induces asymmetry in the timeliness of gain and loss accrual recognition in which operating cash flows indicate the bad news and the good news. According to their framework, a decline in operating cash flows, more often than not, indicates a reduction in the asset's value (bad news). Hence, loss accruals should be captured in a timelier manner as conservatism requires management to reflect such value deterioration at the time the information arises.

$$\text{ACC}_t = \alpha_0 + \alpha_1 D\Delta CF_t + \alpha_2 \Delta CF_t + \alpha_3 D\Delta CF_t * \Delta CF_t + \alpha_4 \Delta REV_t + \alpha_5 GPPE + \varepsilon_t \qquad \text{Eq.2}$$

where ACC_t denotes accruals in year t.[4] ΔCF_t denotes changes in cash flows from operations taken form the cash flow statement. $D\Delta CF_t$ is a dummy variable, taking the value of 1 if ΔCF_t is negative and zero otherwise. ΔREV_t denotes changes in net sales in year t. $GPPE_t$ denotes gross property, plant, and equipment. The variables are all deflated by average total assets in year t. As in Jones model, changes in sales control for non-discretionary accruals of current assets and liabilities, while property, plant and equipment control for the non-discretionary component of depreciation expenses. Again, as with Basu [1997], $D\Delta CF_t * \Delta CF_t$ measures the extent to which firms are conservative. Under conservative reporting, $D\Delta CF_t * \Delta CF_t$ is expected to be positive. Following García Lara et al. [2009] and Haw et al. [2014], I incorporate both the main effect variables and their interaction terms into the base-line accrual model to examine the relationship between ownership structure and the level of accounting conservatism .

Model 4:

$\text{ACC}_t = \alpha_0 + \alpha_1 D\Delta CF_t + \alpha_2 \Delta CF_t + \alpha_3 D\Delta CF_t * \Delta CF_t + \alpha_4 D.X_{t-1} + \alpha_5 D\Delta CF_t * D.X_{t-1} + \alpha_6 \Delta CF_t * D.X_{t-1} + \alpha_7 D\Delta CF_t *$

$\Delta CF_t * X_{t-1} + \alpha_8 CLEVMV_{t-1} + \alpha_9 D\Delta CF_t * CLEVMV_{t-1} + \alpha_{10} \Delta CF_t * CLEVMV_{t-1} + \alpha_{11} D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} +$

$\alpha_{12} ABTM_{t-1} + \alpha_{13} D\Delta CF_t * ABTM_{t-1} + \alpha_{14} \Delta CF_t * ABTM_{t-1} + \alpha_{15} D\Delta CF_t * \Delta CF_t * ABTM_{t-1} + \alpha_{16} CLEVMV_{t-1} * D.X_{t-1} +$

$\alpha_{17} D\Delta CF_t * CLEVMV_{t-1} * D.X_{t-1} + \alpha_{18} \Delta CF_t * CLEVMV_{t-1} * D.X_{t-1} + \alpha_{19} D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} * D.X_{t-1} +$

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[4] Following Kothari et al. [2005], accruals in year t are measured based on the following equation:
$ACC_t = \Delta CA_t - \Delta Cash_t - (\Delta CL_t - \Delta STD_t) - Dep_t$
ΔCA_t : change in current assets
$\Delta Cash_t$: change in cash and cash equivalents
ΔCL_t : change in current liabilities
ΔSTD_t : change in current liabilities transformed from non-current liabilities
Dep_t : depreciation expenses

$$\alpha_{20} ABTM_{t-1} * D.X_{t-1} + \alpha_{21} D\Delta CF_t * ABTM_{t-1} * D.X_{t-1} + \alpha_{22}\Delta CF_t * ABTM_{t-1} * D.X_{t-1} + \alpha_{23}D\Delta CF_t * \Delta CF_t * ABTM_{t-1} *$$

$$D.X_{t-1} + \alpha_{24}\Delta REV_t + \alpha_{25}GPPE_t + year\ fixed\ effects + indusrty\ fixed\ effects + \varepsilon_t$$

In model 4, $D.X_{t-1}$ divides samples into two groups with different level of concentration in each ownership structure. $D.STABLE_{t-1}$ and $D.JFOREIGN_{t-1}$ takes the value of one if the proportion of stable ownership or foreign ownership is above their means, respectively.

According to H1, I expect that the presence of stable shareholders will reduce the demand for timelier loss recognition, therefore the predicted sign for $D\Delta CF_t * \Delta CF_t * D.STABLE_{t-1}$ is negative. In a similar vein, I expect that influence of foreign investors would be weaker due to the unique institutional environment in Japan.

Table 6 summarizes the test results for the modified accrual model. With regard to H1 in this study, the anticipated sign on the primary variable of interest, $D.STABLE_{t-1}$ is negative. However, estimate on $D\Delta CF_t * \Delta CF_t * STABLE_{t-1}$ is significantly positive (0.337***), which differs with test results in the modified Basu models (coefficient on $DR_t * R_t * STABLE_{t-1}$ and $DR_t * R_t * STABLE_{t-1}$ is significantly negative (-0.025*** and -0.007*)). One possible explanation of the observed change in sign and significance on stable shareholdings ($STABLE_{t-1}$) in the accrual-based model could be interpreted as effects of a developed regulatory infrastructure in Japan and management's deviation from accrual management. It is consistent with the conjectures made in Cohen et al. [2008] and Cohen and Zarowin [2010] that accrual-based earnings management is costlier and much easier to be detected by auditors. Therefore, results in Table 6 could not entirely reject H1 in that firms could still delay loss recognition in non-cash-based transactions (i.e., asset impairment losses). Turning to foreign shareholdings, sign on the dummy variable $D.JFOREIGN_{t-1}$ is -0.551, suggesting that higher proportion of foreign investors does not necessarily lead to higher commitment to conservatism. As an additional test, I also replace the main effect to adjusted foreign ownership ($A.JFOREIGN_{t-1}$)[5] suggested in Jiang and Kim [2004]. It measures the proportion of foreign equity ownership relative to that of stable ownership. Estimate for $A.JFOREIGN_{t-1}$ is 0.056*** (P $-$ value $=0.000$). This result shows that foreign investors

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[5] Adjusted foreign ownership ($A.JFOREIGN_{t-1}$) is measured as follows:

$$A.JFOREIGN_{t-1} = J.FOREIGN_{t-1}/(1 - STABLE_{t-1})$$

where:

$J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan.

$STABLE_{t-1}$:　　the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company.

are more likely to actively prompt accounting conservatism in firms whose proportion of stable ownership is relatively lower.

H2 predicts that creditors do not sufficiently facilitate accounting conservatism as ownership concentration intensifies among a close network of shareholders in Japan. Estimate for $D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1}$ is negative and statistically significant ($-$0.080***), suggesting that the level of conservatism decreases when leverage is higher than the previous accounting period. The negative impact comes from the cross effect of debt contracting and stable shareholdings ($D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} * D.STABLE_{t-1}=-$0.071***) could be attributed to management's incentives to avoid inflated financial leverage when the proportion of stable shareholdings grows higher. In conclusion, the accrual model provides additional evidence for H2. On the other hand, sign on $D\Delta CF_t * \Delta CF_t * ABTM_{t-1}$ is positive and significant at the 1% level (0.676***), implying a sound enforcement effects of accounting standards. Moreover, estimate for $D\Delta CF_t * \Delta CF_t * ABTM_{t-1} * D.STABLE_{t-1}$ is also statistically positive (0.419***). When compared with the estimate for $D\Delta CF_t * \Delta CF_t * D.STABLE_{t-1}$ (0.337***), the increased economic importance could be attributed to the inclusion of $ABTM_{t-1}$. This shows that non-discretionary conservatism has an incremental positive effect on accounting conservatism, which is consistent with evidence found in the modified Basu model ($ABTM_{t-1} * D.STABLE_{t-1} =$ 0.589***) and GLM-SELCET analysis ($ABTM_{t-1} * D.STABLE_{t-1} = 0.084***$ and 0.061*) and rejects H4 proposed in Section 3.1.

Turning to cross effects for foreign shareholdings in Table 6, the coefficient on $D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ is significantly negative (-0.131 ***) in the accrual model. This is different with findings in the previous sections wherein the coefficient on $CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ is significantly positive (0.120* in the modified Basu model; 0.088*** in the GLM$-$T_SCORE specification and 0.009** in the GLM$-$CONSKEW specification). [6] The change in the sign on $D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} *$

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[6] To exclude the possibility that the change in sign on $CLEVMV_{t-1}$ and $CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ is due to measurement error (use of different deflater), I replaced $CLEVMV_{t-1}$ and $ABTM_{t-1}$ with two dummy variables, i.e., $Tr.CLEVMV_t$ and $BTMD_t$ using the model specification shown below. Test results show that the sign on $CLEVMV_{t-1}$ is positive but is not statistically significant (0.029, P$-$value = 0.61) while that on $CLEVMV_{t-1} * D.JFOREIGN_{t-1}$ is insignificantly negative (-0.018, P$-$value = 0.776). I also replace the $D.JFOREIGN_{t-1}$ with $D.AJFOREIGN_{t-1}$, which is a dummy variable takes the value of one if $D.AJFOREIGN_{t-1}$ (the relative proportion of foreign equity against stable shareholdings) is above its mean value. The estimate remains significantly negative ($-0.110***$). Furthermore, test results produced by the following model do not change the core findings in this study.

$ACC_t = \alpha_0 + \alpha_1 D\Delta CF_t + \alpha_2 \Delta CF_t + \alpha_3 D\Delta CF_t * \Delta CF_t + \alpha_4 X_{t-1} + \alpha_5 D\Delta CF_t * X_{t-1} + \alpha_6 \Delta CF_t * X_{t-1} + \alpha_7 D\Delta CF_t * \Delta CF_t * X_{t-1} + \alpha_8 Tr.CLEVMV_{t-1} + \alpha_9 D\Delta CF_t * Tr.CLEVMV_{t-1} + \alpha_{10} \Delta CF_t * Tr.CLEVMV_{t-1} + \alpha_{11} D\Delta CF_t * \Delta CF_t * Tr.CLEVMV_{t-1} + \alpha_{12} BTMD_t + \alpha_{13} D\Delta CF_t * BTMD_t + \alpha_{14} \Delta CF_t * BTMD_t + \alpha_{15} D\Delta CF_t * \Delta CF_t * BTMD_t + \alpha_{16} Tr.CLEVMV_{t-1} * X_{t-1} + \alpha_{17} D\Delta CF_t * Tr.CLEVMV_{t-1} * X_{t-1} + \alpha_{18} \Delta CF_t *$

$D.JFOREIGN_{t-1}$ could be attributed to the downward impact of leverage, but it also indirectly implies that a higher proportion of foreign equity does not contribute to higher level of conservative accounting.

On the other hand, the positive estimate on $D\Delta CF_t * \Delta CF_t * ABTM_{t-1} * D.JFOREIGN_{t-1}$ is significantly positive (0.493***). It could be considered as the power of regulatory enforcement. This evidence provides additional evidence on the importance of regulatory environments on accounting quality.

<div align="center">Table 6 Test Results for Accrual Model</div>

$D\Delta CF_t * \Delta CF_t$	0.471***	(0.000)
$D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1}$	−0.080*	(0.011)
$D\Delta CF_t * \Delta CF_t * ABTM_{t-1}$	0.676***	(0.000)
$D\Delta CF_t * \Delta CF_t * D.STABLE_{t-1}$	0.337***	(0.000)
$D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} * D.STABLE_{t-1}$	−0.071*	(0.029)
$D\Delta CF_t * \Delta CF_t * ABTM_{t-1} * D.STABLE_{t-1}$	0.419***	(0.000)
$D\Delta CF_t * \Delta CF_t * D.JFOREIGN_{t-1}$	−0.551	(0.168)
$D\Delta CF_t * \Delta CF_t * CLEVMV_{t-1} * D.JFOREIGN_{t-1}$	−0.131***	(0.000)
$D\Delta CF_t * \Delta CF_t * ABTM_{t-1} * D.JFOREIGN_{t-1}$	0.493***	(0.000)
$D\Delta CF_t * \Delta CF_t * SIZE_{t-1}$	−0.221***	(0.000)
intercept	0.017	(0.342)
F	313.42	
N	18255	

Notes:

ACC_t: accruals in year t deflated by average total assets. ΔCF_t: changes in cash flows from operations deflated by average total assets. $D\Delta CF_t$: a dummy variable, taking the value of 1 if ΔCF_t is negative and 0 otherwise. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $D.STABLE_{t-1}$: a dummy variable takes the value of one if the proportion of stable shareholders is above the mean and zero otherwise. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $D.JFOREIGN_{t-1}$: a dummy variable takes the value of one if the proportion of foreign shareholders is above the mean and zero otherwise. $CLEVMV_{t-1}$: change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t−1. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

$Tr.CLEVMV_{t-1} * X_{t-1} + \alpha_{19}D\Delta CF_t * \Delta CF_t * Tr.CLEVMV_{t-1} * X_{t-1} + \alpha_{20}BTMD_t * X_{t-1} + \alpha_{21} D\Delta CF_t * BTMD_t * X_{t-1} + \alpha_{22}\Delta CF_t * BTMD_t * X_{t-1} + \alpha_{23}D\Delta CF_t * \Delta CF_t * BTMD_t * X_{t-1} + \alpha_{24}\Delta REV_t + \alpha_{25}GPPE_t + year\ fixed\ effects + indusrty\ fixed\ effects + \varepsilon_t$

$Tr.CLEVMV_{t-1}$ is a dummy variable taking the value of one if $CLEVMV_{t-1}$ is positive and zero otherwise. $BTMD_t$ is a dummy variable takes the value of one when $ABTM_{t-1}$ is above one, and zero otherwise.

To summarize test results in this section, findings in this section, together with test results in Section 5.2.3 (GLM-SELECT), suggest that the relationship between foreign shareholdings and accounting conservatism is indirect and weak. Finally, test results also uphold the importance of regulatory power. Table 7 presents the test results for each hypothesis in this study.

Table 7：Summary of Test Results A

H1	uphold	Sign on $STABLE_{t-1}$ is significantly negative in Models 1 through 3. Contradicting evidence found in Model 4.
H2	uphold	Sign on $CLEVMV_{t-1} * STABLE_{t-1}$ is significantly negative in Models 2,3, and 4.
H3	unanswered	No significant evidence found in Models 2,3 and 4.
H4	rejected	Sign on $ABTM_{t-1} * STABLE_{t-1}$ is significantly positive in Models 2, 3 and 4.

Notes:
  Models 1 and 2 modify Basu's [1997] framework through incorporating ownership variables into an earnings-return regression. Model 3 utilize a model select technique (GLM-SELECT) with T_SCORE or CONSKEW being the dependent variable. Model 4 modifies Ball and Shivakumar's [2006] framework through incorporating ownership variables into an accrual-based model.

6.2 Discussion on Foreign capitals

Research design in this study fails to take the endogeneity concerns into consideration. Specially, although little evidence is found with regards to the influence of foreign equity on accounting conservatism in the second essay, it is still possible that foreign investors incline to choose firms with lower information asymmetric and such firms are thus expected to be more sensitive to bad news. To validate these arguments in prior studies, I investigate investment of foreign equity drawing on anecdotal evidence from two Japanese listed companies. Table 8 exhibits changes in the ten largest shareholders in TOSHIBA and Olympus in fiscal year 2012 and 2017, respectively. Both companies have been reported to engage in inappropriate accounting practices, which have raised concerns over the credibility of financial reporting in the public. In panel A, it is clear that foreign investment only accounts for 2.2% of the whole equity in fiscal year 2012 for TOSHIBA. However, the proportion of foreign equity rose to 19.6% (8.9% + 6.9% + 3.8%) after its accounting scandal came into light in fiscal year 2017. The case of Olympus is similar to that of TOSHIBA. In fiscal year 2012, foreign equity accounted for about 4.3% (2.5% + 1.8%) of the whole equity and has gradually risen to 10.8% (4.9% +4.1% +1.8%) through fiscal year 2017. The rise in proportion of foreign equity can be viewed as a signal to the market as well as to other stakeholders by showing its commitment to

corporation governance reformation. Another possible explanation could be that foreign investors will opt for bargains due to lack of investment opportunity. In other words, there is a great likelihood that such incidents present an otherwise extremely rare chance for foreign investors to buy in stocks with great value at a much lower cost. Although such evidence hinges to a peculiar situation and is inadequate to fully disentangle the puzzles posed in prior research, it is possible that foreign equity does not necessarily a priori prone for more conservative firms. Moreover, test results in this study also show that higher foreign equity does not directly link with higher accounting quality, implying that foreign investors are not capable of influencing managerial decisions or reinforcing public information production. Future research could explore effects of foreign investment by tracing the change in equity holdings and variations in expected length of shareholdings (long-term, mid-term or short-term foreign investors). As a final note in this section, this study is a preliminary attempt to explore effects of accounting standards as well as its association with other influential factors on accounting conservatism. Although findings in this study provides some important implications for investors, accounting regulators and standards setters, great gaps remain between theoretical construction and the application of accounting standards on a practical level. Future work will seek to address this issue through model sophistication and data mining techniques.

Table 8 Panel A : Antidotal Evidence in Case of TOSHIBA (The largest ten shareholders)

2012		2017	
The Master Trust Bank of Japan	5.8	GOLDMAN SACHS INTERNATIONAL	8.9
Japan Trustee Services Bank (JTSB)	5.5	JP MORGAN CHASE BANK 380055	6.9
The Dai-ichi Life Insurance Company, Ltd	2.7	CHASE MANHATTAN BANK GTS CLIENTS ACCOUNT ESCROW	3.8
Nippon Life Insurance Company	2.6	The Dai-ichi Life Insurance Company, Ltd	2.7
SSBT OD05 OMNIBUS ACCOUNT-TREATY CLIENTS	2.2	employee stock ownership committee	2.7
employee stock ownership committee	2.2	Nippon Life Insurance Company	2.6
Japan Trustee Services Bank (JTSB) Account 9	1.9	Japan Trustee Services Bank (JTSB)	2.2
Japan Trustee Services Bank (JTSB) Account 4	1.5	Japan Trustee Services Bank (JTSB) Account No.5	1.9
NIPPONKOA INSURANCE CO., LTD	1.2	The Master Trust Bank of Japan	1.6
Sumitomo Mitsui Banking Corporation (SMBC)	1.2	Japan Trustee Services Bank (JTSB) Account No 1	1.4

Table 8 Panel B : Antidotal Evidence in Case of Olympus (The largest ten shareholders)

2012		2017	
Nippon Life Insurance Company	4.8	The Master Trust Bank of Japan	8.0
The Bank of Tokyo-Mitsubishi UFJ, Ltd.	4.8	Sony, Ltd.	5.0
The Master Trust Bank of Japan	3.7	State Street Corporation 505001	4.9
Japan Trustee Sumitomo Mitsui Banking Account	3.3	Japan Trustee Services Bank	4.5
Japan Trustee Services Bank	3.1	State Street Corporation 505223	4.1
Sumitomo Mitsui Banking Corporation (SMBC)	3.0	Nippon Life Insurance Company	3.9
Morgan Stanley Capital International	2.5	The Bank of Tokyo-Mitsubishi UFJ, Ltd.	3.9
TERUMO CORPORATION	2.0	Japan Trustee Sumitomo Mitsui Banking Account	3.3
State Street Corporation[7]	1.8	Sumitomo Mitsui Banking Corporation (SMBC)	2.4
Treasure Stock	1.6	State Street Corporation	1.8

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[7] Founded in 1792, State Street Corporation is the second oldest financial institution in the United States of America.

7. Conclusion

This study has sought out to add to the extant literature on how ownership structure is associated with accounting conservatism in a unique institutional environment. The institutional features in Japan provides a desirable setting to evaluate the impact of ownership on accounting practice, and to investigate whether this impact differs systematically with the institutional basics. Prior study has already pointed out that the level of accounting conservatism adopted in a firm associates with the relative equilibrium results from conflicting of interests between different stakeholders (e.g., Cullinan et al. [2012]). Findings in this study compliments prior studies and show that stable shareholdings can weaken shareholders' incentive to monitor, lead to variation in management's accounting decisions and result in lower level of conservatism.

This study also aims to examine whether other factors which are in favor of accounting conservatism resists or facilitates influence of a unique governance mechanism. For example, evidence documented in previous studies has provided much insight on the interrelated relation between debt contracting and conservative reporting. (e.g., Qiang [2007], Ball et al. [2008], Beatty et al. [2008], Nakamura [2009], Nikolaev [2010], Haw et al. [2014]). In short, debt holders need a lower bound on the annual reporting to detect value deterioration and thus prevent exploitation from management and shareholders. Firms benefit from more conservative accounting to reduce capital cost. However, reporting practices varies across different accounting regimes and thereby could possibly affect the effectiveness of this mechanism. Table 9 summarizes the main findings concerning the cross effects of debt contracting. It demonstrates the sign and significance level on the main effect of each predictor tested in this study and their interaction terms. First, effects of debt contract on average fluctuate between stable shareholdings and foreign shareholdings. Overall, evidence found in this study attests to the conjecture that debt holders overlook sign for loss recognition when the proportion of stable shareholders is larger. Nonetheless, monitoring from debt holders strengthens when the proportion of foreign equity rises.

Another explanation for the rising of accounting conservatism is regulator's demands for accounting conservatism (Watts [2003], Qiang [2007]). Notwithstanding, one frequently voiced concern in the context of accounting conservatism is management's willingness to recognize losses as per requirements of the accounting standards. In spite of the fact that management has an asymmetric incentive to recognize gains earlier than losses, the flexibilities inherent in the accounting standards could have failed to curb such opportunistic accounting behavior (e.g., Francis et al. [1996], Riedl [2004]). In this study, I employed the measure of ASSET-BTM proposed in Lawrence et al. [2013] to

examine the effect of mandated regulation on accounting practice in both crounties. As is shown in Table 9, Japan has a better enforcement enviorment to improve accounting quality. In particular, it nulified stable shareholder's disclosure preference over less conservative accoutnting. On the other hand, no substancial proof verifies or subverts hypothses with regards to effects of foreign equity.

Although the core evidence in this study is on average robust, test results may suffer from model misspecifications and omitted variables. Variables proxy for ownership structure also need further screening to account for their genuine effects over accounting policies. Furthermore, other measures (e.g., *CLEVMV*) employed in this study may not be sophisticated enough to pick up the actual effects as intended. Finally, more work is required to enhance theoretical establishment.

This study highlights the notion that accounting quality is a function of institutional setting in which the firm resides. To my knowledge, this study constitutes the first effort to examine how differential ownership structure, debt contracting arrangements, and accounting regulations interplay over accounting conservatism. There are, however, alternative explanations for accounting conservatism (e.g., interest conflicts between shareholders and management). For example, Iwasaki et al. [2018] indicates that the ex-ante information environment in Japan results in greater demands for accounting conservatism in firms whose management receive higher earnings-based compensation. Hence, a more extensive examination of the combined effects of drivers, as well as other institutional features, would provide more profound insights into our understanding of accounting conservatism. As data become more widely available, future work will continue to focus on identifying and evaluating the effects of institutional differences on accounting conservatism and other earnings qualities.

Table 9 Summary of Test Results B

	Basu	Accrual			T_SCORE	CONSKEW
$CLEVMV_{t-1}$	+	−	−*	$CLEVMV_{t-1}$		−**
$ABTM_{t-1}$	+	+*	+***	$ABTM_{t-1}$		
$D.STABLE_{t-1}$	−	−***	+***	$STABLE_{t-1}$		−***
$CLEVMV_{t-1} * D.STABLE_{t-1}$	−	−***	**−***	$CLEVMV_{t-1} * STABLE_{t-1}$	−***	
$ABTM_{t-1} * D.STABLE_{t-1}$	−	+***	+***	$ABTM_{t-1} * STABLE_{t-1}$	+***	+***
$D.JFOREIGN_{t-1}$	−	+	−	$J.FOREIGN_{t-1}$		
$CLEVMV_{t-1} * D.JFOREIGN_{t-1}$	−	+*	−***	$CLEVMV_{t-1} * J.FOREIGN_{t-1}$	+***	+**
$ABTM_{t-1} * D.JFOREIGN_{t-1}$	−	+*	+***	$ABTM_{t-1} * J.FOREIGN_{t-1}$	+***	

Notes:

$STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $D.STABLE_{t-1}$: a dummy variable takes the value of one if the proportion of stable shareholders is above the mean and zero otherwise. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan. $D.JFOREIGN_{t-1}$: a dummy variable takes the value of one if the proportion of foreign shareholders is above the mean and zero otherwise. $CLEVMV_{t-1}$: change in total liabilities deflated by beginning-of-period market capitalization. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

Appendix 1:

Table A:Variable Definition

Variable	Definition
$STABLE_{t-1}$	the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research
$D.STABLE_{t-1}$	a dummy variable takes the value of one if the proportion of stable shareholders is above the mean and zero otherwise
$J.FOREIGN_{t-1}$	the percentage of shares owned by foreign individuals or institutions in Japan
$D.JFOREIGN_{t-1}$	a dummy variable takes the value of one if the proportion of foreign shareholders is above the mean and zero otherwise
$A.JFOREIGN_{t-1}$	the relative proportion of foreign investors in total shareholding $A.JFOREIGN_{t-1} = J.FOREIGN_{t-1}/(1-STABLE_{t-1})$
E_t	net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t−1.
R_t	the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t.
DR_t	a dummy variable, taking a value of 1 if R_t is negative, and 0 otherwise.
$CLEVMV_{t-1}$	change in total liabilities deflated by beginning-of-period market capitalization
$ABTM_{t-1}$	total assets deflated by the sum of market capitalization and total assets minus common equity
T_SCORE_t	a firm-year conservatism measure devised in Khan and Watts [2009]
$CONSKEW_t$	the difference between the skewness of cash flows from operating activities and the skewness of net income using a three-year rolling window
ACC_t	accruals deflated by average total assets
ΔCF_t	changes in cash flows from operations deflated by average total assets
$D\Delta CF_t$	a dummy variable, taking the value of 1 if ΔCF is negative and 0 otherwise
PPE_t	the proportion of property, plant and equipment assets to total assets
$SIZE_t$	natural logarithm of the company's market capitalization
$WEAK_t$	a dummy variable takes the value of 1 if $LROA_t$ or LR_t is below 5% and 0 otherwise. $LROA_t$ is a lag indicator for ROA, computed as the average value of ROA_{t-1} and ROA_{t-2}. LR_t is a lag indicator for ROA, computed as the average value of R_{t-1} and R_{t-2}. ROA_t is measured as income before extraordinary items deflated by book value of total assets, both measured at the end of fiscal year t. R_t is the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t

$DEBT_{t-1}$	proceeds from the issuance of bonds in year t－1 deflated by market capitalization of common equity at the end of year t－1
GW_{t-1}	book value of goodwill deflated by total assets, both measured at the end of fiscal year t－1
$INTA_{t-1}$	book value of intangible assets deflated by total assets, both measured at the end of fiscal year t－1
RD_{t-1}	expenditure on research and development deflated by total sales, both measured at the end of fiscal year t－1
$lnAGE_{t-1}$	the natural logarithm firm age

Appendix 2: Correlation matrix for the variables. Spearman correlations in the upper quadrant and Pearson correlations in the lower quadrant.

Table B: Japan Correlation matrix											
	E_t	DR_t	R_{t-1}	ACC_t	ΔCF_t	$D\Delta CF_t$	$ABTM_{t-1}$	$SIZE_{t-1}$	$CLEVMV_{t-1}$	$STABLE_{t-1}$	$J.FOREIGN_{t-1}$
E_t	1.000	−0.1023*	0.134*	0.184*	0.081*	−0.073*	0.088*	−0.073*	0.067*	0.127*	−0.026*
DR_t	−0.052*	1.000	−0.861*	0.034*	−0.082*	0.072*	−0.102*	0.034*	0.061*	0.018*	0.017*
R_{t-1}	0.001	−0.108*	1.000	−0.038*	0.097*	−0.080*	0.135*	−0.033*	−0.073*	−0.039*	−0.019*
ACC_t	0.265*	0.0162*	0.014	1.000	−0.476*	0.365*	−0.050*	0.006	0.081*	−0.018*	0.010
ΔCF_t	0.024*	−0.032*	0.012	−0.290*	1.000	−0.865*	−0.016*	−0.002	0.044*	0.019*	0.009
$D\Delta CF_t$	−0.037*	0.074*	−0.014	0.275*	−0.348*	1.000	0.033*	−0.039*	−0.034*	0.000	−0.039*
$ABTM_{t-1}$	0.010	−0.099*	0.002	−0.057*	−0.002	0.032*	1.000	−0.450*	−0.091*	0.033*	−0.267*
$SIZE_{t-1}$	0.019*	0.048*	−0.015*	0.015	0.000	−0.034*	−0.393*	1.000	0.097*	−0.247*	0.737*
$CLEVMV_{t-1}$	0.014	0.011	−0.002	0.024*	0.053*	−0.012	−0.010	0.010	1.000	0.041*	0.087*
$STABLE_{t-1}$	0.042*	0.020*	−0.023*	−0.005	0.006	−0.005	0.004	−0.252*	0.015*	1.000	−0.219*
$J.FOREIGN_{t-1}$	−0.012	0.005	−0.012	0.010	0.002	−0.039*	−0.234*	0.669*	0.003	−0.188	1.000

Notes:

E_t denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t−1. R_{t-1}: the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t−1. DR_t: dummy variable, taking a value of 1 if R_{t-1} is negative, and 0 otherwise. ACC_t: accruals in year t deflated by average total assets. ΔCF_t: changes in cash flows from operations deflated by average total assets. $D\Delta CF_t$: a dummy variable, taking the value of 1 if ΔCF_t is negative and 0 otherwise. $ABTM_{t-1}$: total assets / market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $ABTM_{t-1}$: total assets − market capitalization + total assets −common equity, both measured at the end of fiscal year t−1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t−1. $SIZE_{t-1}$: the natural logarithm of market capitalization at the end of fiscal year t−1. $CLEVMV_{t-1}$ is measured as the change in total liabilities deflated by beginning-of-period market capitalization. $STABLE_{t-1}$: the percentage of shares owned by the largest to the tenth-largest shareholders and other persons or companies affiliated with the company as defined in Quants Research. $J.FOREIGN_{t-1}$: the percentage of shares owned by foreign individuals or institutions in Japan.

Appendix 3: Regression Results for T_SCORE

Khan and Watts [2009] incorporated three firm-specific characteristics into the Basu model to estimate an annual across-sectional Basu coefficient. These are firm size ($SIZE$), marker-to-book ratio (MTB), and market value leverage ($LEVMV$). G_SCORE in Eq. 3 denotes the timeliness of good news being reflected on income statements, and C_SCORE in Eq. 4 denotes the incremental timeliness of bad news being reflected on income statements. However, Eq. 3 and Eq. 4 are not regression models. Instead, Khan and Watts [2009] substituted them into the Basu model to estimate parameters μ_i and γ_i (i=1~4). Then, μ_i and γ_i (i=1~4) were in turn substituted into Eq. 3 and Eq. 4 as empirical estimators to compute annual G_SCORE and C_SCORE for each firm/year sample. T_SCORE is thus the sum of G_SCORE and C_SCORE, which measures the degree of conditional conservatism.

The model applied in this study is outlined below, where $SIZE_t$ represents the natural log of market capitalization; MTB_t represents the ratio of market capitalization to the book value of common equity at the end of the year t. $LEVMV_t$ represents leverage which is calculated as book value of total liabilities deflated by the market capitalization. In this study, E_t, the dependent variable in Eq.5, denotes the net income in fiscal year t deflated by market capitalization measured at the end of fiscal year t−1. R_t is the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t. As with Basu [1997], DR_t is a dummy variable that equals 1 if R_t is negative and is 0 otherwise. Table 9 reports the regression results. T_SCORE used in this study is measured on the basis of Eq. 3 and 4.

$$G\_SCORE = \beta_3 = \widehat{\mu_1} + \widehat{\mu_2}SIZE_{i,t} + \widehat{\mu_3}MTB_{i,t} + \widehat{\mu_4}LEVMV_{i,t} \qquad \text{Eq.3}$$

$$C\_SCORE = \beta_4 = \widehat{\gamma_1} + \widehat{\gamma_2}SIZE_{i,t} + \widehat{\gamma_3}MTB_{i,t} + \widehat{\gamma_4}LEVMV_{i,t} \qquad \text{Eq.4}$$

$$E_t = \beta_1 + \beta_2 DR_{i,t} + R_{i,t}\left(\mu_1 + \mu_2 SIZE_{i,t} + \mu_3 MTB_{i,t} + \mu_4 LEVMV_{i,t}\right) + DR_{i,t}R_{i,t}\left(\gamma_1 + \gamma_2 SIZE_{i,t} + \gamma_3 MTB_{i,t} + \gamma_4 LEVMV_{i,t}\right) + \left(\delta_1 SIZE_{i,t} + \delta_2 MTB_{i,t} + \delta_3 LEVMV_{i,t} + \delta_4 DR_{i,t}SIZE_{i,t} + \delta_5 DR_{i,t}MTB_{i,t} + \delta_6 DR_{i,t}LEVMV_{i,t}\right) + \varepsilon_i \qquad \text{Eq.5}$$

Table C : Regression Results for T_SCORE

	Japan
$\beta_2(DR)$	0.036
	(0.075)
$\mu_1(R)$	0.028*
	(0.039)
$\mu_2(R*SIZE)$	−0.003*
	(0.023)
$\mu_3(R*MTB)$	−0.0003
	(0.546)
$\mu_4(R*LEVMV)$	−0.009***
	(0.000)
$\gamma_1(DR*R)$	0.142*
	(0.025)
$\gamma_2(DR*R*SIZE)$	−0.006
	(0.286)
$\gamma_3(DR*R*MTB)$	−0.0007
	(0.230)
$\gamma_4(DR*R*LEVMV)$	0.005
	(0.055)
$\delta_1(SIZE)$	0.003***
	(0.000)
$\delta_2(MTB)$	0.0004
	(0.310)
$\delta_3(LEVMV)$	−0.006***
	(0.000)
$\delta_4(DR*SIZE)$	−0.001
	(0.466)
$\delta_5(DR*MTB)$	−0.001
	(0.117)
$\delta_6(DR*LEVMV)$	−0.001
	(0.322)
intercept	0.053***
	(0.000)
F	24.37

N	18255

Note:

N denotes the number of observations in each ASSET-BTM group. E_t denotes the net income in fiscal year t, deflated by market capitalization at the end of fiscal year $t-1$. R_t is the buy-and-hold return on common stock for the twelve months ending three months after the end of fiscal year t. DR_t is a dummy variable that equals one if R is negative and is zero otherwise. $SIZE_t$ represents the natural log of market capitalization. MTB_t represents market capitalization to book value of common equity at the end of fiscal year t. $LEVMV_{i,t}$ represents leverage, which is calculated as book value of total liabilities deflated by market capitalization at the end of fiscal year t. ***, **, * indicate significance at the two-tailed 1%, 5%, 10% confidence level, respectively.

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