THE RELEASE TIMING OF ANNUAL REPORTS AND BOARD CHARACTERISTICS

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ABSTRACT

This paper posits that the release timing of an annual report has no systematic relation with earnings news in Taiwan. Since the board of directors has the ultimate responsibility for the implementation of corporate governance, we argue that board characteristics are important determinants for the timeliness of a firm's annual report. The empirical results show no behavioral evidence of good news early and bad news late. Although the magnitude of board size has no significant impact, a board with ultimate owners and a board with independent directors have a positive influence on the reporting lag. Other firm characteristics and technological changes are also found to be related with the reporting lag.

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INTRODUCTION

The need for an audited annual report arises from the potential conflicts of interest among managers and suppliers of finance, often referred to as agency problems. The existence of controlling shareholders in the firm can ameliorate managerial agency problems, but they may pursue interests different from the minority shareholders by creating another type of agency problem. Recent studies indicate that widely dispersed corporate ownership is not common, even in developed countries (Faccio and Lang, 2002; Shleifer and Vishny, 1997). Taiwanese companies, like businesses in other East Asian countries, have a high ownership concentration through pyramidal groups and cross-holdings (Claessens et al., 2000; Yeh et al., 2001; Yeh and Woidtke, 2005).

Corporate governance mechanisms are viewed as a means to ameliorate various classes of agency problems. Among those mechanisms, the monitoring role of the board of directors is an important component in corporate governance, and its effectiveness is determined by its size, composition, and independence (John and Senbet, 1998).

Previous studies indicate that managers have incentives to influence investors' perceptions through timing the release of accounting reports, suggesting the behavior of good news earlier and bad news late (e.g., Chamber and Penman, 1984; Givoly and Palmon, 1982; Haw et al., 2000). Because the corporate environment has changed, the board of directors has the ultimate responsibility for the implementation of corporate governance (Jensen and Fuller, 2003). Thus, we argue that different board characteristics have their own impacts on the financial reporting process.

This paper contributes to both the literature on the timeliness of mandatory disclosure and the literature on corporate boards. First, we find no systematic association between earnings news and reporting timing. Stated differently, there is no behavioral evidence of good news early and bad news late during our sample period studied.

Second, we examine the relation between the board-size effect and the reporting lag, as prior research covers that a large board can make communication, coordination, and decision-making more cumbersome than a small board (Jensen, 1993; Yermack, 1996). However, we find no evidence of the board-size effect

with Taiwanese listed companies, with the only exception occurring in a company whose ultimate owners in the board are below 20%

Third, a board with ultimate owners has a positive and significant influence on the reporting lag. The inclusion of independent directors into the board has a positive impact only for firms with a small board and a board with ultimate owners above 50%.

Fourth, we incorporate information technological changes and firm characteristics as control variables. Among them, we find that technological changes have accelerated the release timing of annual reports. In addition, our results indicate that institutional investors have more influences in reducing the reporting lag than individual investors.

Finally, policy-makers are likely to be interested in the findings of this paper. The reason for this is that providing a more timely accounting report to the market is one feature of corporate governance practices that would lead to the improvement of market efficiency.

The remainder of this paper is organized as follows. Section 2 presents the research background and hypothesis development. Section 3 describes the sample and data source. Section 4 provides descriptive statistics and the results of our empirical analysis. Section 5 concludes and suggests directions for future research.

BACKGROUND AND HYPOTHESIS DEVELOPMENT

Audited financial reporting is one of the mechanisms that help to control the conflict of interests among firm managers, shareholders, and bondholders (Chow, 1982). In the majority of cases, minority shareholders and bondholders are less likely to take an active monitoring role, for they have to rely on the firm's financial reporting process and external auditing. Since the content of financial reports may violate the implicit contract with stakeholders, managers have incentives to influence their perceptions through managing accounting disclosures. Earnings management issues have been extensively discussed in the accounting literature (for a review, see Healy and Wahlen, 1999; Schipper, 1989) However, less attention focuses on the timeliness of accounting reports.

Prior studies document that managers have incentives to time earnings announcements, suggesting the behavior of good news early and bad news late (e.g., Chambers and Penman, 1984; Givoly and Palmon, 1982). This phenomenon can be explained by the *stakeholder theory* and the *internal reporting hypothesis* (Bowen et al., 1992; Haw et al., 2000). The stakeholder theory posits that, in the absence of an opportunity to hide bad news due to mandatory disclosure requirements, managers have incentives to delay its release and let delayed bad news be impounded gradually into share prices (Watts and Zimmerman, 1990). The internal reporting hypothesis suggests that, if managers' compensations are related to earnings performance, they may delay bad news until it is verified, justified, and/or restated (Lurie and Pastena, 1975).

Recent empirical evidence, however, shows that the relation between news and timing does not appear to be strictly monotonic (Begley and Fischer, 1998). Basu (1997) examines the effects of the conservatism principle on reported financial statements and finds that earnings is more timely in reporting publicly available 'bad news' about future cash flows than 'good news'. Indeed, there is a weak association between good news and early announcement (Bagnoli et al., 2002). The authors match their findings with the increased litigation faced by management and auditors during the 1980s in the United States.

According to La Porta et al (1998), Taiwanese legal rules covering protection of corporate shareholders and creditors pertain to the German-civil-law family, and they are classified in the middle, in terms of

investor legal protection However, Taiwan is characterized as having high ownership concentration, predominated by family control and pyramidal groups as in other emerging markets (La Porta et al., 1999; Yeh et al., 2001; Yeh and Woidtke, 2005) The potential benefit of high ownership concentration is that controlling shareholders have the power and the incentives to discipline managers and ameliorate the managerial agency problem. On the other side, it creates a new agency problem between controlling shareholders and minority shareholders, since both their interests are not always perfectly aligned. For example, controlling shareholders can expropriate minority shareholders via entrenchment, a transfer of assets, or exploitation from a business relationship with affiliated companies through transfer pricing (Volpin, 2002; Shleifer and Vishny, 1997)

Therefore, corporate governance becomes an important factor in financial market development and firm value, particularly in emerging markets (La Porta et al., 1997, 1998, 2000). The Organization for Economic Cooperation and Development (OECD) has developed five corporate governance principles as reference guidelines The implementation of these principles is stipulated by Taiwan's Company Law and Securities and Exchange Law. Among them, the fourth principle requires that the corporate governance framework should ensure the timely and accurate disclosure of all material matters regarding the corporation. Under the Securities and Exchange Law, listed companies must publish their annual reports within four months after the end of the fiscal year. The Securities and Futures Commission has proposed shortening the period of four months to allow earlier disclosure to the public

The Sarbanes-Oxley Act and other new regulations in the United States emphasize on more timely and transparent financial disclosures and greater accountability for financial reporting undertaken by the board of directors (Jensen and Fuller, 2003). The Securities and Exchange Commission in the United States ruled recently to shorten the statutory due date from 90 to 60 days for 10-K filing (Griffin, 2003). In a legal environment different from the United States, we argue that the association between earnings news and the release timing of financial reports is also weak. Because of the change in the corporate governance context, this paper posits that board characteristics are important determinants for the timeliness of annual reports, thus leading to Hypothesis H1.

H1: Ceteris paribus, there is no association between earnings news and the release timing of annual reports.

In previous research, there is limited attention in examining different board characteristics that may affect a listed Taiwanese company in choosing the release date of its annual report This paper attempts to fill this gap and control for possible firm-specific and technological factors. We employ *reporting lag* as a measure of the timeliness effect, which is defined as the number of days between fiscal year-end and the annual report filing date

Board Characteristics

The board of directors has the ultimate responsibility for the implementation of corporate governance in a company. For a more timely annual report filing, there must exist more efficient monitoring, communication, and coordination within the board. As more directors are added to the board, the benefit may be overwhelmed by poor communication and decision-making (Jensen, 1993). Empirical evidence shows an inverse association between board size and firm value (Yermack, 1996; Eisenberg et al., 1998). Thus, based on the board-size effect, there is ineffectiveness in communication and coordination as board size increases, and a company may take longer time in releasing its annual report, leading to hypothesis H2.

H2: Ceteris paribus, board size is positively related to the reporting lag.

One possible explanation for firms with small boards attaining higher profitability in relation to their industry peers is due to the composition of the board (Eisenberg et al , 1998) When a large board size is expanded due to the pressure to add family members or relatives to the board, such additions might not optimize the firm's value. In this situation, the board tends to show little dissent among members, but lessens the monitoring to management. La Porta et al. (1999) define a corporate having a controlling shareholder (ultimate owner) if this shareholder's direct and indirect voting rights in the firm exceed 20% Since the boards that are dominated by ultimate owners' interests are not perfectly aligned with outside investors, they have no incentive to release annual reports earlier and are more likely to retain the reports until the statutory due date, which leads to hypothesis H3.

H3: Ceteris paribus, the percentage of ultimate owners on the board is positively related to the reporting lag.

Another feature that affects the composition of the board is the inclusion of independent directors. The primary responsibility of independent directors is to oversee the company's internal control system, the acquisition and disposal of assets, and lending or endorsement events. The board should consider the opinions of the independent directors and record them in the minutes of board meetings. The implementation of the independent directors' mechanism began from February 2002 in Taiwan. In the first stage, the Taiwan Stock Exchange requested that every IPO firm should include two independent directors on the board. Lately, it recommends to all listed companies to have independent directors in the second stage

The function of an independent director in Taiwan is slightly different to the audit committee in the United States, in which members of an audit committee meet regularly with outside auditors and internal financial managers to review the firm's financial reporting process (Klein, 2002). This indicates lengthy communication and decision-making in the firm as well as on the board. Thus, these arguments lead to hypothesis H4.

H4: Ceteris paribus, the percentage of independent directors on the board is positively related to the reporting lag.

Control Variables

The timeliness of annual reports also depends upon information technology change, the demand pressure from a diverse investor base, a firm's growth opportunities, and the extent of audit procedures. We incorporate controls for their potential impacts on the reporting lag described as below.

The availability of a company's audited annual report over the Internet provides condensed and accelerated information to the market, and theoretically most investors can view the reports online which simultaneously reduces the cost of obtaining financial information (Asthana and Balsam, 2001). However, the cost is not homogeneous during the implementation of MOPS (Market Observation Post System) in Taiwan There are many transitions in the MOPS - for example, in the pre-stage of the MOPS, investors interested in a listed firm's financial reports had to go to a nearby brokerage office for retrieval The MOPS then offered free access over the Internet beginning in July 1999 Other financial information for retrieval, such as important events and operations overview, were added into the MOPS in August 2002. In addition, regulators have promoted more timely annual reports in recent years. Thus, we predict that the releases of annual reports for the post-2002 fiscal years are negatively related to the reporting lag. This control variable is a proxy for technological changes by assigning a value 1 if the fiscal year belongs to 2002-2004, and 0 otherwise.

Due to individual investors having no private information, they are eager to receive timely annual reports and be sure that their interests are well protected. Sengupta (2004) argues that the demand for timely disclosure should be greater when investors are trading more frequently, or for firms that have a greater number of shareholders outstanding. This suggests that trading volume is negatively related to the reporting lag. We measure the trading volume as the total number of shares traded over the fiscal year divided by total shares outstanding at fiscal year-end. Institutional investors have the potential to influence management's activities directly through their ownership and indirectly by trading their shares (Gillan and Starks, 2003). Empirical evidence provides supporting evidence that institutions are better at monitoring and in gathering information (e.g., Carleton et al., 1998; Gillan and Starks, 2000; Hartzell and Starks, 2003). Since institutions invest on the behalf of others, they also demand timely annual reports. Thus, we predict that institutional ownership is negatively related to the reporting lag.

In a broader definition, Shleifer and Vishny (1997) define corporate governance as "the ways in which the suppliers of finance to corporations assure themselves of getting a return on their investment." Aside from investors, debtholders are also suppliers of finance. However, there are two contrasting views in the literature on the relationship between the debt level and the reporting lag. On the one hand, because managers' interests are unlikely to be perfectly aligned with debtholders, they have incentives to invest sub-optimally (Jensen and Meckling, 1976). Debtholders thereby need timely financial reports to assess the compliance of the clauses in debt contracts. On the other hand, the probability of being under financial distress is associated with an increased level of debt, which leads to more time in verification as found in empirical studies of other countries (e.g., Carslaw and Kaplan, 1991; Ismail and Chandler, 2003; Owusu-Ansah, 2000). Thus, we predict that the debt level is positively related to the reporting lag. We measure the debt level as the debt to total assets ratio at the end of the fiscal year.

We argue that the predicted sign for the debt level contrary to institutional ownership can also be explained by the difference in terms of legal protection. Unlike shareholders, debtholders obtain certain rights, such as the ability to repossess some of the firm's assets (collateral) or the opportunity to throw the firm into bankruptcy. In contrast, shareholders may never get anything back if the firm is liquidated (Shleifer and Vishny, 1997). Thus, the timeliness of annual reports may not be a primary concern for debtholders.

Firms with a longer history have more information circulating in the market. Zhang (2006) uses firm age as a proxy variable for information uncertainty and suggests that more transparent disclosure might reduce information uncertainty and speed the absorption of new information into the stock prices. He argues that older firms are more likely to be in more mature industries, and thereby firm age also captures the underlying volatility at the industry level. As a result, older firms have less information uncertainty, and the pressure upon them to release timely reports is lower than for young firms. Hence, this leads to the prediction that firm age is positively related to the reporting lag. We measure firm age as the number of years since the firm is listed on the Taiwan Stock Exchange.

Previous studies indicate that the reporting lag is inversely associated with firm size. Because large firms have experienced accounting staffs, sophisticated accounting information systems, and a well-established internal control, they tend to be followed by a large number of analysts who demand timely financial information in order to confirm or revise their expectations (Owusu-Ansah, 2000; Sengupta, 2004). Thus, we predict that firm size is negatively related to the reporting lag. We measure firm size as the natural log of the market value of common equity at the close of two days prior to the annual report filing date. Based on the good news early and bad news late hypothesis, managers are likely to manipulate the release timing of annual reports according to the direction of earnings news as discussed in the previous section. However, this paper hypothesizes in H1 that there is no association between earnings news and the reporting lag. Thus, we do not predict the direction of this relationship. We measure earnings news as the net income change in percentage terms, defined as net income in year t minus net income in year t-1, and

divided by the absolute value of net income in year t-1. Haw et al. (2000) use the net income change as a proxy for earnings news, because no earnings forecasts are publicly available in the country studied.

Firms with high growth opportunities generally lead to greater variability in sales or earnings growth, in which auditors and managers are likely to spend more time verifying any abrupt growth news. Thus, we predict that growth opportunities are positively related to the reporting lag. The proxy variable for growth opportunities is the adjusted sales growth, defined as the firm's sales growth minus the industrial median sales growth. La Porta et al (2002) suggest that the use of sales rather than earnings growth avoids dealing with the volatility and manipulability of earnings. In addition, the consideration of industrial median sales growth helps control different stages of maturity and growth industries.

Audited annual reports are a joint product of the firm and auditors. Therefore, the timeliness of annual reports also depends upon the quality of the work performed by auditors. It is shown that auditor size is a proxy for audit quality - the bigger the auditor is as measured by the number of current clients, the less incentive the auditor has to behave opportunistically, and the higher the perceived quality will be of the audit (DeAngelo, 1981). Hence, to control for the audit quality, we use a dummy variable that has a value of 1 if the annual report is audited by one of the Big 4 auditors, and 0 otherwise. Prior to the mergers of accounting firms, the Big 4 auditors were referred to as the Big 5. For convenience, we refer only to the Big 4 throughout the paper. Table 1 summarizes the description of the variables used in this analysis.

Table 1: Definition of Variables Used in the Analysis

Variable	Description
Reporting lag	Number of days between fiscal year-end and the annual report filing date
Unexpected reporting lag (URL)	Reporting lag in year t-1 minus the reporting lag in year t. A positive URL indicates that the annual report is filed earlier than the previous year. A negative URL indicates that it is filed later than the previous year.
Board size	Number of directors on the board at the end of the fiscal year. Source: TEJ Controlling Shareholding and Ownership Structure Database #5.
Ultimate owners	Percentage of ultimate owners on the board at the end of the fiscal year. Source: TEJ Controlling Shareholding and Ownership Structure Database #47
Independent directors	Percentage of independent directors on the board at the end of the fiscal year. Source: TEJ Controlling Shareholding and Ownership Structure Database #42 and #5
Technological changes	Dummy variable that has a value of 1 if the fiscal year of the annual report belongs to 2002-2004 and 0 otherwise
Volume	Total number of shares traded over the fiscal year divided by total shares outstanding at fiscal year-end
Institutional ownership	Percentage of common shares held by institutions. Source: TEJ Controlling Shareholding and Ownership Structure Database #64.
Debt to assets ratio	Debt to total assets ratio at the end of the fiscal year
Firm age	Number of years since the firm listed on the Taiwan Stock Exchange
Firm size	Natural log of the market value of common equity at the close of two days prior to the annual report filing date
Net income change	Net income in year t minus net income in year t-1 and divided by the absolute value of net income in year t-1.
Adjusted sales growth	Firm's sales growth minus the industrial median sales growth
Big 4 auditors	Dummy variable that has a value of 1 if the annual report is audited by a Big 4 accounting firm, and 0 otherwise. Prior to the mergers of accounting firms, the Big 4 were referred to as the Big 5. For convenience, we refer only to the Big 4 throughout the paper
Unexpected earnings	Actual earnings per share minus the last forecast earnings per share made by analysts

Sample and Data Sources

We collect listed companies' electronic filing dates from the MOPS for the releases of annual reports from 1998-2004, since 1998 is the first fiscal year for which annual reports appear in the MOPS. The sample includes non-financial companies listed on the Taiwan Stock Exchange. Data on firm and board characteristics as well as earnings forecasts are obtained from the Taiwan Economics Journal (TEJ) database. We exclude reporting lags above 180 days due to possible outliers and/or data entry errors. There are few companies that adopt a non-calendar fiscal year, and they are deleted from the sample. Due to filing dates in the fiscal year of 1998 are used to calculate the unexpected reporting lag, the sample period studied covers fiscal years from 1999 to 2004. This results in a final sample of 2,976 firm-year observations.

RESULTS

Descriptive Statistics

The statutory filing due date for annual reports is at the end of April for those companies that adopt a calendar fiscal year. Hence, the reporting lag is between 120 to 121 days (because of a leap day). There is no technical violation in case April 30 or May 1 is a holiday, such that the reporting lag may appear to be above 120 days. As Table 2 shows, the reporting lag varies among industries from the lowest mean of 109.27 days for tourism to the highest mean of 120.66 days for the automobile industry, and a mean of 116.49 days for all companies. Interestingly, the median values of the filing date cluster around April 28 and April 29, and the third quartile is around April 30.

Table 2: Descriptive Statistics of Reporting Lag (Filing Date)

Industry	N	Mean	First quartile	Median	Third quartile
Cement	50	119.58	118 (4/28)	120 (4/30)	121 (4/30)
Foods	119	116.73	115 (4/25)	119 (4/29)	120 (4/30)
Plastics	104	116.74	115 (4/25)	118 (4/28)	120 (4/30)
Textiles	297	117.71	115 (4/25)	119 (4/29)	120 (4/30)
Electronic and Machinery	169	116.63	115 (4/25)	119 (4/29)	120 (4/30)
Appliance and Cable	87	119.32	117 (4/27)	119 (4/29)	121 (4/30)
Chemicals and Biotech	164	115.77	113 (4/23)	118 (4/28)	120 (4/30)
Glass and Ceramics	40	119.78	118 (4/28)	120 (4/30)	122.5 (5/02)
Paper and Pulp	44	116.25	114 (4/24)	118 (4/28)	120 (4/30)
Steel and Iron	157	113.87	113 (4/23)	118 (4/28)	120 (4/30)
Rubber	56	117.38	113 (4/23)	118 (4/28)	121 (4/30)
Automobile	32	120.66	120 (4/30)	120 (4/30)	121.5 (5/01)
Electronics	1 060	116.11	116 (4/26)	119 (4/29)	120 (4/30)
Construction	167	116.10	113 (4/23)	119 (4/29)	120 (4/30)
Transportation	95	117.38	116 (4/26)	119 (4/29)	120 (4/30)
Tourism	34	109.27	102 (4/12)	114.5 (4/26)	117 (4/27)
Wholesale and Retail	68	118.06	118 (4/28)	119.5 (4/29)	120 (4/30)
Others	233	116.12	115 (4/25)	119 (4/29)	120 (4/30)
All companies	2,976	116.49	115 (4/25)	119 (4/29)	120 (4/30)

This table reports the summary statistics of the reporting lag and the annual reports' filing date (in parenthesis) for fiscal years 1999-2004. The reporting lag is defined as the number of days between fiscal year-end and the annual report filing date.

Table 3 presents summary statistics for variables of interest Although the optimal board size is debatable in the existing literature, the median (mean) board size in our sample is 7 (7.362) directors, which is smaller than Jensen's (1993) median (mean) board size of 12 (12.25) directors taken from a sample of American companies for 1984-1991. The mean (median) of percentage of ultimate owners on the board is about 65.7% (64.3%), which is consistent with the argument that Taiwanese listed companies are predominated by a high ownership concentration. Because the inclusion of independent directors is at its initiative stage, the mean is only 4.1%

The correlations of key variables and board characteristics are of particular interest. The board size is negatively correlated with the percentage of ultimate owners on the board. As the board size expands, unless controlling shareholders introduce family members into the board, the controlling power is otherwise diluted There is an inverse correlation between the percentage of independent directors and ultimate owners on the board as well. Because those firm characteristics, such as firm age and firm size are highly correlated with board characteristics, we incorporate these variables to control for their possible influences on the timeliness of annual report analysis

Table 3: Descriptive Statistics on Firm and Board Characteristics

				Correlation with	
Characteristics	Mean	Median	Std. dev.	(J)	(K)
(A) Firm age (years)	9.713	7.000	9.531	0.307***	0.226***
(B) Firm size	8.465	8.316	1.401	0.231***	0.090*
(C) Volume	2.437	1.736	2.278	-0.118***	0.009
(D) Debt to assets ratio	0.406	0.404	0.160	0.044*	0.063**
(E) Net income change	-2.072	0.108	57.606	0.017	-0.033*
(F) Adjusted sales growth	0.054	-0.008	0.835	-0.005	-0.039**
(G) Institutional ownership	0.356	0.332	0.216	0.148**	0.026
(H) Independent directors	0.041	0.000	0.103	-0.063***	-0.262****
(I) Big 4 auditors	0.815	1.000	0.388	-0.021	-0.025
(J) Board size	7.362	7.000	3.261	1.000	-0.084**
(K) Ultimate owners on the board	0.657	0.643	0.219	-0.084**	1.000

This table reports summary statistics of key variables, and Pearson correlation coefficients with (J) Board size and (K) Ultimate owners on the board as shown in the last column The symbols * ** and *** represent significance at the 10%, 5%, and 1% levels respectively.

Earnings News and Reporting Lag

Our hypothesis H1 predicts that there is no association between earnings news and the reporting lag. Panel A of Table 4 displays the unexpected reporting lag (URL) sorted into decile portfolios based on net income change as a proxy for unexpected earnings news URL is defined as the reporting lag in year t-1 minus the reporting lag in year t. A positive URL indicates that the annual report is filed earlier than the previous year, and a negative URL indicates that it is filed later than the previous year Portfolio 1 contains the most negative net income change labeled as "bad news". In contrast, Portfolio 10 contains the most positive and largest net income change labeled as "good news". Based on the good news early and bad news late hypothesis, bad news portfolios must have negative URLs and good news portfolios must have positive URLs. In Portolios 1 and 3 (representatives of bad news) and Portfolios 9 and 10 (representatives of good news), their URLs have the proper sign, but are statistically insignificant except for Portfolio 9. Additionally, we test if the URL of Portfolio 10 is significantly different from Portfolio 1. Both parametric and non-parametric tests indicate an insignificant difference between them

In panel B of Table 4, we use analysts' forecast error as the proxy for unexpected earnings news, which is defined as the actual EPS minus the last forecast EPS made by analysts Although there are a few companies whose earnings are not followed by analysts or they are shown as missing data in the database,

we still find no systematic relation between earnings news and the reporting lag as predicted in H1. This result is robust by using the average forecast EPS during the year instead of the last forecast EPS (not reported).

Table 4: Portfolios of Unexpected Reporting Lag Formed on Earnings News

Portfolio	(A) Net income change		(B) Unexpected earnings	
	URL (n=2668)	t-statistics	URL (n=2553)	t-statistics
P1 (bad news)	-0.485	(-0.71)	0.486	(0.52)
P2	0.959	(1.26)	-0.996	(-1.09)
P3	-0.603	(-0.79)	0.902	(1.13)
P4	0.479	(0.58)	0.742	(0.85)
P5	0.337	(0.39)	0.199	(0.27)
P6	-0.719	(-0.93)	0.984	(1.39)
P7	0.491	(0.66)	1.318	(1.62)
P8	0.682	(0.80)	0.020	(0.02)
P9	1.708	(2.03)	0.344	(0.43)
P10 (good news)	1.147	(1.47)	0.115	(0.12)
P10-P1	1.632	(1.57)	-0.371	(-0.28)
P10-P1 Wilcoxon z-score (Wilcoxon p-value)	1.078 (0.28)		-1.181 (0.24)	

*This table reports the mean URL (unexpected reporting lag), which is defined as the reporting lag in year t-1 minus the reporting lag in year t. A positive URL indicates that the annual report is filed earlier than the previous year. A negative URL indicates that it is filed later than the previous year. The URLs are sorted into decile portfolios based on (A) net income change and (B) unexpected earnings (actual EPS minus the last forecast EPS). The t-tests for individual portfolios test the null hypothesis that the portfolio mean URL is not significantly different from zero. P10-P1 tests the null hypothesis that the URL of P10 is not significantly different from P1. The symbol ** represents significance at the 5% level based on a two-tailed test*

Board Characteristics and Reporting Lag

Table 5 presents the three model specifications. In Model (1) we include the board size variable in the regression after controlling for the effects of firm and other characteristics, and the coefficient for board size is significantly negative (p<0.1). This result seems to contradict the board-size effect as predicted in H2. However, the intercept in Model (1) is 117.139 days higher than the intercepts in Models (2) and (3) at 115.136 days and 115.347 days, respectively. The intercept of the regression can be explained as the average days of the reporting lag when explanatory variables are zero. Thus, with a member added to the board, the reporting lag is reduced by an average period of 0.09 days.

In Model (2) of Table 5 we replace the percentage of ultimate owners into the regression analysis, and the coefficient is significantly positive at 3.333 days (p<0.01), which is consistent with our prediction in H3. The same result appears in Model (3), in which the ultimate owners variable countervails the impact of the board size, but remains statistically significant with a coefficient of 3.194 days (p<0.01), and the board size variable turns insignificant. Although the inclusion of independent directors increases the reporting lag as predicted in H4, it is not significant in the three models.

In respect of controlling firm characteristics, the presence of institutional ownership reduces the reporting lag to about 2.9 days (p<0.01), technological changes decreases the reporting lag to about 1.6 days (p<0.01), and volume shows only a decrease of 0.2 days (p<0.05 and p<0.1) as shown in Table 5. If volume is a measure for the magnitude of individual investors that a company has, then we see that institutional ownership has higher monitoring power than individual investors regarding the timeliness of accounting reports. The results are as predicted and robust across the three models in Table 5.

A firm's reporting lag by contrast increases with the debt level, which shows a significant coefficient of 5.12 days (p<0.01), while firm age presents a positive coefficient of 0.081 days (p<0.01) in Model (3). The results are as predicted and robust with Models (1) and (2).

The remaining control variables have the predicted sign, but do not reach statistical significance For example, the variable for the Big 4 auditors has no significant impact on the reporting lag, since the audit quality is quite homogeneous as about 81.5% of companies are audited by the Big 4 in our sample It is worth noting that the coefficient of net income change is small and insignificant, which provides little support to the good news early and bad news late hypothesis Overall, the three models are significant (F values<0.0001) although the adjusted R^2 values are low, ranging from 2.31% to 2.68%.

Table 5: Determinants of the Reporting Lag with Controls for Firm Characteristics

Independent variables	Predicted sign	Dependent variable: reporting lag		
		Model 1	Model 2	Model 3
Intercept		117.139***	115.136***	115.347***
		(75.38)	(73.69)	(71.72)
Board size	+	-0.090*		-0.047
		(-1.89)		(-0.94)
Ultimate owners	+		3.333***	3.194***
			(3.91)	(3.58)
Independent directors	+	0.602	2.139	2.076
		(0.26)	(0.90)	(0.87)
Technological changes	-	-1.656***	-1.607***	-1.624***
		(-4.29)	(-4.20)	(-4.22)
Volume	-	-0.229**	-0.206*	-0.214*
		(-2.02)	(-1.85)	(-1.90)
Institutional ownership	-	-2.889***	-2.915***	-2.886***
		(-3.08)	(-3.10)	(-3.08)
Debt to asset ratio	+	5.384***	5.074***	5.120***
		(4.53)	(4.28)	(4.30)
Firm age	+	0.097***	0.077***	0.081***
		(4.72)	(3.94)	(3.92)
Firm size	-	-0.069	-0.154	-0.131
		(-0.43)	(-0.97)	(-0.82)
Net income change	?	0.001	0.001	0.001
		(0.51)	(0.72)	(0.72)
Adjusted sales growth	+	0.171	0.221	0.214
		(0.38)	(0.50)	(0.48)
Big 4 auditors	+	0.138	0.159	0.149
		(0.28)	(0.33)	(0.31)
Number of observations		2976	2976	2976
Adjusted R^2 (%)		2.31	2.68	2.67
F-value.		7.39***	8.45***	7.79***

This table reports the mean reporting lag regressed on the independent variables: board size (number of directors on the board); ultimate owners (percentage on the board), independent directors (percentage on the board); technological changes (1 = fiscal year belongs to 2002-2004, 0 = otherwise), volume (total number of shares traded divided by total shares outstanding), institutional ownership (in percentage); debt to assets ratio (at the end of fiscal year), firm age (number of years since the firm listed); firm size (natural log of the market value of common equity); net income change (change in percentage), adjusted sales growth (sales growth adjusted by the industrial median sales growth), Big 4 auditors (1 = Big 4, 0 = otherwise). The maximum VIF among variables is 1.37888, which means that there is no severe multicollinearity problem. The White's (1980) heteroscedasticity-corrected standard errors are in parentheses The symbols *, ** and *** represent significance at the 10%, 5%, and 1% levels respectively.

Additional Analysis

In this subsection, we further classify the sample observations according to: (1) the median of the board size, and (2) under different ownership structures. The purpose is to examine whether different partitions of observations have different release timings of annual reports.

In Table 6 we divide the sample into large board (size>=7) and small board (size<7) sizes based on the median value reported in Table 3. The intercept of a large board size (118.427 days) is higher than that of a small board size (108.93 days). Although it is higher, the presence of institutional ownership significantly reduces the reporting lag by 3.246 days (p<0.05). The coefficients of ultimate owners are significantly positive in both the large and small board sizes. However, independent directors on a small board size have positive impacts on the reporting lag (5.495 days, p<0.1), but not for large board sizes. The coefficients on volume still show a small negative influence on the reporting lag, and finally the coefficients on the debt to asset ratio have the predicted sign with 4.071 days (p<0.05) for large board size and 5.829 days (p<0.01) for small board size. Overall, the regressions are significant (F values <0.0001) with adjusted R^2 values of 3.78% and 2.09% for large and small board sizes, respectively.

Table 6: Determinants of the Reporting Lag under Different Board Sizes

Independent variables	Predicted sign	Dependent variable: reporting lag	
		Board size >= 7	Board size < 7
Intercept		118.427***	108.930***
		(55.42)	(38.00)
Board size	+	0.032	0.223
		(0.37)	(0.61)
Ultimate owners	+	3.137**	3.320**
		(2.43)	(2.48)
Independent directors	+	-2.440	5.495*
		(-0.78)	(1.84)
Technological changes	-	-1.256**	-1.882***
		(-2.27)	(-3.06)
Volume	-	-0.211*	-0.244*
		(-1.79)	(-1.83)
Institutional ownership	-	-3.246**	-1.440
		(-2.55)	(-0.91)
Debt to asset ratio	+	4.071*	5.829***
		(2.38)	(3.30)
Firm age	+	0.111**	0.033
		(3.96)	(0.79)
Firm size	-	-0.566***	0.460*
		(-2.81)	(1.91)
Net income change	?	0.000	0.002
		(0.01)	(0.40)
Adjusted sales growth	+	0.707	0.156
		(0.84)	(0.46)
Big 4 auditors	+	0.026	0.478
		(0.04)	(0.63)
Number of observations		1715	1261
Adjusted R^2 (%)		3.78	2.09
F-value.		6.61***	3.24***

This table reports the mean reporting lag regressed on the independent variables: board size (number of directors on the board), ultimate owners (percentage on the board), independent directors (percentage on the board), technological changes (1 = fiscal year belongs to 2002-2004, 0 = otherwise), volume (total number of shares traded divided by total shares outstanding), institutional ownership (in percentage), debt to assets ratio (at the end of fiscal year), firm age (number of years since the firm listed), firm size (natural log of the market value of common equity). net income change (change in percentage); adjusted sales growth (sales growth adjusted by the industrial median sales growth); Big 4 auditors (1 = Big 4, 0 = otherwise). The maximum VIF among variables is 1.42969, which means that there is no severe multicollinearity problem. The symbols *, ** and *** represent significance at the 10%, 5%, and 1% levels respectively.

Table 7 presents different partitions of the sample based on the critical levels of 20% and 50%. We choose the critical 20% and 50% levels, because generally speaking, less than 20% of ultimate owners on the board have little influence on the board. Ultimate owners between 20% and 50% have significant

influences, and finally, ultimate owners above 50% on the board have decisive influences.

Table 7: Determinants of the Reporting Lag under Different Ownership Structures

Independent variables	Predicted sign	Dependent variable: reporting lag		
		Ultimate owners <20%	Ultimate owners >=20% and <50%	Ultimate owners >=50%
Intercept		125.859***	115.430***	114.044***
		(12.44)	(17.02)	(64.63)
Board size	+	1.089***	-0.094	-0.105*
		(4.52)	(0.71)	(-1.83)
Ultimate owners	+	-11.642	15.373*	4.159***
		(-0.28)	(1.75)	(3.32)
Independent directors	+	-0.752	-3.972	4.896*
		(-0.02)	(-0.84)	(1.79)
Technological changes	-	-0.833	0.599	-1.966***
		(-0.34)	(0.47)	(-4.85)
Volume	-	0.866	-0.075	-0.236*
		(0.97)	(-0.30)	(-1.86)
Institutional ownership	-	-15.206	0.007	-3.222**
		(-1.54)	(0.00)	(-3.18)
Debt to asset ratio	+	-8.317	7.560*	4.654***
		(-0.70)	(2.08)	(3.64)
Firm age	+	-0.019	0.206**	0.088***
		(-0.15)	(2.40)	(4.06)
Firm size	-	-1.641	-1.008*	0.003
		(-1.24)	(-1.79)	(0.02)
Net income change	?	-0.198	-0.047	0.001
		(-1.55)	(-1.28)	(1.11)
Adjusted sales growth	+	-9.526***	-0.116	0.438
		(-4.70)	(-0.38)	(0.74)
Big 4 auditors	+	3.659	-0.831	0.360
		(1.32)	(-0.74)	(0.66)
Number of observations		47	467	2462
Adjusted R² (%)		57.69	3.48	3.00
F-value.		6.23***	2.40***	7.33***

*This table reports the mean reporting lag regressed on the independent variables: board size (number of directors on the board); ultimate owners (percentage on the board); independent directors (percentage on the board); technological changes (1 = fiscal year belongs to 2002-2004, 0 = otherwise); volume (total number of shares traded divided by total shares outstanding); institutional ownership (in percentage); debt to assets ratio (at the end of fiscal year); firm age (number of years since the firm listed); firm size (natural log of the market value of common equity); net income change (change in percentage); adjusted sales growth (sales growth adjusted by the industrial median sales growth); Big 4 auditors (1 = Big 4, 0 = otherwise). The maximum VIF among variables is 4.82841, which means that there is no severe multicollinearity problem. The White's (1980) heteroscedasticity-corrected standard errors are in parentheses for ultimate owners >=20% and <50%, and ultimate owners >=50%. The symbols *, ** and *** represent significance at the 10%, 5%, and 1% levels respectively.*

After controlling for firm characteristics, we find that the board-size effect only appears in the group of ultimate owners below 20%, which has the highest intercept among the three groups (125.859 days). Despite the number of observations being small, the adjusted R² reaches 57.69%. In the case of ultimate owners on the board being between 20% and 50%, the intercept is 115.43 days, and the coefficient on the ultimate owners variable has a significantly positive impact on the reporting lag, which is 15.373 days (p<0.1). Finally, the intercept for ultimate owners above 50% is 114.044 days, and the coefficients on the ultimate owners and independent directors variables are significantly positive as predicted. This result can be explained that for a company with the ultimate owners above 50%, the magnitude of board size does not appear to have communication and coordination problems as discussed in the past literature. Since the interests of ultimate owners are not always aligned with outside investors, the former have no incentive to release an earlier annual report. Contrary to the monitoring role of independent directors, they take a longer time in verifying material accounting events, such that the coefficient is positively related to the

reporting lag.

CONCLUSIONS

This paper provides a different picture of the determinants of the release timing of annual reports in Taiwan. We show that the behavior of good news early and bad news late does not exist during our sample study period. We address several board and firm characteristics that are key features in determining the reporting lag of a company.

First, after controlling for firm-specific characteristics, we find that there is no impairment of communication and coordination with the magnitude of the board size, as it has no positive association with the reporting lag. The only exception occurs when less than 20% of ultimate owners are on the board.

Second, the presence of ultimate owners in the board has a positive and significant impact on the reporting lag. One possible explanation taken from the agency theory is that controlling shareholders' interests are not always aligned with outside investors, and the former have no incentive to release a more timely annual report.

Third, the inclusion of independent directors on the board also increases the reporting lag, but this result may be due to their monitoring role as they must spend more time in verifying a company's material accounting events.

Fourth, audited annual reports are the most cost-effective way for minority shareholders to collect information and monitor management. This paper shows that institutional shareholders have more influence on timely financial reporting than individual investors. In addition, information technological changes that lower the cost of obtaining annual reports and the promoting attitude by regulators both help to reduce the reporting lag.

The worldwide corporate environment has changed through the promotion of corporate governance in protecting suppliers of finance. Although we cannot find all the determinants of the release timing of annual reports in this paper, a firm's board characteristics and several firm-specific attributes have important relationships to the implementation of corporate governance. There is a substantial strain of literature discussing the corporate governance system of other countries, particularly the United States, Germany, and Japan, but our understanding of corporate governance in Taiwan remains limited. It would certainly be promising to see more future studies on the role of institutional investors, as well as on changes in the technological and regulatory environment for better corporate governance.

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