Earnings Quality and Voting Shareholders' Reliance on Earnings Information: Evidence from the Top Executive Director Election in Japan

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Abstract

This study provides evidence of how earnings quality affects the relationship between a firm's earnings performance and the voting results in the top executive director (TED) election. The literature argues that earnings quality affects the decision usefulness of earnings information to shareholders in monitoring the management. Accordingly, this paper hypothesizes that the percentage of votes in favor of the TED election would be less (more) sensitive to earnings performance when the firm reports low- (high-) quality earnings. Using a large sample of TED elections of Japanese listed firms, this paper finds that the percentage of affirmative votes for the TED election is positively associated with earnings performance, but especially low earnings quality weakens this relationship. These findings imply that low accounting quality makes earnings information less useful for voting shareholders to evaluate the management. Also, this paper finds that the effect of earnings quality is more pronounced for firms with high institutional ownership.

The Online Appendix is available at https://www.aea-j.org/journals_and_books/journal_al/.

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1 Introduction

This study examines how earnings quality affects the relationship between a firm's earnings performance and the voting results of the top executive director (TED) election in the annual general meetings. In the principal-agent relationship, voting on director election is a fundamental approach for shareholders to discipline poor-performing managers. Prior studies report that shareholders vote against the management in firms with poor earnings performance (e.g. Cai, Garner, and Walkling 2009), suggesting that earnings contain additional information for voting shareholders in evaluating the management. However, the literature also argues that the decision usefulness of accounting information depends on its "quality" (e.g. Dechow, Ge, and Schrand 2010). When a firm reports low-quality earnings, shareholders may not be able to conclude based on earnings performance whether the management is doing well or not. Accordingly, the current study hypothesizes that earnings quality affects the voting shareholders' reliance on earnings.

Using a large sample of TED elections of Japanese listed firms, this paper finds that the percentage of affirmative votes for TED election is positively associated with earnings performance, but the sensitivity of voting results to earnings performance is weakened when the firm reports low-quality earnings. These findings imply that shareholders less rely on low-quality earnings information when they decide whether to vote for or against the management. Also, this paper finds that the sensitivity of voting results to earnings performance and the effect of earnings quality is more pronounced for firms with high institutional ownership, which implies that shareholders with information processing capabilities and incentives especially consider earnings or their quality while voting.

This paper relates to the literature on the role of earnings information and its quality in mitigating shareholder-manager agency conflicts. Existing studies report that earnings quality affects the cost of equity capital (e.g. Bhattacharya, Daouk, and Welker 2003) and the board's reliance on earnings when deciding on CEO replacement (e.g. Engel, Hayes, and Wang 2003). These findings are consistent with the argument that high-quality earnings information decreases agency costs by providing monitors with rich information for disciplining managers (e.g. Bushman and Smith 2001). The present paper contributes to these studies by providing evidence that the role of earnings quality in determining the informativeness of earnings about the agent's ability is relevant in the context of shareholder voting on the TED election. Also, this paper shows that earnings information and its quality are primarily associated with the voting behavior of shareholders with monitoring capabilities (i.e. institutional investors). These findings support the argument that disclosures only affect the decisions of shareholders who can bear the costs of processing the information (e.g. Blankespoor, deHaan, and Marinovic 2020).

The remainder of this paper is organized as follows. Section 2 reviews the related literature and presents our hypothesis. Section 3 describes our sample and research design. Section 4 presents the results of the empirical analysis, and section 5 concludes the paper.

2 Literature Review and Hypothesis

From the principal-agent perspective, a corporate manager does not necessarily act to maximize shareholders' wealth, and this provides a rationale for shareholders' involvement in corporate control mechanisms. Accounting information functions as a direct input to the control mechanisms to penalize poor-performing managers (Bushman and Smith 2001; Murphy and Zimmerman 1993). Exercising voting rights is a common feature of shareholder governance to discipline the investee management.

The results of empirical studies suggest that the role of earnings information as an input to governance mechanisms is observed in the context of shareholder voting. They document that high earnings performance leads to favorable votes on director election (Asada and Yamamoto 2019; Cai, Garner, and Walkling 2009; Ng, Wang, and Zaiats 2009). Also, Tsukioka (2020) reports that some types of institutional investors become more likely to vote against the management in the poor-performing firms after the introduction of Japan's Stewardship Code. These results imply that low profitability leads to more dissenting votes to the management, while the strength of the association depends on the shareholders' incentive.

In these studies, the property of information used by shareholders is assumed to be homogeneous. However, literature argues that the "quality" of accounting information, which varies across firms, has an impact on the efficiency of monitoring. Existing studies define earnings quality as the extent to which earnings precisely convey information about the firm's operation or unobservable performance (e.g. Bhattacharya, Daouk, and Welker 2003; Biddle, Hilary, and Verdi 2009; Dechow, Ge, and Schrand 2010; Francis, Nanda, and Olsson 2008). This definition is consistent with Statement of Financial Accounting Concepts No. 1 (1978), which states that one objective of financial reporting is to inform investors in assessing the firm's operation and expected cash flows. Particularly from the principal-agent perspective, high-quality accounting information provides rich information for shareholders to monitor managers, hence decreasing agency costs (Bushman and Smith 2001). Conversely, when the earnings do not well explain the change in the operation, it becomes difficult for shareholders to conclude the managerial performance based on earnings information.

If users doubt the quality of earnings, they would make decisions that take into account the lack of information content of earnings. Existing studies find that low-quality earnings proxies are positively associated with the cost of equity (Bhattacharya, Daouk, and Welker 2003; Francis et al.

2004）, implying that shareholders recognize earnings imprecision as a source of information risk. Note that this argument assumes that at least some shareholders can perceive the earnings quality. The literature suggests that not all shareholders have the incentive to pay information processing costs（e.g. Blankespoor, deHaan, and Marinovic 2020）, so some are assumed to be indifferent to information quality. In the context of shareholder voting, low-quality information may aggravate shareholders' concern about the hidden managerial incompetence and lead to more dissenting votes to the management. Yet, the results in existing studies suggest that only extreme cases of reporting failure（e.g. restatement）, which obviously result from the manager's incompetence, have enough impact to influence the decision to replace the manager（e.g. Desai, Hogan, and Wilkins 2006; Engel, Hayes, and Wang 2003）. Therefore, this paper does not expect that low-quality disclosure within GAAP directly affects the voting results in director elections.

A more apparent effect of earnings attributes in the context of monitoring would be that it changes the user's reliance on earnings information. Engel, Hayes, and Wang（2003）focus on the board's decision and provide evidence that the sensitivity of CEO turnover to earnings performance is higher than that to stock price performance when earnings are timely and less noisy. These results imply that users are less likely to rely on earnings information when the information does not have favorable attributes. Voting shareholders decide whether to vote for or against the management based on available information. Given the above argument, shareholders would change the reliance on earnings information for voting decisions depending on its quality. In this context, a strong association between earnings performance and voting results means that the accounting information is useful for voting shareholders. This paper does not consider whether the management manipulates earnings quality to affect the voting outcome because its interest is how voting shareholders evaluate earnings quality as a given information attribute. In Japan, it is common that shareholders' discontent about managerial performance takes the form of dissenting votes to the election of TED.[1] In sum, the sensitivity of voting results in the TED election to earnings performance would depend on the quality of earnings information. Therefore, the present study introduces the hypothesis below:

Hypothesis: The percentage of votes in favor of the TED election proposal is less（more）sensitive to earnings performance when the firm reports low-（high-）quality earnings.

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[1] The ISS Voting Guidelines 2015 argues that it is reasonable for shareholders to evaluate top management because the main function of the board of directors in Japanese firms, in reality, is executing the business rather than supervising the top management.

3 Research Design

3.1 Measurement

As discussed in the previous section, earnings information is regarded as high-quality when they precisely depict the firm's unobservable performance. The current study chose proxies of the precision of earnings signal which are extensively used in the literature, following Francis, Nanda, and Olsson (2008). These proxies are calculated based on the firm's past earnings trend, assuming that shareholders infer whether they can rely on the reported earnings by analyzing the consistency of the firm's past information with the economic reality. The first proxy is the standard deviation of net income divided by total assets, estimated by firm for the most recent 10-year period including the current period ($\sigma(NI)$). The underlying assumption of this measurement is that high volatility of earnings means that the earnings contain a lot of noise that is not attributable to the manager's ability (Engel, Hayes, and Wang 2003; Francis, Nanda, and Olsson 2008).

The second is the absolute value of discretionary accruals estimated by the cross-sectional regression for each industry-year group of the model proposed by Kothari, Leone, and Wasley (2005).[2] As with other proxies, this paper takes the average over the past 10 years for the absolute value of discretionary accruals by firm (Francis, Nanda, and Olsson 2008). This proxy is based on the argument that a manager can opportunistically manipulate earnings. From this perspective, earnings that contain a large number of abnormal accruals do not accurately represent the results of the company's operations. The current study does not use the signed discretionary accruals because, regardless of the sign, the continuous and aggressive use of discretionary accruals is assumed to deteriorate the precision of earnings and reduce the reliability of the firm's financial information perceived by the shareholders.

The third proxy is accruals quality ($\sigma(WCA)$), defined as the standard deviation of residuals estimated by the firm-level regression of McNichols's (2002) model. This measurement assumes that earnings are informative about the change in the underlying economic reality of the firm when the firm's accruals process well explains the short-term fluctuation of operating cash flows. This proxy is extensively used in prior studies on earnings quality (Biddle, Hilary, and Verdi 2009; Francis, Nanda, and Olsson 2008). The estimation period of $\sigma(WCA)$ is the most recent 10 years, but this paper conducts empirical tests using $\sigma(WCA)$ lagged by one year (as in Biddle, Hilary, and Verdi 2009) because the estimation of this proxy for period t requires data on operating cash flow for period $t+1$. Finally, the fourth measure is the common factor score ($CF(EQ)$), calculated by a factor analysis of the three proxies mentioned above.

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[2] Note that Francis, Nanda, and Olsson (2008) use the modified Jones model to estimate discretionary accruals. This paper adopts the model developed by Kothari, Leone, and Wasley (2005) to control the effect of the firm's profitability.

3.2 Empirical Test

To test the hypothesis, the following regression model including year- and firm-fixed effects is estimated:[3]

$$For_{i,t} = \beta_0 + \beta_1 NI_{i,t} + \beta_2 LowEQ\_d_{i,t} + \beta_3 HighEQ\_d_{i,t} + \beta_4 NI_{i,t} \text{ x } LowEQ\_d_{i,t}$$

$$+ \beta_5 NI_{i,t} \text{ x } HighEQ\_d_{i,t} + \sum \beta_k Controls_{i,t,k} + Firm_i + year_t + \varepsilon_{i,t}$$

(1)

where subscripts i, t, and k denote firm, year, and the ordinal of each control variable, respectively. In Japan, an annual general meeting of shareholders is held within three months of the end of the fiscal year, so $For_{i,t}$ means the percentage of votes in favor of the TED election at firm i's general meeting of shareholders held within three months of the end of the fiscal year t. NI is the firm's net income divided by lagged total assets. The predicted sign of the coefficient of NI is positive because a higher value of NI implies that the management is doing well. $LowEQ\_d$ and $HighEQ\_d$ are indicator variables that take 1 if the value of the earnings quality measure is in the upper (lower) quartile, which means especially low (high) earnings quality and 0 otherwise.[4] As discussed in the previous section, this paper has no expectation about the coefficients of $LowEQ\_d$ and $HighEQ\_d$. The variable of interest is the cross term of earnings performance and dummy to measure low- (high-) quality earnings (NI x $LowEQ\_d$, NI x $HighEQ\_d$). According to the hypothesis, the coefficient of NI x $LowEQ\_d$ should be negative and that of NI x $HighEQ\_d$ should be positive. This study adopts control variables following Tsukioka (2017) and Asada and Yamamoto (2019), which analyze the voting results of management proposals of Japanese companies. These papers argue that a firm's stock return, accounting-based performance, board characteristics (board size, percentage of outside directors, directors' shareholding), ownership (financial institutions, foreign shareholders, business firms), and fundamentals[5] (firm size, leverage) are associated with the voting results of management proposals. In addition, this study conducts an analysis that controls for meeting earnings targets such as positive earnings, earnings in the previous year, industry average, and the latest management forecast because the literature suggests that these benchmarks are perceived as baseline values for judging whether the performance is good or bad[6] (Cai, Garner, and Walkling 2009; Kaplan 1994; Shuto 2010). The definitions of the variables used are listed in Table 1.

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[3] Model (1) includes firm-fixed effects to control the firm-specific attributes potentially correlated with earnings quality proxies. Yet, several existing studies on the determinants and consequences of earnings quality estimate the model without firm-fixed effects because the measures of earnings quality tend to be time-invariant. It is important to note that when firm-fixed effects are replaced with industry-fixed effects, the results remain similar.

[4] If the continuous variables are used instead of $LowEQ\_d$ and $HighEQ\_d$, the results are similar.

[5] Asada and Yamamoto (2019) use net cash ratio (cash minus total debt divided by total asset) as explanatory variables. This paper does not use this proxy because the correlation of net cash ratio and Lev is more than 0.9, suggesting that the two variables have an almost perfect negative correlation.

[6] This paper does not include these "meeting target" dummies in the main analyses because these dummies and NI are strongly correlated (see Table A-2). Also, the same results can be obtained from the estimation of the model (1) with industry-adjusted ROA as an explanatory variable following Cai, Garner, and Walkling (2009) instead of NI.

Table 1: The definitions of variables

Variables	Definitions
For	The number of votes in favor of the management proposal of the TED election in the annual general meeting held within three months of the end of the fiscal year *t* divided by the total number of votes cast on that election.
NI	Net income divided by lagged total asset. To make the timeline consistent, the value of net income is based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
$\sigma(NI)$	The standard deviation of the firm's *NI*, calculated for the most recent 10-year period (from *t*-9 to *t*) for each firm-year. The value of net income in the current period is based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
|DAC|	The most recent 10-year average (from *t*-9 to *t*) of the absolute value of discretionary accruals ($\omega_{i,\tau}$), calculated based on Kothari, Leone, and Wasley (2005), which includes ROA as an independent variable in the regression model. The current study estimates the following cross-sectional regression for each industry-year group with at least 10 observations: $$\frac{TA_{i,\tau}}{Assets_{i,\tau-1}} = \gamma_0 + \gamma_1 \frac{1}{Assets_{i,\tau-1}} + \gamma_2 \frac{\Delta Rev_{i,\tau} - \Delta Rec_{i,\tau}}{Assets_{i,\tau-1}} + \gamma_3 \frac{PPE_{i,\tau}}{Assets_{i,\tau-1}} + \gamma_4 \frac{NetInc_{i,\tau}}{Assets_{i,\tau-1}} + \omega_{i,\tau}$$ where *i* and τ denote firm and fiscal year, respectively. *TA* is total accruals calculated as net income before extraordinary gains and losses minus cash flow from operation. *ΔRev* is a change in revenue. *ΔRec* is a change in trade receivables. *PPE* is the gross value of fixed assets subject to depreciation and amortization. *NetInc* is the firm's net income. *Assets* is the book value of total assets. The value of financial data in the current period is based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
$\sigma(WCA)$	The standard deviation of the residuals ($v_{i,\tau}$) in the McNichols's (2002) regression model estimated for the most recent 10-year period ($\tau = t$-9 to *t*) for each firm-year: $$\frac{TCA_{i,\tau}}{Assets_{i,\tau}} = \phi_0 + \phi_1 \frac{CFO_{i,\tau-1}}{Assets_{i,\tau}} + \phi_2 \frac{CFO_{i,\tau}}{Assets_{i,\tau}} + \phi_3 \frac{CFO_{i,\tau+1}}{Assets_{i,\tau}} + \phi_4 \frac{\Delta Rev_{i,\tau}}{Assets_{i,\tau}} + \phi_5 \frac{PPE_{i,\tau}}{Assets_{i,\tau}} + v_{i,\tau}$$ where *i* and τ denote firm and fiscal year, respectively. *TCA* is total current working capital accruals defined as a change in current assets minus a change in current liabilities minus a change in cash plus a change in short-term debt. *CFO* is cash flow from operations. *ΔRev* is a change in revenue. *PPE* is the gross value of fixed assets subject to depreciation and amortization. *Assets* is the book value of total assets. This paper conducts the main analyses using $\sigma(WCA)$ lagged by one year as an explanatory variable. The value of operating cash flow in the current period is based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
CF(EQ)	A factor score, calculated by the factor analysis of $\sigma(NI)$, *|DAC|* and $\sigma(WCA)$.
Return	The market capitalization 3 months after the end of the fiscal year *t* divided by the market capitalization 12 months before the end of the fiscal year *t* minus 1.
ID_ratio	The number of outside directors as defined in article 2(15) of the Japanese Companies Act divided by the total number of directors.
No. D	The total number of directors.
Director%	The number of shares held by directors divided by the total number of outstanding shares.
Fin%	The number of shares held by financial institutions (e.g. banks, insurance companies) as reported in the annual securities report divided by the total number of outstanding shares.
Foreign%	The number of shares held by foreign shareholders as reported in the annual securities report divided by the total number of outstanding shares.
Firm%	The number of shares held by firms as reported in the annual securities report divided by the total number of outstanding shares.
LnTA	The natural logarithm of the book value of total assets, based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
Lev	The book value of total debt divided by the book value of total assets, based on the summary of financial results ("*Kessan Tanshin*") released before the general meeting of shareholders corresponding to period *t*.
MB_0	The indicator variable that takes 1 if the firm's profit is positive and 0 otherwise.
MB_increase	The indicator variable that takes 1 if the firm's profit is higher than that in the previous year and 0 otherwise.
MB_industry	The indicator variable that takes 1 if the firm's profit is higher than the industry average and 0 otherwise.
MB_mf	The indicator variable that takes 1 if the firm's profit is higher than the latest management forecast and 0 otherwise.

3.3 Data

The data collection process is as follows. First, the names of the candidates and the corresponding number of votes for and against each, and the number of abstained votes are extracted from each firm's extraordinary report (*Rinji Hokoku Sho*), using the eol database. Next, the names of the directors approved in the annual general meetings are collected from each firm's annual securities report (*Yuka Shoken Hokoku Sho*). After matching these two datasets, the candidates proposed by shareholders are excluded from the dataset, and the candidates rejected via management proposals are added to the dataset. In this study, TED means the representative director listed in the firm's securities report. The data on institutional ownership and board characteristics are collected from the NEEDS Cges database. Financial variables and ownership variables are taken from NEEDS Financial Quest 2.0.

The initial sample consists of 15,258 firm-year observations with non-missing voting results in the TED election whose fiscal year ends between January 2011 to December 2017. Observations with at least one missing data point used in the calculation of $\sigma(NI)$ from 2001 to 2017 (estimation period of the variable) or the estimation of the model (1) are excluded. The final sample consists of 8,700 firm-year observations from 2011 to 2017. The calculation of $|DAC|$ requires additional data, so the observations decrease to 8,100 firm-years. The calculation of abnormal working capital accruals and the estimation of $\sigma(WCA)$ require additional non-missing data for the period 2001 to 2018 and hence the total number of observations decreases to 6,247 firm-years. Table A-1 in the Online Appendix shows the summary statistics of all the variables used in the current study. The mean percentage of affirmative votes for the TED election proposals is 96.4%, suggesting that a majority of the shareholders of Japanese listed firms vote in favor of the management proposals for the TED election.[7] Table A-2 in the Online Appendix presents the correlation matrix. The raw value of the proxies of earnings quality ($\sigma(NI)$, $|DAC|$, $\sigma(WCA)$) exhibit a relatively high (from 0.30 to 0.41) correlation, suggesting that each proxy partly shares common aspects of earnings quality. The correlation between four measures of earnings quality and earnings itself (NI) is modest (from -0.01 to -0.03).

4 Empirical Results

Table 2 presents the results of the empirical analyses. This study hypothesizes that low- (high-) quality earnings decrease (increase) the sensitivity of voting decisions to earnings performance. The premise of the discussion is that earnings performance is positively associated with the ap-

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[7] The range of values of *For* is limited from 0 to 1, with some firms receiving no dissenting votes, and thus estimation of non-linear models may be recommended. Nevertheless, the results are robust to the estimation of the Tobit model using *Against* (dissenting votes / total votes exercised) as the dependent variable.

proval rate. Column (1) reports the coefficient of *NI* which is significantly positive, which suggests that voting shareholders generally recognize earnings performance as an input to evaluate the TED's competence. These results are consistent with the arguments in prior studies (e.g. Bushman and Smith 2001; Cai, Garner, and Walkling 2009).

The results for the control variables are as follows: the coefficient of *ID_ratio* is significantly positive, suggesting that the board independence mitigates shareholders' concern about the TED election. In addition, the percentage of "for" votes is negatively associated with foreign ownership and positively related to ownership by business firms, which implies that foreign shareholders are more willing to vote against TED elections and firm shareholders are likely to vote in favor of the management. Also, the percentage of votes in favor of TED election tends to be positively related to firm size.[8]

Columns (2)-(5) in Table 2 present the estimation results of Model (1). This paper has no prediction on the coefficients of *LowEQ_d* and *HighEQ_d*. These coefficients are insignificant among all columns in Table 2, which does not support the idea that earnings quality within GAAP directly affects voting results of TED election. The cross-terms of *NI* and *LowEQ_d* using four measures ($\sigma(NI)$, $|DAC|$, $\sigma(WCA)$, $CF(EQ)$) are negatively associated with the percentage of "for" votes. Also, the coefficients of *NI* x *HighEQ_d* tend to be positive, but the statistical significance is modest. These results suggest that earnings quality affects the sensitivity of voting results to earnings performance, and the effect of accruals quality is more pronounced when the presence of abnormal items is particularly large. These results are robust to the estimation that includes dummy variables measuring the achievement of the earnings target (column (6) in Table 2).

It is worth checking the economic significance of the results. Since the coefficients of *NI* range from 0.140 to 0.278, the effect of a change of one standard deviation in *NI* (0.041) on the percentage of "for" votes is from 0.6% to 1.1%. The effects of *LowEQ_d* using four alternative measures ($\sigma(NI)$, $|DAC|$, $\sigma(WCA)$, $CF(EQ)$) on the coefficients of *NI* are -0.091, -0.099, -0.095, and -0.192, respectively. Also, to reveal whether shareholders partly rely on earnings information even when the quality is poor, this study tests the null hypothesis that the coefficients of the linear combination of *NI* plus *NI* x *LowEQ_d* are equal to zero. The coefficients of the linear combination using $\sigma(NI)$, $|DAC|$, $\sigma(WCA)$, and $CF(EQ)$ are 0.122 (p<.01), 0.092 (p<.01), 0.095 (p<.01), and 0.085 (p<.01), suggesting that the earnings performance is positively associated with favorable votes even when the earnings quality is low. In sum, while the magnitude of the effect of earnings performance on voting results is modest on average, the indicator of low-quality earnings has a non-trivial effect on the sensitivity of voting results to earnings performance.

Overall, the results in Table 2 largely support the hypothesis that shareholders' reliance on

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[8] Table A-2 shows that *LnTA* is strongly correlated with other variables such as *Foreign%*, which raises concern about multicollinearity. Note that the main results are robust to the estimation that excludes *LnTA* from the estimation.

Table 2: Regression of percentage of affirmative votes for TED election on earnings performance, earnings quality measures, and control variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
		Earnings quality measure				
		$\sigma(NI)$	$|DAC|$	$\sigma(WCA)$	$CF(EQ)$	$CF(EQ)$
	For	For	For	For	For	For
NI	0.140***	0.214***	0.190***	0.189***	0.278***	0.187***
	(0.022)	(0.033)	(0.030)	(0.037)	(0.039)	(0.048)
LowEQ_d		0.004	0.002	0.002	0.003	0.002
		(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
HighEQ_d		−0.003	0.002	0.000	−0.005	−0.005
		(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
NI x LowEQ_d		−0.091**	−0.099**	−0.095**	−0.192***	−0.162***
		(0.037)	(0.039)	(0.041)	(0.042)	(0.044)
NI x HighEQ_d		0.156**	−0.028	0.042	0.142	0.132
		(0.070)	(0.048)	(0.057)	(0.088)	(0.089)
Return	0.002	0.001	0.002	0.002*	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ID_ratio	0.081***	0.081***	0.083***	0.084***	0.086***	0.086***
	(0.008)	(0.008)	(0.009)	(0.010)	(0.010)	(0.010)
No. D	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Director%	0.027	0.025	0.014	0.044*	0.037	0.034
	(0.020)	(0.020)	(0.021)	(0.025)	(0.024)	(0.024)
Fin%	−0.004	−0.008	−0.012	−0.013	−0.016	−0.017
	(0.022)	(0.022)	(0.023)	(0.024)	(0.025)	(0.025)
Foreign%	−0.070***	−0.073***	−0.085***	−0.058**	−0.072***	−0.071***
	(0.021)	(0.021)	(0.023)	(0.023)	(0.026)	(0.026)
Firm%	0.037***	0.037***	0.033**	0.033*	0.031*	0.029
	(0.014)	(0.014)	(0.015)	(0.018)	(0.018)	(0.018)
LnTA	0.016***	0.017***	0.018***	0.010*	0.011*	0.012*
	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)
Lev	−0.020	−0.021	−0.031**	−0.019	−0.026*	−0.025*
	(0.014)	(0.014)	(0.015)	(0.014)	(0.015)	(0.015)
MB_0						0.010***
						(0.003)
MB_inc						−0.002
						(0.001)
MB_industry						0.004**
						(0.002)
MB_mf						0.001
						(0.001)
Constant	0.786***	0.783***	0.773***	0.853***	0.850***	0.828***
	(0.057)	(0.057)	(0.062)	(0.062)	(0.066)	(0.067)
Firm	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,700	8,700	8,100	6,247	5,876	5,876
Within-AdR^2	0.071	0.073	0.076	0.071	0.083	0.087

***, **, and * denote significance at 1%, 5%, 10% level, respectively. Standard errors clustered by firm level are shown in parentheses. All variables are as defined in Table 1.

earnings is affected by earnings quality, while the effect is more pronounced when the firm re-
ports low-quality earnings. These findings are consistent with the argument that earnings quality
affects the effectiveness of monitoring (Bushman and Smith 2001), and the argument that share-
holders are assumed to perceive earnings quality but cannot see through it, hence less rely on the
low-quality earnings information (Bhattacharya, Daouk, and Welker 2003).

　Yet, this paper assumes that only shareholders with capabilities to process information can per-
ceive the earnings quality. If so, the effect of low-quality earnings observed in Table 2 would be
more pronounced for firms with high ownership by shareholders who have strong incentives to
gather information. Therefore, this study splits the sample by ownership of institutional investors,
who are generally active monitors of the investee companies (e.g. Aggarwal et al. 2011), and
re-estimates the model (1) to confirm the validity of the assumption. The analysis uses sharehold-
ings of institutional investors with a pure investment strategy taken from Cges database for sam-
ple splitting. Table 3 shows the results of the estimation using the sample that institutional owner-
ship is in the lower quartile (< 0.02) (column (1)) and in the upper quartile (>0.21) (column (2)).
Results suggest that the effect of earnings quality on the sensitivity of voting results to earnings is
more pronounced in the sample with high institutional ownership. When using the sample with
low institutional ownership, the variable of interest (*NI* x *LowEQ_d*, *NI* x *HighEQ_d*) and even

Table 3: Regression of percentage of affirmative votes for TED election on earnings perfor-
　　　　mance, earnings quality measures, and control variables for each subsample based on
　　　　institutional ownership

	(1)	(2)
Earnings quality measure	*CF(EQ)*	*CF(EQ)*
Institutional ownership	< p25 (0.02)	> p75 (0.21)
Variables	*For*	*For*
NI	0.040	0.541***
	(0.030)	(0.109)
NI x *LowEQ_d*	-0.021	-0.300**
	(0.031)	(0.133)
NI x *HighEQ_d*	0.034	0.059
	(0.046)	(0.188)
LowEQ_d	0.004	-0.003
	(0.003)	(0.009)
HighEQ_d	-0.002	-0.000
	(0.002)	(0.008)
Constant	1.077***	0.551**
	(0.068)	(0.252)
Firm	Yes	Yes
Year	Yes	Yes
Controls	Yes	Yes
Observations	1,470	1,468
Within-AdR^2	0.024	0.165

***, **, and * denote significance at 1%, 5%, 10% level, respectively. Standard errors clustered by firm level are shown
in parentheses. All variables are as defined in Table 1.

the earnings performance itself are not significant. To find out whether the earnings-voting sensitivity and the effect of earnings quality differ across the subsample, this study tests the null hypothesis that the coefficients of *NI* and *NI* x *LowEQ_d* in column (1) are equal to those in column (2) using Wald statistics (the square of the difference of the coefficients divided by the standard error). As a result, the differences are significant at the 1% level (χ^2=84.11) for *NI* and the 5% level (χ^2=4.72) for *NI* x *LowEQ_d*. These results are consistent with the view that the effect of low-quality earnings observed in Table 2 is mainly explained by the behavior of shareholders with the capability of information processing.

5 Conclusion

The objective of this study is to test how earnings quality affects the relationship between a firm's earnings performance and shareholder votes in TED election. The literature argues that earnings quality affects the efficiency of monitoring because outsiders can better monitor a manager with more precise performance measures (e.g. Bushman and Smith 2001). Consistently, the results of this study suggest that the sensitivity of voting results to earnings performance decreases when the firm reports low-quality earnings. Also, this paper finds that the association of affirmative votes to earnings performance and the effect of earnings quality are more pronounced for firms with high institutional ownership, which is consistent with the argument that shareholders with monitoring capabilities or incentives especially care about earnings quality. Overall, the results imply that low earnings quality makes earnings information less useful for voting shareholders to evaluate the TED. Yet, it is worth noting that this paper does not consider whether the management manipulates earnings quality to affect the voting results, or whether they should do so.

References

Aggarwal, R., I. Erel, M. A. Ferreira, and P. Matos. 2011. Does governance travel around the world? Evidence from institutional investors. *Journal of Financial Economics* 100(1): 154-181.

Asada, K., and R. Yamamoto. 2019. Importance of shareholder voting: Empirical analysis of director elections (Japanese). *Securities Analysts Journal* 57(11): 71-81.

Bhattacharya, U., H. Daouk, and M. Welker. 2003. The world price of earnings opacity. *The Accounting Review* 78(3): 641-678.

Biddle, G. C., G. Hilary, and R. S. Verdi. 2009. How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics* 48(2-3): 112-131.

Blankespoor, E., E. deHaan, and I. Marinovic. 2020. Disclosure processing costs, investors' information choice, and equity market outcomes: A review. *Journal of Accounting and Economics* 70(2-3): 101344.

Bushman, R. M., and A. J. Smith. 2001. Financial accounting information and corporate governance. *Journal of Accounting and Economics* 32(1-3): 237-333.

Cai, J., J. L. Garner, and R. A. Walkling. 2009. Electing directors. *The Journal of Finance* 64(5): 2389-2421.

Dechow, P. M., W. Ge, and C. M. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50(2-3): 344-401.

Desai, H., C. E. Hogan, and M. S. Wilkins. 2006. The reputational penalty for aggressive accounting: Earnings restatements and

management turnover. *The Accounting Review* 81(1): 83-112.

Engel, E., R. M. Hayes, and X. Wang. 2003. CEO turnover and properties of accounting information. *Journal of Accounting and Economics* 36(1-3): 197-226.

Financial Accounting Standards Board. 1978. Statement of Financial Accounting Concepts No. 1. Objectives of Financial Reporting by Business Enterprises.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2004. Costs of equity and earnings attributes. *The Accounting Review* 79(4): 967-1010.

Francis, J., D. Nanda, and P. Olsson. 2008. Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research* 46(1): 53-99.

Kaplan, S. N. 1994. Top executive rewards and firm performance: A comparison of Japan and the United States. *Journal of Political Economy* 102(3): 510-546.

Kothari, S. P., A. J. Leone, and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39(1): 163-197.

McNichols, M. F. 2002. Discussion of the quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77(Supplement): 61-69.

Murphy, K. J., and J. L. Zimmerman. 1993. Financial performance surrounding CEO turnover. *Journal of Accounting and Economics* 16(1-3): 273-315.

Ng, L., Q. Wang, and N. Zaiats. 2009. Firm performance and mutual fund voting. *Journal of Banking & Finance* 33(12): 2207-2217.

Shuto, A. 2010. *Earnings Management: Theory and Empirical Evidence from Japan* (Japanese). Chuokeizai-sha Holdings, Inc., Tokyo.

Tsukioka, Y. 2017. Ownership structure and shareholder voting: Evidence from Japan (Japanese). *Journal of Business Administration of Kwansei Gakuin University* 64(2): 393-410.

Tsukioka, Y. 2020. The impact of Japan's stewardship code on shareholder voting. *International Review of Economics & Finance* 67: 148-162.