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## Article

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# The effect of fair disclosure regulation on timeliness and informativeness of earnings announcements

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## ABSTRACT

This paper examines the effect of Korea's fair disclosure regulation on the timeliness and informativeness of earnings announcements. The present regulation for Korean listed firms requires that if a company's sales revenue, operating income (or loss) and net income (or loss) have changed by over 30% compared to the prior year, the firm must disclose this information through a preliminary financial report (PFR) even before the company is audited by external auditors. To analyze the effects of this policy, we first investigate the timeliness of preliminary financial report disclosures. We examine the extent to which Korean listed companies actually comply with the requirement for prompt notification of information concerning material changes in financial performance. Second, we investigate the informativeness of preliminary financial reports by analyzing differential stock market reactions to different timings of preliminary financial report disclosures. Our empirical results reveal that more than half of our sample firms release their preliminary financial

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Interim information  
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Korea

reports after external audits are completed, thereby potentially invalidating the effectiveness of the regulation. In addition, we find that preliminary financial reports have information value only if they are disclosed prior to annual audit report dates. This finding supports the notion that timeliness increases the informativeness of preliminary financial report disclosure by curbing insiders' ability to potentially profit from their information advantage.

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## 1. Introduction

In October 2000, the Financial Supervisory Service of Korea (Korean SEC, "FSS") implemented a fair disclosure (FD) regulation for listed firms. This regulation calls for the public disclosure of preliminary financial reports even before they are audited by external auditors if a firm's sales revenue, operating income (or loss) and net income (or loss) have changed by over 30% compared to the prior year.<sup>5,6</sup> Such preliminary financial reports ("PFRs" hereafter) may convey useful information to all investors, even though the reports are not verified by an auditor. The aim of this new regulation is to level the playing field for all investors by mandating timely disclosure that pre-empts information advantages for insiders.<sup>7</sup> Without such a requirement, market-sensitive information can be delivered privately (or selectively) to certain enumerated persons (such as securities market professionals and holders of the issuer's securities) who may profit from their information advantage (SEC, 2000; Irani and Karamanou, 2003). Brown et al. (2004) show that the frequent and timely disclosure of material information can reduce the information advantage (asymmetry) of management. These authors explain that the regular timely release of information makes investors aware of private information concerning the future earnings of a firm, which in turn alleviates information asymmetry between management and outside shareholders.<sup>8</sup> Therefore, timely disclosures can affect the informativeness of accounting earnings.

Under the current regulation, however, the PFR has to be released *only* prior to the public notice date of the shareholders' meeting ("public notice date" hereafter), and this date typically comes far later than the audit report date, when the company receives its audit report from the independent auditors ("audit report date" hereafter). Consequently, firms may release PFRs even after the audit report date without violating the regulation. This is particularly likely when managers have concerns about subsequent changes in earnings after the completion of the external audit. Managers may face greater disclosure-related legal liability if the actual financial results differ from those disclosed in a PFR, as such reports inevitably involve *pro forma* financial performance information. Pawlewicz (2011) maintains that firms may respond to the increased regulatory

<sup>5</sup> In August 2000, the US SEC also passed Regulation Fair Disclosure (Reg. FD), which requires that firms release material information that may affect their share prices to all investors simultaneously. The purpose is to prohibit the "selective disclosure" of market-sensitive information to a select group of analysts and institutional investors who may well trade on the basis of the information.

<sup>6</sup> The European Union has also enacted a "Market Abuse Directive" (MAD) requiring that company managers inform the public of inside information concerning the company as soon as possible. (We thank a participant at the CJAR Symposium 2012, Bernard Raffournier, of the University of Geneva, for providing this information.)

<sup>7</sup> Gintschel and Markov (2004), for example, provide evidence that Reg. FD may be achieving the immediate aim of the regulators. These researchers document that the average price effect associated with the dissemination of analysts' information is significantly lower, by 28%, than the pre-regulation level. This finding is consistent with Reg. FD curtailing the flow of information from managers to analysts. In a similar vein, Bailey et al., (2003) examine the effect of Reg. FD on stock market responses to earnings releases, on the earnings forecasts produced by analysts and on the extent to which corporations voluntarily disclose information. These authors provide evidence of significant increases in trading volume and forecast dispersion, but they find no evidence of significant changes in return volatility. Although this evidence is consistent with managers substituting public disclosure for selective disclosure, it also suggests that Reg. FD imposes greater demands on investment professionals, resulting in the increased production of private information.

<sup>8</sup> In another context, Eleswarapu et al. (2004) find that information asymmetry, as reflected in trading costs at earnings announcements, has declined under Reg. FD. Their analysis of stock return volatility suggests that information flows around mandatory earnings announcements have decreased since the regulation came into effect. These results suggest that the SEC has been successful in diminishing the advantage of informed investors, without increasing volatility.

scrutiny of earnings announcements by exerting greater effort to verify their earnings announcement disclosures. Managers and their auditors could therefore delay earnings announcements until after the required date to review the figures more intensely and ensure that their announcements are free of errors before their public release. Consistent with this conjecture, we find that more than half of Korean listed companies disclose their PFRs after the audit report dates (when external audits on financial reports are completed), thereby potentially invalidating the effectiveness of the regulation. Obviously, these delays happen because the current regulation requires that companies release the PFRs only prior to the public notice date.

Griffin et al. (2011) find that some US companies post their FD filings well after the due date, thereby gaining unfairly by acting on the FD information prior to public disclosure. Pawlewicz (2011) also examines the effects of Regulation G on the timeliness of filings and on the reactions of investors to earnings announcement press releases.<sup>9</sup> He finds evidence that since Regulation G took effect, companies have taken longer to make their earnings announcements and that increased regulatory oversight has improved the perceived reliability of earnings announcements.

This study has two purposes. First, it analyzes the timeliness of PFR disclosures by examining the extent to which Korean listed companies comply with the fair disclosure regulation and actually issue prompt notification of material changes in their financial performance. The Financial Accounting Standards Board (FASB, 2010) notes that timeliness is an enhancing qualitative characteristic of financial reporting and that more timely earnings announcements are relevant to market fairness. The second purpose of this study is to empirically investigate the informativeness of PFRs by testing differential stock market reactions to different timings of PFR disclosures. Understanding the regulation's effect on timeliness and the informativeness of earnings announcements is important for preparers, users and regulatory bodies concerned with the relevance and reliability of financial reporting.

Our analysis indicates that most Korean companies release PFRs around their audit report dates or their public notice dates. This finding suggests that the primary objective of the current fair disclosure regulation may not be achieved, due to a “regulatory loophole” arising from unwarranted timeliness of disclosure. In addition, we find that PFRs have information value only if they are disclosed prior to audit report dates. This is consistent with the notion that timeliness increases the informativeness of PFR disclosure by curbing insiders' ability to potentially profit from their information advantage. In additional analysis, we investigate the association between ownership concentration and earnings informativeness. Our findings suggest that ownership structure does not play an important role in determining the marginal effect of timing the disclosure of PFRs to occur before the audit report date. Even so, a negative coefficient on the “owner's largest shareholder” interaction term provides a clue that firms with highly concentrated share ownership may have lower earnings informativeness, which is consistent with an entrenchment effect.

Our research makes two main contributions to the literature on the regulation of financial markets. First, although earlier research on Korean firms examines the effect of firm-specific characteristics on corporate disclosure, no previous study on Korean businesses has, to our knowledge, examined the association between the fair disclosure of preliminary financial reports and stock market reactions. This study thus tests the link between the timing of PRF releases (i.e., fair disclosure) and security market reactions. Second, our research contributes to an understanding of the mediating effects of the timeliness of fair disclosure in relation to the release of preliminary financial reports and security market reactions. Fair disclosure has received much attention in the US and the issue has become more significant in emerging markets due to the global rise in cross-border equity investments in recent years. This study also adds to the literature that examines the role and consequences of fair disclosure in capital markets and the information environment.

The remaining sections of this paper are organized as follows. Section 2 presents the related literature. Section 3 discusses current disclosure regulations in Korea. Section 4 describes the empirical specifications and sample. Section 5 discusses the results and Section 6 presents the study's conclusions.

<sup>9</sup> Pawlewicz (2011) explains that effective for all earnings announcements made on or after March 28, 2003, Regulation G requires that: (1) all firms must furnish their earnings announcement press releases to the SEC on a Form 8-K, and (2) firms that disclose measures not in accordance with Generally Accepted Accounting Principles (GAAPs), such as *pro forma* measures, must disclose the “most directly comparable GAAP financial measure,” and reconcile the non-GAAP figures to the closest GAAP measure.

## 2. Related literature

Several analytical and empirical studies have examined the effects of fair disclosure requirements on the information environment and on the quality of the information content disclosed. Ahmed and Schneible (2007) document that FD has reduced differences in the quality of information available to investors prior to earnings announcements, which is consistent with the intent of the regulation for leveling the information playing field. However, this reduction of information inequality is driven mainly by small firms and high-technology firms, not by the large firms targeted by the SEC. In addition, the regulation has not improved the average quality of information that investors have prior to earnings announcements for any subset of firms. Contrary to the assertions of the SEC, the requirements of FD have worsened the information environment for some firms, particularly small or high-tech firms.

In a related study, Callen et al. (2006) examine the relative value and relevance of information about cash flows, accruals and expected returns, according to the dates of SEC-required preliminary financial reports. They find that news of expected returns and earnings is value-relevant on the dates of preliminary earnings reports and SEC filing dates, and that news concerning earnings, cash flows and accruals is more value-relevant on the SEC filing dates for 10-K forms than on the filing dates for 10-Q forms. These authors also document that three informational components (i.e., news about the firm's risk, accruals and cash flows) contain less value-relevant information at the SEC filing date for firms with a higher proportion of long-term sophisticated investors than for those with a higher proportion of short-term investors. Extant research also documents the market reactions to firms releasing a number of alternative financial reports.

Grant (1980) documents that the amount of interim information (as an alternative form of preliminary information) that is available about OTC firms in particular may be systematically less than that available concerning NYSE firms, which suggests that firm size is positively related to the tendency to disclose preliminary information (such as interim information). Grant also finds that the annual earnings announcements of OTC firms appear to offer more information content than those of NYSE firms, as the timeliness of annual earnings announcements may be conditional on the amount of interim information available. The results of Grant's study suggest that although the accounting numbers presented in the annual earnings announcements may still be value-relevant, the information content of the numbers is, to a large extent, anticipated by the market prior to the date of release, due to the existing interim sources of information.

Similarly, Firth (1981), among others, finds that the week a preliminary announcement is made has the highest weekly level of "information" exchange, which suggests that preliminary reporting pre-empts insider trading by putting information into the public domain that would otherwise be privately held. Firth's results also indicate that interim reports have high levels of information content.

Opong (1995) extends Firth's study (1981) by investigating whether the information value of interim reports is reduced due to reliability problems that might arise because these reports are not subject to third-party certification. The study checks if interim financial reports in the UK contain value-relevant information. The results of the study, however, provide evidence to the contrary, showing that interim financial reports do contain information relevant to investment decisions on the days they are released.

Opong (1996) further examines the information content of preliminary annual financial reports in the UK by using hourly share price data. The results indicate that a significant price response to the release of annual preliminary reports occurs in the hour when the reports are released.

For the Korean market environment, Song (1989) examines the information content of *voluntary* disclosures of preliminary annual financial reports by using weekly share price data from the 1986 to 1987 period. The results indicate that substantial information is conveyed to the stock market by the release of preliminary annual financial reports. However, the information released at annual shareholders' meetings (which usually take place about two weeks subsequent to the release of preliminary annual financial reports) does not appear to give significant information to investors. Song suggests that the effect reports have on prices is usually confined to the week when the announcements are made.

Jang and Cheon (2003) extend Song's study (1989) by using daily returns data on a different sample and over a different time period. These authors examine the informativeness of *voluntary* announcements of preliminary earnings by investigating whether they pre-empt market reactions to annual earnings announcements. Their results reveal that stock markets react significantly to *voluntary* preliminary earnings

announcements, but that the market reaction to annual earnings announcements is not significant. This finding suggests that the information contained in annual reports is pre-empted by preliminary earnings announcements.

Both of the abovementioned studies attempt to assess whether the release of financial results in the form of *voluntary* preliminary announcements provides investors with significant value-relevant information. Both studies suggest that the release of actual earnings figures at annual shareholders' meetings does not provide significant additional information, because the earnings announcements are, to a large extent, anticipated by the market following preliminary announcements.

Previous studies collectively suggest that alternative forms of preliminary information, voluntary or mandatory, provide value-relevant information around their announcement periods and thus pre-empt the informativeness of actual earnings announcements. With respect to measuring the degree to which PFRs pre-empt the actual earnings information, previous studies consider dates related to a firm's annual report at its different stages, namely the public notice date (Firth, 1981; Sohn and Lee, 2005) and the date of the annual shareholders' meeting (Grant, 1980; Firth, 1981; Song, 1989; Jang and Cheon, 2003). However, these studies fail to identify the "audit report date" (when the company receives its audit report from the independent auditors) as a benchmark date for investigating the potential pre-emption of actual earnings information.

We argue that if the purpose of mandatory preliminary earnings announcements (such as PFRs) is to level the playing field for all investors by curbing insiders' ability to profit from their information advantage, then it is important to identify the earliest date at which the actual (i.e., audited) earnings are known if we are to assess the effectiveness of the disclosure regulation. Identifying the earliest benchmark event date is particularly crucial in the absence of a formal test for the existence of insider trading. In this regard, we examine the market reaction to PFR around the audit report date, as this is deemed to be the earliest announcement date of actual earnings.

### 3. Current Korean disclosure system

In Korea, the corporation disclosure system is governed by three related rules: commercial law, Securities and Exchange Act and External Audit Act. These rules specify filing schedules for important financial reporting events, including PFRs, audit reports to client companies (audit report dates), public notices of shareholders' meetings (public notice dates) and filings of final audit reports to shareholders ("filing date of audit report" hereafter).

According to the present rules, a listed company has to disclose PFRs before its public notice date whenever its sales revenue, operating income (or loss) and net income (or loss) have changed by over 30% compared to the prior year.<sup>10</sup> To eliminate the possible pre-emption of fair disclosure through potential information leakage and/or alternative disclosure sources, there should not be any other significant financial reporting event (for example, an audit report date) between the PFR disclosure and the public notice date. The current regulation, however, requires that independent auditors submit audit reports to their client companies within four weeks after receiving the client companies' financial statements.<sup>11</sup> In addition, companies are required to provide their financial statements to independent auditors six weeks prior to their annual shareholders' meetings.<sup>12</sup>

Given that the dates of annual shareholders' meetings are to be publicly announced only two weeks before the meetings are held and within three months after their fiscal year ends,<sup>13</sup> their audit report dates may fall between their PFR disclosure and public notice dates. This is particularly likely when client companies provide their financial statements to independent auditors shortly after fiscal year end. As a result, firms may release PFRs even after the audit report date without violating the regulation. This implies that material information about changes in the firm's financial performance may be selectively disclosed to privileged individuals

<sup>10</sup> Article 191-10(3), Securities Exchange Act.

<sup>11</sup> Article 447-4, commercial law.

<sup>12</sup> Article 7, External Audit Act.

<sup>13</sup> Article 4-2, Regulations on Listed Companies, Securities Exchange Act.



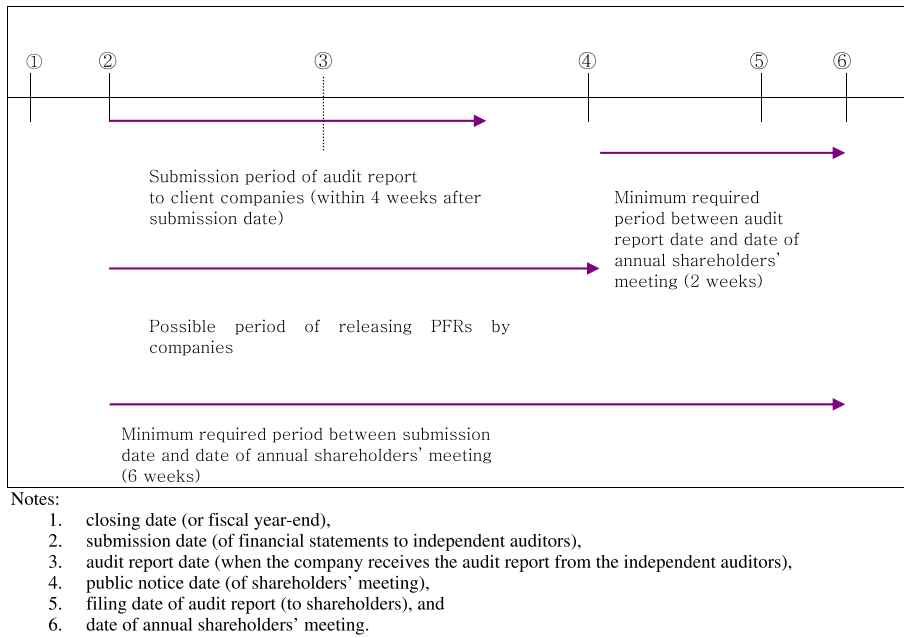


Fig. 1. Filing schedule for important financial reporting events.

between the audit report date and the disclosure date of a PFR, thereby pre-empting the informativeness of the PFR and invalidating the effectiveness of the fair disclosure regulation.

A summary of filing schedules for important financial reporting events of Korean listed companies under the current regulations is depicted in Fig. 1.

#### 4. Research methods

##### 4.1. Empirical models

To investigate the informational value of PFR content, we first analyze the cumulative abnormal returns (CARs) that accrue to shareholders around the date of the public release of the reports. From the KOSPI or the KOSDAQ equally weighted market index,<sup>14</sup> we obtain market model parameters that are measured over a 75-day period beginning 100 days prior to each event date. Once the parameters are estimated, the abnormal return (AR) for each sample firm is estimated for the announcement period that includes the announcement date (day 0) and the other days of interest (e.g., “day +1” after the announcement date) using the following equation:

$$AR_{jt} = R_{jt} - \hat{a}_j - \hat{b}_j R_{mt} = \varepsilon_{jt},$$

where  $R_{jt}$  is the realized return of firm  $j$  at time  $t$ ;  $R_{mt}$  is the realized return on a market index (e.g., the KOSPI index) at time  $t$ ; and  $a_j$ ,  $b_j$  = parameters of the regression equation.

The CAR is the sum of abnormal returns for each sample firm for the announcement period from day  $t_0$  to day  $t_1$ , as calculated using the following equation:

$$CAR_j(t_0, t_1) = \sum_{t=t_0}^{t_1} AR_{jt}.$$

We then examine the informativeness of PFRs by estimating the following regression equation:

<sup>14</sup> KOSPI and KOSDAQ stand for the Korean Composite Stock Price Index and the Korean Securities Dealers Automated Quotations, respectively.

$$CAR_{jt}(-1, 0, 1) = a_1 + a_2PUE_{jt} + a_3DB_{PFR} * PUE_{jt} + a_4D_{NEG} * PUE_{jt} + a_5SIZE_{jt} + a_6-8YD + e_{jt}, \quad (1)$$

where  $CAR_{jt}(-1, 0, 1)$  is the cumulative abnormal return from “day  $-1$ ” to “day  $+1$ ” of firm  $j$  at time  $t$  (“day 0” denotes the date of the relevant earnings announcement);  $PUE_{jt}$  is the unexpected PFR earnings ( $PFR\ NI_{jt} - \text{actual } NI_{jt-1}$ ) of firm  $j$  at time  $t$ , deflated by the beginning market value of equity;  $DB_{PFR}$  has a value of 1 if PFR is disclosed *before* the audit report date, 0 otherwise;  $D_{NEG}$  has a value of 1 if net income is negative, 0 otherwise;  $SIZE$  is the beginning market value of equity; and  $YD$  represents year dummies.

The test of the information content of the PFRs analyzes the abnormal returns that accrue to shareholders. If information contained in a PFR is pre-empted by potential information leakage due to the delay of its disclosure until after the audit report date, then the parameter of unexpected PFR earnings,  $a_2$ , is expected to be not significantly different from zero, whereas the dummy interaction term ( $DB_{PFR}$ ), denoting that the PFR is released before the audit report date  $a_3$ , is expected to be positive.

Previous studies provide evidence that the amount of unexpected information conveyed to the market by actual earnings reports is inversely related to firm capitalization (Grant, 1980; Firth, 1981; Atiase, 1985; Jang and Cheon, 2003; Choen et al., 2004; Sohn and Lee, 2005). Thus, we include firm size ( $SIZE$ ) to control for the “size” effect. The model also includes the additional dummy interaction term ( $D_{NEG}$ ) to control for any differential return-earnings association of reported losses (Hayn, 1995; Sohn and Lee, 2005).

#### 4.2. Sample and data

Two databases are used to select the sample for this study. Our sample firms are drawn from the Korean Information Service-Financial Analysis System (“KIS-FAS”) database for the period 2001–2009. All non-financial sector firms that satisfy all of the following criteria are selected: (1) Korean Stock Exchange listing; (2) fiscal year ending December 31; and (3) availability of dates of the relevant financial reporting events including audit report date, public notice date and filing date of the audit report. The dates of relevant financial reporting events are obtained from the Data Analysis, Retrieval and Transfer (“DART”) system of the Financial Supervisory Service of Korea (Korean SEC, FSS). These requirements provide an initial sample of 5557 firm-year observations.

Eliminating firms that have not issued PFRs leaves 3129 observations. Among these, 319 firm-year observations with missing audit dates or public notice dates were deleted. The resulting sample of 2810 firm-year observations is used to perform our analysis of the timeliness of PFR reports.

For the sample to test the value of information content in PFRs, we require that sample firms release PFRs at least two days before their audit report dates, to ensure that the earnings information contained in PFRs is not affected by the audit report’s statement of actual earnings. This requirement leaves a final sample of 2187 firm-year observations to test the market reaction to PFR announcements. Table 1 summarizes our sample selection procedures.

### 5. Results

#### 5.1. Trend in PFR reporting lag and timeliness of reports

To analyze timeliness in our sample of PFRs, we examine both compliance with the statutory filing deadline and the number of calendar days between the statutory deadline and the actual disclosure date. For our sample of 3129 PFRs disclosed during the 2001–2009 period, 1943 sample firms (62%) released PFRs after the audit report dates. As discussed earlier, these firms are not violating the current regulation, as it only requires that PFRs have to be released prior to the public notice date of the shareholders’ meeting. However, information that should be conveyed to all investors by PFRs might be pre-empted by potential private information delivery to certain enumerated persons.<sup>15</sup>

<sup>15</sup> Pawlewicz (2011) provides similar evidence that earnings announcements have come 5.37 days later for the fourth fiscal quarter (i.e., fiscal year-end) since the implementation of Regulation G (compared to before Regulation G). In contrast, Griffin et al. (2011) show that the length of time by which companies allegedly exceed FD requirements is quite short – in four cases, *only* two trading days or less.



Table 1

Description of sample selection procedure.

Total observations on the Korea Information Service-Financial Analysis System (“KIS-FAS”) database and the Data Analysis, Retrieval and Transfer (“DART”) system on FSS that satisfy all of the following initial sample criteria:	5557
(1) Korean Stock Exchange listing,	
(2) Fiscal year ending December 31, and	
(3) Availability of dates of relevant financial reporting events including audit report date, public notice date and filing date of the audit report.	
Less: Observations without announcements of PFRs	(2428)
<b>Sub total</b>	<b>3129</b>
Less: Observations with missing audit dates or public notice dates	(319)
<b>Sample used to analyze the timeliness of PFR reports</b>	<b>2810</b>
Less: Observations with PFR releases later than 2 days after the audit report date	(623)
<b>Final sample for testing the market reaction to PFR announcements</b>	<b>2187</b>

A total of 981 firms (31%) disclosed PFRs even after the public notice dates of their shareholders’ meetings, which suggests that a nontrivial portion of the sample firms are violating the current regulation. Furthermore, we observe 14 companies that disclosed PFRs on or after the filing date of audit reports to shareholders.

Table 2 summarizes the PFR reporting lag compared to related financial reporting event dates.

To gain further insight into the trends in PFR timeliness and other related financial reporting events, we analyze the number of calendar days between financial statement dates and five relevant financial reporting events, including the PFR disclosure date, the audit report date, the public notice date, the date that the audit report is filed and the date of the annual shareholders’ meeting. As shown in Table 3, the average (median) date of PFR disclosure for the sample period (2001–2009) is 50.71 (52) days after the fiscal year-end, but the average (median) for the audit report date is only 46.37 (46) days after the fiscal year-end. This evidence corroborates our earlier finding that a significant number (about 69%) of sample firms release PFRs after their audit report dates. The results of our analyses for individual years exhibit a similar pattern and show that average audit report dates are two to three days earlier than the PFR disclosure dates.

Taken together, the results of our analysis presented in Tables 2 and 3 suggest that the current regulation for PFRs may not be effective in fulfilling its intended main objective of providing a level playing field to all investors by mandating more timely disclosure to curb insiders’ ability to profit from their information advantage. Indeed, any financial information released after the audit report date could be potentially based on the audited figures and therefore it is no longer *preliminary* because external auditing processes are substantially completed at the audit report date.

The question that emerges from the above analysis is why firm managers show a tendency to disclose PFRs as late as possible. We conjecture that firm managers might try to avoid unnecessary disclosure-related legal liability due to audited financial results differing from those announced in PFRs. One way to avoid this risk is to disclose the PFR after the audit report date. Consistent with this conjecture, the analysis presented in Table 4 indicates that 884 out of the 3129 firms (28.3%) over the sample period either overestimated or underestimated PFR earnings, compared to those audited. Among firms that overestimated or underestimated PFR earnings, 484 firms overestimated and 400 underestimated their forthcoming actual earnings. This finding suggests that management tends to announce optimistic preliminary earnings (e.g., Cheon and Sohn, 2005).

## 5.2. Market tests

### 5.2.1. Market reaction to unexpected PFR earnings

The information content of PFRs is evaluated using cumulative abnormal returns (CARs) around the dates of the public release of the reports. Table 5 shows market reactions to announcements of unexpected net income in PFRs at different timings of their releases to the market. As the first column of Table 5 shows, the coefficient of preliminary unexpected earnings (PUEs) reported in PFRs for the full sample is positive and significant at  $p < 0.01$ , suggesting that the stock market may respond to PUE regardless of the timing of its release. To check this possibility, and more importantly to directly test our hypothesis, we add a dummy interaction term (DB\*PUE) to the regression model, which disentangles the marginal effect of the disclosure timing of PFR before the audit report date as a linear function of unexpected net income announced in PFRs.

Consistent with our prediction that PFRs convey information to the stock market only if they are disclosed prior to the audit report date, the regression results in the second column of Table 5 shows that the coefficient on the dummy interaction term is positive and marginally significant at  $p < 0.1$ . The last two columns of Table 5 report the results of estimating the regressions after dividing the sample into two groups, based on whether the timing of PFR disclosure is before or after the audit report date. Consistent with the results of the full sample reported earlier, the estimated coefficient on unexpected net income for the sub-sample that releases its PFRs *before* the audit report date is 0.003 and significantly greater than zero at  $p < 0.01$ . For the sub-sample that releases PFRs *after* the audit report date, the corresponding PUE coefficient of 0.011 is not statistically greater than zero at conventional levels.

### 5.2.2. Market reaction to unexpected actual earnings

In this subsection, we provide collaborating evidence that the informativeness of actual earnings reports could be pre-empted by PFRs when the audit report date is followed by the PFR release date. To gather this evidence, we assess the market reaction to actual unexpected net income around the audit report date. The regression results for the full sample, as reported in the first column of Table 6, indicate that actual unexpected earnings information has, on average, no information content. The regression coefficient on actual unexpected earnings (UEs) is positive and not significantly different from zero at conventional levels. This result is somewhat surprising in that it contradicts the conventional evidence that earnings announcements convey useful information to the stock market.

Table 6 also indicates that the coefficients on the  $DB_{PFR} * UE$  and  $DNO_{PFR} * UE$  interaction terms are not statistically significant, which suggests that actual earnings announcements convey no information to the market when the PFR is disclosed before the audit report date or if no PFR is disclosed at all.<sup>16</sup> However, the regression coefficient on the  $DA_{PFR} * UE$  interaction term is positive and significant at less than the 5% level. This confirms that the informativeness of unexpected actual net income is warranted only when audit report dates precede PFR release dates.

### 5.3. Ownership structure and differential market reaction to unexpected PFR earnings

The results of our main analysis provide evidence that announcements of unexpected net income in PFRs are informative only when they are disclosed prior to audit report dates. This result could be due in part to differences in ownership structure. Previous studies offer conflicting evidence on the relationship between corporate ownership structure and the informativeness of earnings reports. For example, Firth et al. (2007) document that firms in China with highly concentrated share ownership have lower earnings informativeness. These authors attribute their finding to an entrenchment effect, in which large shareholders may influence firms to adopt accounting policies that reflect the wishes of the large owners rather than the economic substance of the business transactions. However, Jung and Kwon (2002) provide evidence that among Korean firms, earnings reports become more informative as the shareholdings of the owner increase, which supports the convergence-of-interest hypothesis for large shareholders. Sarikhani and Ebrahimi (2011) also find a positive and meaningful relationship between ownership concentration and earnings informativeness for a sample of Iranian companies.<sup>17</sup> In light of the above conflicting evidence, we further examine whether ownership concentration is associated with earnings informativeness in PFR releases.

Jung and Kwon (2002) contend that the ownership structure of Korean firms is characterized by the predominant role of the owner-largest shareholder. The owner-largest shareholder effectively controls the whole company by holding a significant proportion of its shares. We investigate the association between ownership concentration and earnings informativeness by adding the interaction term  $DB_{PFR} * PUE_{jt} * OWN$  in Eq. (1). Following Jung and Kwon (2002), the dichotomous variable  $OWN$  is coded as one if the percentage of stocks held by the owner-largest shareholder is above the median of the sample firms, and zero otherwise.

<sup>16</sup> To compare the information content of actual earnings for PFR-releasing firms with that of non-PFR-releasing firms, we extend our sample by adding 680 firm-year observations on firms that do not release PFRs. The estimation results for this larger sample are qualitatively the same as those reported in Table 6.

<sup>17</sup> Similarly, Fan and Wong (2002) find that the entrenchment effect due to concentrated ownership reduces the informativeness of reported earnings in Hong Kong, Indonesia, South Korea, Malaysia, Singapore, Taiwan and Thailand.

Table 2

PFR reporting lag ( $N = 3129$ ).

Disclosure timing compared to PFR date Compared to PFR disclosure date <sup>a</sup>	–22 or less	–21 to –15	–14 to –8	–7 to –1	0	1–7	8–14	15–21	22 or more
Audit report date	<b>403</b>	<b>308</b>	<b>422</b>	<b>626</b>	<b>184</b>	<b>677</b>	<b>230</b>	<b>104</b>	<b>175</b>
Public notice date of shareholders' meeting	<b>13</b>	<b>23</b>	<b>204</b>	<b>355</b>	<b>386</b>	<b>610</b>	<b>471</b>	<b>328</b>	<b>739</b>
Date of annual shareholders' meeting <sup>b</sup>	<b>4</b>			<b>3</b>	<b>6</b>	<b>139</b>	<b>486</b>	<b>764</b>	<b>1727</b>

<sup>a</sup> Number of calendar days between the PFR disclosure date and the day of the audit report, the public notice of shareholders' meeting or the annual shareholders' meeting.

<sup>b</sup> It is extraordinary that in 13 firms, the PFR disclosure date is the same as or later than the filing date of the audit report.

Table 3

Timing of financial reporting events.

Description		Number of firms	Average number of calendar days	Std. dev.	Minimum	Median	Maximum
PFR disclosure date <sup>a</sup>	2001	225	49.19	12.60	15	50	80
	2002	332	42.48	13.05	13	43	76
	2003	331	43.81	12.62	9	43	77
	2004	375	42.12	14.20	5	44	72
	2005	374	52.97	16.71	11	54	88
	2006	357	54.93	16.46	10	58	87
	2007	363	56.62	17.13	9	62	85
	2008	394	57.88	16.17	11	62	89
	2009	378	54.75	17.32	10	56	89
	<b>2001 ~ 2009</b>	<b>3129</b>	<b>50.71</b>	<b>16.53</b>	<b>5</b>	<b>52</b>	<b>89</b>
Audit report date <sup>b</sup>	2001	225	44.82	13.19	14	46	87
	2002	332	42.15	12.68	13	42	85
	2003	331	42.90	11.33	12	43	79
	2004	375	40.71	12.75	9	37	76
	2005	374	40.42	12.39	12	40	97
	2006	357	45.43	14.56	12	44	84
	2007	363	50.95	14.93	17	52	83
	2008	394	53.36	13.99	20	54	89
	2009	378	54.85	14.49	21	56	84
	<b>2001 ~ 2009</b>	<b>3129</b>	<b>46.37</b>	<b>14.46</b>	<b>9</b>	<b>46</b>	<b>97</b>

<sup>a</sup> PFR disclosure date – financial statement date.

<sup>b</sup> Audit report date – financial statement date.

Table 7 presents findings from the investigation into the association between unexpected PFR earnings and ownership concentration around the release dates. The regression coefficient of the interaction term  $DB_{PFR} * PUE_{jt} * OWN$  for the full sample is positive (0.003) but statistically insignificant. This finding suggests that ownership structure does not play an important role in determining the marginal effect of disclosing PFRs before the audit report date ( $DB_{PFR} * PUE$ ). Despite this finding, a positive coefficient on the owner-largest shareholder ownership interaction term provides a clue that firms with highly concentrated share ownership may have higher earnings informativeness, which is consistent with the convergence-of-interest hypothesis. The results from dividing the sample into two groups based on the timing of PFR disclosure (before and after the audit report date) remain qualitatively similar to the results for the full sample.

#### 5.4. Alternative market expectation of earnings<sup>18</sup>

In measuring earnings surprise, we rely on the random walk model in which unexpected earnings is defined as the difference between PFR earnings and last year's net income. This approach may have limitations, in that the model implicitly assumes that annual reports are the only source of information, which may be acceptable

<sup>18</sup> We thank Bernard Raffournier, again, for pointing out this issue.

Table 4

Overestimation vs. underestimation of PFR earnings (Millions of Korean Won).

Year	Description	Number of firms	PFR earnings ( <i>A</i> )	Audited earnings ( <i>B</i> )	Difference ( <i>A</i> – <i>B</i> )
2001	Overestimated	61	–35,897	–47,665	11,768
	Underestimated	54	112,913	117,711	–4798
	No difference	110	–44	–44	0
	2001 Total	225	8739	6745	1994
2002	Overestimated	127	38,340	26,590	11,750
	Underestimated	55	18,909	25,176	–6267
	No difference	150	92,684	92,684	0
	2002 Total	332	65,603	62,349	3253
2003	Overestimated	98	3748	1348	2400
	Underestimated	71	44,780	45,468	–689
	No difference	162	108,323	108,323	0
	2003 Total	331	61,780	61,153	627
2004	Overestimated	92	69,147	68,323	824
	Underestimated	70	53,103	54,325	–1221
	No difference	213	191,030	191,030	0
	2004 Total	375	100,378	100,462	–84
2005	Overestimated	32	79,271	59,067	20,204
	Underestimated	39	305,099	395,251	–90,152
	No difference	303	67,020	67,020	0
	2005 Total	374	95,907	104,472	–8565
2006	Overestimated	31	115,375	106,468	8907
	Underestimated	34	99,817	209,366	–109,549
	No difference	292	54,154	54,154	0
	2006 Total	357	64,706	75,252	–10,546
2007	Overestimated	14	245,576	232,396	13,180
	Underestimated	37	94,968	147,457	–52,489
	No difference	312	62,852	62,852	0
	2007 Total	363	76,379	81,530	–5151
2008	Overestimated	11	37,698	6021	31,677
	Underestimated	19	86,247	128,455	42,208
	No difference	364	45,617	45,617	0
	2008 Total	394	47,493	48,736	–1239
2009	Overestimated	18	567,711	429,034	138,676
	Underestimated	21	90,511	270,774	–180,263
	No difference	339	43,395	43,395	0
	2009 Total	378	72,603	76,214	–3612
2001 ~ 2009	Overestimated	484	86,351	72,156	14,196
	Underestimated	400	79,015	118,828	–39,813
	No difference	2245	59,558	59,558	0
	Total	3129	299,150	326,733	–27,583

Table 5

Market reaction to unexpected PFR earnings. Model:  $CAR_{jt}(-1,0,1) = a_1 + a_2PUE_{jt} + a_3DB_{PFR}*PUE_{jt} + a_4D_{NEG}*PUE_{jt} + a_5SIZE_{jt} + a_{6-8}YD + e_{jt}$ .

Model	Full sample ( <i>n</i> = 2187)	Full sample with DB*PUE ( <i>n</i> = 2187)	Sub-sample with PFR release <i>before</i> audit report date ( <i>n</i> = 820)	Sub-sample with PFR release <i>after</i> audit report date ( <i>n</i> = 1241)
Intercept	0.077 (3.71)***	0.076 (3.65)***	0.080 (2.69)***	0.072 (1.63)
PUE	<b>0.001 (3.27)***</b>	0.001 (2.35)**	<b>0.003 (2.98)***</b>	0.011 (1.64)
DB <sub>PFR</sub> *PUE		<b>0.002 (1.94)*</b>		
<i>D</i> <sub>NEG</sub> *PUE	−0.018 (−5.55)***	−0.018 (−5.42)***	−0.002 (−4.33)***	−0.025 (−3.26)***
SIZE	−0.002 (−3.30)***	−0.002 (−3.25)***	−0.002 (−2.41)***	−0.002 (−1.39)
Adj <i>R</i> <sup>2</sup>	2.27%	2.23%	4.28%	3.17%

Max value was adjusted by average  $\pm$  3\*standard deviation.

$CAR_{jt}(-1,0,1)$ : cumulative abnormal return from “day −1” to “day +1” of firm *j* at time *t* (“day 0” denotes the PFR release date).

*PUE<sub>jt</sub>*: unexpected PFR earnings (PFR *NI<sub>jt</sub>* − actual *NI<sub>jt−1</sub>*) of firm *j* at time *t* deflated by beginning market value of equity.

DB<sub>PFR</sub>: 1 if PFR is disclosed *before* audit report date, 0 otherwise.

*D*<sub>NEG</sub>: 1 if net income is negative, 0 otherwise.

SIZE: beginning market value of equity.

YD: year dummies.

\* 10% Significance level.

\*\* 5% Significance level.

\*\*\* 1% Significance level.

Table 6

Market reaction to unexpected actual earnings. Model:  $CAR_{jt}(-1,0,1) = a_1 + a_2UE_{jt} + a_3DB_{PFR}$  (or  $DA_{PFR}$  or  $DNO_{PFR}$ )\* $UE_{jt} + a_4D_{NEG}*UE_{jt} + a_5SIZE_{jt} + a_{6-8}YD + e_{jt}$ .

Model ( <i>n</i> = 2,187)	Basic model	Model 1	Model 2	Model 3
Intercept	0.040 (2.33)**	0.046 (1.88)*	0.044 (1.81)*	0.049 (2.17)**
UE	0.002 (0.70)	−0.001 (−0.12)	−0.007 (−0.37)	0.002 (0.68)
DB <sub>PFR</sub> *UE		0.003 (0.66)		
DA <sub>PFR</sub> *UE			0.013 (2.38)**	
DNO <sub>PFR</sub> *UE				−0.001 (0.59)
<i>D</i> <sub>NEG</sub> *UE	0.009 (1.80)	0.004 (0.81)	0.008 (1.65)	0.008 (0.05)
SIZE	−0.001 (−2.06)**	−0.001 (−1.71)*	−0.002 (−2.19)**	−0.001 (−1.99)**
Adj <i>R</i> <sup>2</sup>	1.35%	0.99%	1.19%	0.96%

$CAR_{jt}(-1,0,1)$ : cumulative abnormal return from “day −1” to “day +1” of firm *j* at time *t* (“day 0” denotes audit report date).

*UE<sub>jt</sub>*: unexpected actual earnings (actual *NI<sub>jt</sub>* − actual *NI<sub>jt−1</sub>*) of firm *j* at time *t* deflated by beginning market value of equity.

DB<sub>PFR</sub>: 1 if PFR is disclosed *before* audit report date, 0 otherwise.

DA<sub>PFR</sub>: 1 if PFR is disclosed *after* audit report date, 0 otherwise.

DNO<sub>PFR</sub>: 1 if PFR is *not* disclosed, 0 otherwise.

*D*<sub>NEG</sub>: 1 if net income is negative, 0 otherwise.

SIZE: beginning market value of equity.

YD: year dummies.

\*\*\* 1% Significance level.

\* 10% Significance level.

\*\* 5% Significance level.

for small- or medium-sized firms, but not for large firms that are followed by financial analysts (Kothari, 2001). To address this concern, we define earnings surprise as the difference between PFR earnings and the market expectation of net income, represented as the forecast consensus of analysts.

The second and third columns in Table 8 report the market reaction to PFR announcements of unexpected net income (PUE1) based on the timing of their release into the market. Consistent with our prediction and the result reported in Table 5, the estimated coefficient on unexpected net income for the sub-sample that releases PFRs *before* the audit report date is 0.151 and significantly greater than zero at  $p < 0.01$ . For the sub-sample

Table 7

Effect of ownership concentration on the informativeness of unexpected PFR earnings. Model:  $CAR_{jt}(-1,0,1) = a_1 + a_2PUE_{jt} + a_3DB_{PFR}*PUE_{jt} + a_4DB_{PFR}*PUE_{jt}*OWN + a_5D_{NEG}*PUE_{jt} + a_6SIZE_{jt} + a_{7\sim 9}YD + e_{jt}$ .

Model	Full sample with DB*PUE ( $n = 2187$ )	Sub-sample with PFR release <i>before</i> audit report date ( $n = 820$ )	Sub-sample with PFR release <i>after</i> audit report date ( $n = 1241$ )
Intercept	0.071 (3.40)***	0.080 (2.55)**	0.050 (1.51)
PUE	0.015 (3.77)***	0.012 (2.70)***	0.016 (2.91)**
PUE*OWN		−0.001 (−0.11)	−0.025 (−1.96)*
DB <sub>PFR</sub> *PUE	−0.001 (−0.32)		
DB <sub>PFR</sub> *PUE*OWN	0.0003 (0.03)		
D <sub>NEG</sub> *PUE	−0.015 (−4.35)***	−0.002 (−3.34)***	−0.010 (−2.21)**
SIZE	−0.002 (−3.11)***	−0.002 (−2.36)**	−0.001 (−1.36)
Adj $R^2$	2.55%	4.03%	1.32%

Max value was adjusted by average  $\pm 3$ \*standard deviation.

$CAR_{jt}(-1,0,1)$ : cumulative abnormal return from “day −1” to “day +1” of firm  $j$  at time  $t$  (“day 0” denotes the PFR release date).

$PUE_{jt}$ : unexpected PFR earnings ( $PFR\ NI_{jt} - \text{actual } NI_{jt-1}$ ) of firm  $j$  at time  $t$  deflated by beginning market value of equity.

DB<sub>PFR</sub>: 1 if PFR is disclosed *before* audit report date, 0 otherwise.

OWN: 1 if the percentage of stocks held by the owner-largest shareholder is above the median of the sample firms, 0 otherwise.

D<sub>NEG</sub>: 1 if net income is negative, 0 otherwise.

SIZE: beginning market value of equity.

YD: year dummies.

\* 10% Significance level.

\*\* 5% Significance level.

\*\*\* 1% Significance level.

Table 8

Market reaction to unexpected PFR (actual) earnings: alternative market expectation of earnings (Analysts' Consensus).

Model	Market reaction to unexpected PFR (PUE1)		Market reaction to unexpected actual earnings (UE1)	
	Sub-sample with PFR release <i>before</i> audit report date ( $n = 331$ )	Sub-sample with PFR release <i>after</i> audit report date ( $n = 432$ )	Sub-sample with actual earnings release <i>before</i> audit report date ( $n = 331$ )	Sub-sample with actual earnings release <i>after</i> audit report date ( $n = 432$ )
Intercept	0.079 (2.11)**	−0.004 (−0.11)	−0.007 (−0.22)	−0.020 (−0.52)
PUE1 (or UE1)	0.151 (2.73)***	0.070 (1.27)	−0.012 (−0.19)	−0.020 (−0.65)
D <sub>NEG</sub> *PUE1 (or UE1)	−0.025 (−0.32)	−0.042 (−0.57)	−0.001 (−0.33)	0.001 (0.73)
SIZE	−0.003 (−2.25)**	0.021 (0.56)	0.031 (0.08)	0.001 (0.73)
Adj $R^2$	6.15%	0.39%	1.65%	0.39%

Max value was adjusted by average  $\pm 3$ \*standard deviation.

$PUE1_{jt}$ : unexpected PFR earnings ( $PFR\ NI_{jt} - \text{analysts' consensus forecast}_{jt}$ ) of firm  $j$  at time  $t$  deflated by beginning market value of equity.

$UE1_{jt}$ : unexpected actual earnings ( $\text{actual } NI_{jt} - \text{analysts' consensus forecast}_{jt}$ ) of firm  $j$  at time  $t$  deflated by beginning market value of equity.

\*10% Significance level.

\*\* 5% Significance level.

\*\*\* 1% Significance level.

that releases PFRs *after* the audit report date, the corresponding PUE coefficient of 0.070 is not statistically greater than zero at conventional levels.

The last two columns in Table 8 report the results of estimating the regressions after dividing the sample into two sub-groups, based on the timing of actual earnings disclosures before or after the audit report date. The estimated coefficient on unexpected actual earnings (UE1) for the sub-sample that releases PFRs *before* (*after*) the audit report date is −0.012 (−0.020) and not statistically greater than zero at the conventional level. This finding suggests that actual earnings announcements convey no information to the market, whether



the actual earnings are disclosed before or after the audit report date. Such a result is somewhat surprising, in that the regression coefficient on the  $DA_{PFR} * UE$  interaction term in Table 6 is significantly positive, suggesting that reports of unexpected actual net income convey information to the market only when the audit report date precedes the PFR release date. We attribute our Table 8 result to the possibility (subject to future verification) that the use of analysts' consensus forecasts could limit the sample to mainly large firms with analyst following, thereby reducing the statistical power of the test and inducing sample-selection bias.<sup>19</sup> Considering that firm size is positively related to the tendency to disclose alternative value-relevant information (Grant, 1980), the information content of earnings is anticipated by the market prior to the date of release.

## 6. Summary and conclusions

We analyze the timeliness of preliminary financial reports (PFRs) in our sample of Korean firms, examining the value of the informational content in these releases to the public domain. The results of this study indicate that more than half of our sample firms released PFRs after their audit report dates. This finding raises concerns that any financial information released after the audit report dates could potentially be based on the audited figures, which would mean that they could no longer be considered *preliminary* because external auditing processes are substantially completed by the audit report date. Consistent with this analysis, our regression results reveal that announcements of unexpected net income are only informative when they are disclosed prior to the audit report date. Further analysis suggests that owner-largest shareholders do not play an important role in determining the marginal effects of PFRs disclosed before audit report dates.

Collectively, our findings have implications for accounting policymakers, who should pay increased attention to PFR reporting issues. The current regulation for PFRs in Korea may not be effective in fulfilling its main objective of pre-empting insider trading by getting information that would otherwise be privately held into the public domain. To achieve this, it may be necessary to amend the current PFR regulation and require that firms release PFRs well before independent auditors complete their audits.

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<sup>19</sup> The use of analysts' consensus forecasts for the market expectation of earnings reduces our sample size from 2187 to 763 firm-year observations. We collect analyst forecasts from the FnGuide database. Among 905 firm-year observations with analyst forecasts, we delete 142 observations with PFR releases later than two days after the audit report dates.

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