




“Impact of human resource characteristics of internal accounting system on post-earnings announcement drift: Evidence from Korea”

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ARTICLE INFO	Haeyoung Ryu and Soo-Joon Chae (2023). Impact of human resource characteristics of internal accounting system on post-earnings announcement drift: Evidence from Korea. <i>Investment Management and Financial Innovations</i> , 20(4), 375-385. doi: 10.21511/imfi.20(4).2023.30
DOI	http://dx.doi.org/10.21511/imfi.20(4).2023.30
RELEASED ON	Thursday, 07 December 2023
RECEIVED ON	Monday, 23 October 2023
ACCEPTED ON	Friday, 01 December 2023
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Investment Management and Financial Innovations"
ISSN PRINT	1810-4967
ISSN ONLINE	1812-9358
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

23



NUMBER OF FIGURES

0



NUMBER OF TABLES

6

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 23rd of October 2023

Accepted on: 1st of December 2023

Published on: 7th of December, 2023

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IMPACT OF HUMAN RESOURCE CHARACTERISTICS OF INTERNAL ACCOUNTING SYSTEM ON POST-EARNINGS ANNOUNCEMENT DRIFT: EVIDENCE FROM KOREA

Abstract

When companies invest in their internal accounting personnel, investors place greater trust in disclosed earnings information and highly regard a company's information transparency. This results in prompt investment decisions regarding the company. Consequently, earnings information will be immediately reflected in stock prices, thereby reducing stock price drift. The purpose of this study is to examine the impact of investments in establishing and operating internal accounting systems on investors' responses to the mitigation of stock price drift. The study focused on firms listed on the Korea Exchange from 2011 to 2018 and constructed a regression model using the cumulative abnormal return following earnings disclosure dates for 30, 60, and 120 days as the dependent variable, with the characteristics of internal accounting personnel as independent variables. The analysis reveals that companies with many internal accounting personnel and position experts, such as accountants, within their internal accounting control systems, experience a significantly lower stock price drift. The coefficients of the interaction terms between internal accounting personnel characteristics and standardized unexpected earnings are positive and significant at the 1% level for all cumulative abnormal return values. The findings of the study indicate that as efficiency is secured, stemming from the scale of personnel managing internal accounting control systems and their expertise, market investors' understanding and trust of accounting information also increase. Investors, as information users, react promptly to the earnings information disclosed by the company, leading to a decrease in stock price drift.

Keywords

internal accounting system, internal accounting personnel, information reliability, investment decision, stock price drift, post earnings announcement drift

JEL Classification

J21, M40, M41, M42

INTRODUCTION

Companies' financial reporting systems are a major factor influencing capital market participants' decision-making; they play a role in ensuring that resources in the capital market are efficiently allocated (Jensen & Meckling, 1976). In response to a series of accounting scandals such as Enron and WorldCom, the U.S. introduced the Sarbanes-Oxley Act (SOX), emphasizing the need for enhanced mechanisms to monitor executive malfeasance. Among its provisions, Section 404 requires company management to establish and assess internal controls to improve the quality of financial statements, while mandating external auditors to review its adequacy. These measures highlight the prerequisites for an appropriate internal accounting control system to enhance the reliability of accounting information. Similarly, Korea



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Conflict of interest statement:

Author(s) reported no conflict of interest

introduced an internal accounting control system to boost the credibility of accounting information. Korean companies are required to include an operational report of their internal accounting control system alongside their annual report. This report includes information regarding the status of internal accounting management and operational personnel, and the presence of certified public accountants.¹

The caliber of personnel overseeing the operations of the internal accounting control system is closely related to accounting information quality produced by companies. Specifically, expanding personnel within the internal accounting control system and placing experts enhances the reliability of accounting information, alleviating information asymmetry both within and outside the company (Ashbaugh-Skaife et al., 2008; Choi et al., 2013a). Prior research findings highlight the importance of management's role in allocating personnel appropriately to internal accounting control systems.

Post-Earnings Announcement Drift (PEAD) refers to the phenomenon where stock prices move in the same direction as unexpected earnings following an earnings announcement (Ball & Brown, 1968; Jones & Litzenberger, 1970). Several studies have discovered a drift in stock prices following post-earnings announcements and have analyzed its causes. Their results show that capital market investors' lack of confidence in accounting information leads to a lag in stock price reactions (Abarbanell & Bernard, 1992; Bernard & Thomas, 1989). If corporate investment in internal accounting personnel leads investors to trust disclosed earnings information and consider a company's information as highly transparent, investment decisions about the company would be made promptly, instantly reflecting earnings information in stock prices and, thus reducing PEAD. This study anticipates that companies that employ more personnel and experts for internal accounting control systems will exhibit less PEAD than others.

1. LITERATURE REVIEW AND HYPOTHESIS

Since the temporary introduction of internal accounting control system regulations under the Corporate Restructuring Promotion Act of 2001, listed companies and association-registered corporations in Korea are required to include an "Internal Accounting Control System Operation Report" in their annual reports starting from 2002. This report includes a form detailing the "status of internal accounting management and operation personnel and certified public accountants." Regulatory agencies mandated this disclosure to enable stakeholders to assess companies' internal accounting control system efficiency.

Following the enactment of SOX, numerous studies have reported internal control weaknesses (Choi et al., 2013a). However, evaluating internal control levels solely based on reporting weaknesses can lead to binary thinking. Even among companies that have reported internal control weak-

nesses, the effectiveness of these controls can vary (Choi et al., 2009). In this regard, data on the status of internal accounting personnel disclosed exclusively in Korea holds significance, as it allows for a continuum-based analysis of the effectiveness of internal accounting control systems.

Choi et al. (2013b) analyzed the relationship between the size of internal accounting staff and the reporting of weaknesses in Korean companies. They found that companies with more personnel assigned to a system were less likely to report significant weaknesses. Moreover, Chae et al. (2012) argue that increasing the allocation of personnel and experts to a company's internal accounting control system enhances the reliability of its accounting information, thus reducing the problem of information asymmetry. The study found that the effective operation of internal accounting control systems reduces information risk from an investor's perspective, lowering a company's capital costs, and ultimately increasing its value.

¹ Information regarding the characteristics of the personnel in charge of internal accounting management systems is only disclosed in Korea. Korean regulators have made it mandatory for companies to disclose this information to enable external stakeholders to assess the degree of effectiveness of companies' internal accounting management systems. In essence, companies that have invested more in internal accounting personnel convey the expectation that their internal accounting management systems operate more effectively.

The phenomenon where abnormal returns move in the same direction as unexpected earnings following an earnings announcement is termed post-earnings announcement drift. This is a market anomaly where positive unexpected earnings correspond to positive excess returns, while negative unexpected earnings correspond to negative excess returns post-announcement.

In an efficient market, post-announcement stock prices should have no relevance to disclosed earnings information (Fama, 1970). However, numerous studies have reported a stock price drift phenomenon, where prices move in tandem with unexpected earnings. Foster et al. (1984) argue that this phenomenon occurs because of capital market inefficiencies, while Bernard and Thomas (1989) suggest that investors in the market do not fully understand disclosed company earnings information, leading to a drift. Similarly, Abarbanell and Bernard (1992) stated that this phenomenon occurs because investors do not fully grasp disclosed earnings information and fail to make immediate decisions.

The stock price drift phenomenon has also been observed in the Korean stock market. It is particularly pronounced in companies with low-quality accounting information and high information asymmetry. This occurs because, when the reliability of disclosed information is low, investors rely on private information and hesitate to make swift decisions. Consequently, earnings information takes longer to be reflected post-announcement (Lee & Lee, 2008). In contrast, Lee et al. (2011) argue that the disclosure of management's forecast information alleviates stock price drift. They found that companies disclosing sales forecast figures and providing more accurate forecasts exhibited reduced drift. Based on these results, the authors argue that disclosing anticipatory accounting information, like management forecasts, enhances investors' understanding of earnings information, thus mitigating stock price drift.

The "stock price drift" phenomenon refers to a situation where stock prices fail to immediately reflect accounting information on the earnings

announcement date. Instead, it drifts in the same direction as unexpected earnings in the period following an earnings announcement. Several previous studies have reported that this phenomenon occurs because investors in the capital market do not fully grasp the characteristics of announced earnings information, leading to an incomplete reflection in stock prices (Foster et al., 1984; Freemant & Tse, 1989). This implies that investors lack confidence in the disclosed information, delaying investment decisions and causing stock prices to drift.

This study focuses on the construction of internal accounting control systems that influence the transparency of corporate information and capital market trust in that information. It examines whether companies that proactively invest in internal accounting personnel mitigate stock price drift.

The purpose of an internal accounting control system is to prevent potential errors and fraud during the production of accounting information and provide investors with reliable information.² Securing adequate personnel is essential for internal accounting control systems to operate effectively (Ge & McVay, 2005). Given the research findings that experienced practitioners perform tasks efficiently (Monks & Minow, 1995) and the Committee on Sponsoring Organizations (COSO, 2006) recommendation to place experts in internal accounting control systems, companies must increase their internal accounting staff and invest significantly in the system's construction and operation. Numerous previous studies have reported that companies with superior internal accounting personnel tend to have higher-quality accounting information and face lower information risk, leading to lower capital costs (Choi et al., 2013b; Kim et al., 2011).

Companies striving to operate an internal accounting control system effectively through investment in personnel are likely to have high-quality financial reporting. This enables investors to better understand the earnings information disclosed by such companies and easily predict future cash

2 The purpose of Korea's internal accounting management system is to prepare and disclose reliable accounting information through regular inspection and adjustment of accounting information among various purposes of internal control (Act on External Audit of Stock Companies, Article 2-2.1).

flows based on that information. Additionally, investors tend to highly evaluate the reliability of accounting information produced by companies with efficient internal accounting control systems (Kim et al., 2011). Consequently, they promptly reflect this information in stock prices at the day of the earnings announcement. Based on this, the following research hypothesis is formulated:

Research Hypothesis: Companies that invest in internal accounting personnel experience a reduction in stock price drift following earnings announcements.

2. METHOD

This paper examines the investment level of internal accounting personnel from two perspectives: (1) number of internal accounting personnel and (2) placement of accountants within internal accounting control systems.

Data related to these aspects are manually collected from the “Status of Internal Accounting Management & Operation Organization Personnel and Certified Public Accountants” section in the “Internal Accounting Control System Operation Report” attached to the business report. Information regarding the characteristics of personnel overseeing internal accounting control systems is disclosed only in Korea.

To measure stock price drift, the study sets unexpected earnings (*SUE*) and cumulative abnormal returns (*CAR*) as dependent variables. First, the cumulative abnormal return is measured as the accumulated daily abnormal return (Abnormal Return, *AR*) over *n* days following the earnings announcement, as defined below.

$$CAR(n) = \sum AR, \quad (1)$$

where $AR = R - R_m$.

The study calculates the daily abnormal return (*AR*) based on the market-adjusted return model. Specifically, the daily market return is subtracted from a company’s daily stock return to calculate daily abnormal return. Furthermore, to analyze changes in stock price drift over different periods,

the study calculates the cumulative abnormal returns up to 30, 60, and 120 days after the earnings announcement date. Following previous studies, this study selected the shareholders’ general meeting date as the earnings announcement date (Choi & Park, 2017; Park & Lee, 2015).

Next, to compute *SUE*, this study divides the difference between current earnings per share (EPS_t) and previous earnings per share (EPS_{t-1}) by the adjusted stock price at the end of the previous period (P_{t-1}).

$$SUE = \frac{EPS_t - EPS_{t-1}}{P_{t-1}}. \quad (2)$$

The market’s expected earnings are measured using a random walk model (Park & Lee, 2015). If a company’s actual earnings are higher (lower) than the market’s expected earnings, they are interpreted as positive (negative). However, when using *SUE* as a continuous variable, there is a possibility of bias owing to outliers. Therefore, following prior studies, this study uses the value of *SUE* that has been deciled (or divided into ten grades) (Lee & Lee, 2008; Park & Lee, 2015).

This study aims to verify whether companies that proactively invest in internal accounting personnel exhibit reduced post-earnings announcement drift compared to companies that do not. As such, this study sets the cumulative abnormal returns for 30, 60, and 120 days following the earnings announcement date as the dependent variable, and the level of internal accounting personnel and control variables as independent variables to constitute the regression model in equation (1).

$$\begin{aligned} CAR(n)_{i,t} = & \alpha_0 + \alpha_1 DSUE_{i,t} + \alpha_2 ICP_{i,t} + \\ & + \alpha_3 DSUE_{i,t} \cdot ICP_{i,t} + \alpha_4 DSIZE_{i,t} + \\ & + \alpha_5 DLEV_{i,t} + \alpha_6 DMB_{i,t} + \alpha_7 DROA_{i,t} + \\ & + \sum IND + \sum YR + \varepsilon_{i,t}. \end{aligned} \quad (3)$$

ICP, the variable of interest, measures both the size (number) of internal accounting personnel and the placement of accountants within the system. If *DSUE*, the decile rank of *SUE*, shows a significantly positive coefficient, it indicates the presence of post-earnings announcement

drift. To verify whether companies proactively investing in personnel for internal accounting control systems reduced drift, the interaction term DSUE×ICP was added. If the hypothesis is supported, the coefficient α_3 will show a significant negative value. The control variables include firm size (SIZE), debt ratio (LEV), growth (MB), and profitability (ROA) decile ranks. Larger firms tend to have a better information environment, leading to smaller post-earnings announcement returns (Foster et al., 1984), while high-growth firms exhibit reduced drift as investors respond more to earnings information (Collins & Kothari, 1989). To account for firm characteristics, this study included debt ratio and profitability as control variables and added industry and year dummies.

This study focuses on firms listed on the Korea Exchange from 2011 to 2018. In the Asian region, abnormal phenomena in the capital market, such as stock price crashes and skyrockets and stock price drift, continued to appear in the stock market due to the coronavirus emergency from late 2019 to early 2023. Accordingly, this study sought to clearly verify the impact of internal accounting personnel on stock price drift by setting the pre-corona period as the research period. The study selected companies that meet the following conditions: (1) access to internal accounting control system personnel data from the “Internal Accounting Control System Operation Report” attached to their business report; (2) non-financial firms; (3) firms with a December fiscal year-end; and (4) firms without eroded capital. Financial firms were excluded because their financial statements differ in format and content from those in general sectors. To ensure sample homogeneity, only firms with a December fiscal year-end were considered. Stock and financial data were collected from the KIS-VALUE database. Firms with poor financial health owing to eroded capital were excluded. Earnings announcement dates, corresponding to shareholders’ meeting notice dates, were sourced from the Financial Supervisory Services Electronic Disclosure System (DART). To control for the influence of outliers on the analysis, the variables were adjusted (winsorized) at the 1% extreme level. Thus, 4,813 firm-year observations were selected as the final sample.

3. RESULTS

Table 1 presents the descriptive statistics of the sample. The mean CAR 10, 20, 30, and 40 days after the announcement date of the annual general meeting are 0.017, 0.022, 0.040, and 0.042, respectively, while the median values are 0.003, 0.003, 0.015, and 0.013, respectively. This suggests that a significant proportion of the sample firms experience positive returns. The average SUE is 0.083, indicating that, on average, firms report earnings higher than market expectations. The primary variable of interest, ICP1, which represents the ratio of internal accounting personnel to total employees, has an average value of 0.106. This indicates that the sample firms allocate approximately 10.6% of their total workforce to internal accounting roles. ICP2, which indicates whether a firm employs professionals like CPAs in their internal accounting systems, has a mean value of 0.275, suggesting that 27% of the sample firms have placed accountants in their internal accounting management systems.

The raw continuous forms of the control variables were also examined. The mean (median) of firm size (SIZE), at 26.866 (26.622), is similar to that of prior studies. The average (median) debt ratio (LEV) is 0.411 (0.413), indicating that firms have higher equity than debt. The mean of the growth variable (MB) is 1.323, suggesting that market value is higher than book value. Finally, the mean and median of the ROA variable is 0.017 and 0.025, respectively.

Table 1. Descriptive statistics (N = 4,813)

Variable	Mean	Std. Dev.	Min	Median	Max
IC1	0.106	0.253	0.000	0.033	1.000
IC2	0.275	0.447	0.000	0.000	1.000
SUE	0.083	7.691	-204.610	0.000	318.360
CAR10	0.017	0.320	-0.656	0.003	19.046
CAR20	0.022	0.337	-0.634	0.003	19.019
CAR30	0.040	0.354	-1.265	0.015	18.982
CAR40	0.042	0.360	-1.336	0.013	18.451
SIZE	26.866	1.497	23.994	26.622	31.159
LEV	0.411	0.210	0.019	0.413	0.928
MB	1.323	1.256	0.209	0.932	7.797
ROA	0.017	0.083	-0.405	0.025	0.233

Note: (1) All continuous variables are winsorized at a 1% level. (2) Variable definitions are presented in Appendix A.

Table 2. Pearson's correlation (N = 4,813)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. IC1	1	0.037**	-0.002	-0.002	-0.001	-0.001	0.003	-0.042***	-0.145***	-0.003	-0.007
2. IC2		1	0.008	-0.017	-0.017	-0.027*	-0.027*	0.310***	-0.012	0.119***	0.049***
3. SUE			1	0.421***	0.404***	0.381***	0.370***	0.001	0.010	0.023	0.118***
4. CAR10				1	0.949***	0.899***	0.864***	-0.005	0.039***	0.012	0.043***
5. CAR20					1	0.957***	0.921***	-0.016	0.035**	0.023	0.046***
6. CAR30						1	0.969***	-0.032**	0.043***	0.037***	0.047***
7. CAR40							1	-0.037***	0.027*	0.070***	0.063***
8. SIZE								1	0.171***	-0.032**	0.178***
9. LEV									1	0.040***	-0.305***
10. MB										1	0.026*
11. ROA											1

Note: (1) Numbers in parentheses indicate p-values. (2) Variable definitions are presented in Appendix A.

Table 2 presents the correlations among the main variables. Tables 2 and 3 display the continuous form of variables before ranking. SUE, which represents unexpected earnings, shows a significant positive correlation with CAR(10), CAR(20), CAR(30), and CAR(40). This indicates that stock prices continue to react in the same direction as unexpected earnings after the earnings announcement, implying the presence of a post-earnings announcement drift in the Korean market. The primary variables of interest, ICP – the scale of internal accounting personnel – and ICP2 – the deployment of professionals in internal accounting systems – show negative correlations with the CAR variables; however, only ICP2 is significant for CAR(30) and CAR(40). Moreover, larger firms with higher profitability (ROA) tend to employ accountants in their internal accounting systems. This aligns with prior research on internal accounting systems (Ge & McVay, 2005).

Tables 3 and 4 display the regression results for the hypothesis testing. Data on the characteristics of internal accounting personnel, such as size and placement of accountants, are disclosed only by Korean listed firms. Therefore, this study was conducted targeting only Korean firms. If firms that invest heavily in internal accounting systems personnel experience a reduction in post-earnings announcement drift, the interaction terms DSUE×DICP1 and DSUE×ICP2 should show a significant negative coefficient, α_3 . Cumulative abnormal returns following the earnings announcements for 10, 20, 30, and 40 days were employed.

The results in Tables 3 and 4 show that the regression coefficient of DSUE, the ranked value of unexpected earnings, is positive and significant at the 1% level for all CAR values. This result indicates that even after the earnings announcement, cumulative abnormal returns

Table 3. Investment in internal accounting personnel and stock price drift (focusing on the size of internal accounting personnel)

Variable	Dependent Variable: CAR							
	(1) CAR10		(2) CAR20		(3) CAR30		(4) CAR40	
Intercept	0.073	(1.07)	0.170	(2.26)**	0.381	(4.72)***	0.400	(4.76)***
DSUE	0.055	(55.91)***	0.054	(50.65)***	0.054	(46.79)***	0.052	(43.39)***
DICP1	0.007	(1.03)	0.007	(0.94)	0.008	(0.95)	0.009	(1.03)
DSUE DICP1	-0.647	(-43.36)***	-0.636	(-38.94)***	-0.629	(-35.96)***	-0.602	(-33.12)***
DSIZE	-0.003	(-1.41)	-0.006	(-2.36)**	-0.012	(-4.13)***	-0.013	(-4.37)***
DLEV	0.047	(2.45)**	0.053	(2.53)**	0.079	(3.53)***	0.062	(2.67)***
DMB	0.002	(0.87)	0.005	(1.8)*	0.011	(3.25)***	0.020	(5.65)***
DROA	0.068	(1.44)	0.109	(2.11)**	0.176	(3.16)***	0.242	(4.17)***
F-value	130.4***		108.37***		95.43***		84.00***	
Adjusted R2	0.411		0.367		0.337		0.309	
Sample	4,812		4,812		4,812		4,812	

Notes: (1) Numbers in parentheses indicate t-statistics. (2) ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively. (3) All continuous variables are winsorized at the 1% level. (4) Variable definitions are presented in Appendix A.

move in the same direction as unexpected earnings, implying the presence of a post-earnings announcement drift in the Korean market, confirming prior research findings (Lee & Lee, 2008; Lee et al., 2011).

In Table 3, the coefficient of the interaction term between DSUE and DICP1 (DSUE×DICP1) is negative and significant at the 1% level for all CAR values. Specifically, it was found that as the size of internal accounting personnel increases, market abnormalities such as stock price drift decrease. This can be interpreted as the larger the size of the internal accounting staff, the more efficiently internal accounting work is carried out, increasing the reliability of information and lowering information asymmetry between the inside and outside of the firm. In Table 4, the coefficient for the interaction term between DSUE and IC2 (DSUE×IC2) also displays significant negative values for all CARs. In other words, it was confirmed that the more firms deploy professional personnel such as accountants within their internal accounting system, the more the stock price drift phenomenon decreases. The result means that as the expertise of internal accounting personnel is secured, the reliability of information improves and investment decisions by market investors can be made quickly after earnings disclosure.

For further analysis, this study verified whether a negative (-) relationship exists between the competence of internal accounting person-

nel and the stock drift phenomenon, considering varying levels of corporate information asymmetry. The level of corporate information asymmetry was measured using the standard deviation of stock returns. A greater disparity in information between company insiders and outsiders tends to lead to increased investor discrepancies, resulting in higher standard deviation of stock returns (Hutton et al., 2009). The standard deviation of weekly stock returns was used as a proxy for the level of information asymmetry. Companies with a standard deviation greater than the median were categorized as the high information asymmetry sample, whereas those below were defined as the low information asymmetry sample. Previous studies suggest that a robust internal accounting system effectively controls corporate earnings management in situations with high information asymmetry (Ge & McVay, 2005). Therefore, the study expects a significant negative value for the regression coefficient α_3 of the interaction term between unexpected earnings rankings (DSUE) and the size ranking of internal accounting personnel (DICP1) in the high information asymmetry sample. The results revealed that the coefficients of the interaction term DSUE×DICP1 were -0.748, -0.736, -0.730, and -0.702, respectively, each significant at the 1% level for cumulative abnormal return variables (CAR(10), CAR(20), CAR(30), and CAR(40)). In contrast, in the low information asymmetry sample, the coefficients were not significant, and over time, they even indicated an inducing effect on stock drift.

Table 4. Investment in internal accounting personnel and stock price drift (focusing on whether or not experts are included in the system)

Variable	Dependent Variable: CAR							
	(1) CAR10		(2) CAR20		(3) CAR30		(4) CAR40	
Intercept	0.023	(0.31)	0.123	(1.49)	0.327	(3.72)***	0.339	(3.74)***
DSUE	0.030	(45.8)***	0.031	(43.1)***	0.030	(39.96)***	0.029	(37.89)***
IC2	-0.009	(-1.02)	-0.008	(-0.86)	-0.012	(-1.16)	-0.016	(-1.5)
DSUE IC2	-0.030	(-29.91)***	-0.030	(-28.15)***	-0.029	(-25.95)***	-0.028	(-24.53)***
DSIZE	-0.001	(-0.56)	-0.004	(-1.51)	-0.010	(-3.07)***	-0.011	(-3.25)***
DLEV	0.067	(3.29)***	0.073	(3.34)***	0.098	(4.2)***	0.079	(3.29)***
DMB	-0.002	(-0.91)	0.000	(0.1)	0.005	(1.63)	0.015	(4.09)***
DROA	0.028	(0.55)	0.070	(1.27)	0.136	(2.32)**	0.202	(3.34)***
F-value	84.00***		74.86***		67.03***		61.58***	
Adjusted R ²	0.309		0.258		0.263		0.246	
Sample	4,812		4,812		4,812		4,812	

Notes: (1) Numbers in parentheses indicate t-statistics. (2) ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively. (3) All continuous variables are winsorized at the 1% level. (4) Variable definitions are presented in Appendix A.

Table 5. Investment in internal accounting personnel and stock price drift (comparison of companies with high information asymmetry and companies with low information asymmetry)

Panel A: High IA Sample								
Variable	Dependent Variable: CAR							
	(1) CAR10	(2) CAR20	(3) CAR30	(4) CAR40	(3) CAR30	(4) CAR40	(3) CAR30	(4) CAR40
Intercept	0.126 (0.86)	0.256 (1.63)	0.466 (2.78)***	0.484 (2.78)***	0.061 (37.23)***	0.059 (34.66)***	0.002 (0.15)	0.005 (0.32)
DSUE	0.062 (43.02)***	0.061 (40.13)***	0.061 (37.23)***	0.059 (34.66)***	0.002 (0.15)	0.005 (0.32)	0.002 (0.15)	0.005 (0.32)
DICP1	0.002 (0.19)	0.003 (0.2)	0.002 (0.15)	0.005 (0.32)	0.002 (0.15)	0.005 (0.32)	0.002 (0.15)	0.005 (0.32)
DSUE DICP1	-0.748 (-34.37)***	-0.736 (-31.83)***	-0.730 (-29.56)***	-0.702 (-27.38)***	-0.730 (-29.56)***	-0.702 (-27.38)***	-0.730 (-29.56)***	-0.702 (-27.38)***
DSIZE	-0.004 (-0.87)	-0.008 (-1.37)	-0.013 (-2.06)**	-0.013 (-2.12)**	-0.013 (-2.06)**	-0.013 (-2.12)**	-0.013 (-2.06)**	-0.013 (-2.12)**
DLEV	0.037 (0.97)	0.046 (1.13)	0.067 (1.54)	0.036 (0.81)	0.067 (1.54)	0.036 (0.81)	0.067 (1.54)	0.036 (0.81)
DMB	0.003 (0.64)	0.003 (0.72)	0.010 (1.82)*	0.021 (3.46)***	0.010 (1.82)*	0.021 (3.46)***	0.010 (1.82)*	0.021 (3.46)***
DROA	0.151 (1.89)*	0.214 (2.51)**	0.292 (3.2)***	0.365 (3.85)***	0.292 (3.2)***	0.365 (3.85)***	0.292 (3.2)***	0.365 (3.85)***
F value	77.32***	67.74***	59.51***	52.77***	59.51***	52.77***	59.51***	52.77***
Adjusted R ²	0.465	0.432	0.400	0.371	0.400	0.371	0.400	0.371
Sample	2,279	2,279	2,279	2,279	2,279	2,279	2,279	2,279

Panel B: Low IA Sample								
Variable	Dependent Variable: CAR							
	(5) CAR10	(6) CAR20	(7) CAR30	(8) CAR40	(7) CAR30	(8) CAR40	(7) CAR30	(8) CAR40
Intercept	0.042 (2.12)**	0.114 (2.73)***	0.279 (5.83)***	0.245 (4.85)***	0.000 (0.44)	0.000 (-0.35)	0.000 (-0.16)	-0.001 (-0.26)
DSUE	0.000 (1.09)	0.001 (0.84)	0.000 (0.44)	0.000 (-0.35)	0.000 (0.44)	0.000 (-0.35)	0.000 (0.44)	0.000 (-0.35)
DICP1	0.000 (0.38)	-0.001 (-0.37)	0.000 (-0.16)	-0.001 (-0.26)	0.000 (-0.16)	-0.001 (-0.26)	0.000 (-0.16)	-0.001 (-0.26)
DSUE ICP1	0.014 (1.04)	0.039 (1.36)	0.058 (1.76)*	0.086 (2.47)**	0.058 (1.76)*	0.086 (2.47)**	0.058 (1.76)*	0.086 (2.47)**
DSIZE	-0.002 (-2.84)***	-0.004 (-3.13)***	-0.009 (-5.36)***	-0.008 (-4.68)***	-0.009 (-5.36)***	-0.008 (-4.68)***	-0.009 (-5.36)***	-0.008 (-4.68)***
DLEV	0.000 (0.12)	-0.011 (-0.87)	0.006 (0.48)	-0.008 (-0.56)	0.006 (0.48)	-0.008 (-0.56)	0.006 (0.48)	-0.008 (-0.56)
DMB	0.000 (0.65)	0.008 (3.64)***	0.009 (3.59)***	0.013 (4.86)***	0.009 (3.59)***	0.013 (4.86)***	0.009 (3.59)***	0.013 (4.86)***
DROA	0.062 (3.32)***	0.026 (0.65)	0.086 (1.89)*	0.166 (3.47)***	0.086 (1.89)*	0.166 (3.47)***	0.086 (1.89)*	0.166 (3.47)***
F-value	6.01***	5.51***	8.36***	6.83***	8.36***	6.83***	8.36***	6.83***
Adjusted R ²	0.040	0.040	0.070	0.056	0.070	0.056	0.070	0.056
Sample	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534

Notes: (1) Numbers in parentheses indicate t-statistics. (2) ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively. (3) All continuous variables are winsorized at the 1% level. (4) Variable definitions are presented in Appendix A.

4. DISCUSSION

The main results from Tables 3 and 4 support the study's hypothesis that firms with a larger number of internal accounting personnel and those employing professionals, such as accountants, within their internal accounting systems experience significantly lower post-earnings announcement drift than other firms. If the quality and trustworthiness of a firm's disclosed accounting information are low, investors may not accurately interpret a firm's earnings information or reflect it promptly, leading to stock price drift following earnings announcements. The finding that firms investing in internal accounting personnel experience reduced post-earnings announcement drift suggests increased efficiency and expertise gained through the expansion of internal accounting teams, leading to improved investor understanding and trust. Consequently, investors re-

act more promptly to the earnings information disclosed by these firms, resulting in reduced post-earnings announcement drift.

Previous studies have judged the effectiveness of the internal accounting system based on whether there are weaknesses in internal control. Unlike the fact that the effectiveness of the system can only be measured dichotomously when using whether or not significant weaknesses in the internal accounting system have been reported, when using the data on the characteristics of personnel in charge of the internal accounting system, the effectiveness of the system can be analyzed along a continuum. Therefore, this study has the distinction of intuitively verifying the effectiveness of the internal accounting system by using publicly disclosed data on internal accounting personnel provided only by Korean firms.

This study examined the impact of the characteristics of internal accounting personnel on the decision-making speed of market investors. The results of this study suggest that excellent internal accounting personnel ultimately promote quick investment decisions by market investors. As a follow-up study,

this study proposes to examine how the characteristics of internal accounting personnel affect the short- and long-term investment efficiency of market investors. If market investors' investments are quickly implemented based on highly reliable information, investment efficiency is expected to increase.

CONCLUSION

The purpose of this study is to examine the impact of investments in establishing and operating internal accounting systems on investors' responses, considering that their primary objective is to enhance accounting transparency. Specifically, the paper explored how stock drift phenomena manifest based on the characteristics of personnel who operate internal accounting systems. If financial reporting quality improves through efficient operations based on such investments, it should help alleviate abnormal phenomena owing to uncertainties in corporate information perceived by investors in the capital market.

The findings revealed that companies that maintain larger internal accounting staff and place experts, such as accountants, within their internal accounting systems experience significantly lower stock drift phenomena than those that do not. The study's results imply that as efficiency – derived from the size of internal accounting personnel and their expertise – increases, investors' understanding and trust in accounting information also increase. Consequently, investors react more promptly to earnings information disclosed by these companies, leading to reduced stock drift.

The contributions and expected impacts of this study are three-fold. First, by examining how securing sufficient personnel and placing experts within the internal accounting system can reduce stock drift, this study suggests that managers must invest in internal accounting personnel. Second, while prior studies have highlighted the effect of accounting information quality on stock drift, this study focuses on internal accounting personnel producing such information. Finally, the results serve as empirical evidence of the efficacy of mandatory disclosures regarding internal accounting personnel in Korea. Such data is exclusively provided in Korea; financial authorities have mandated these disclosures to enable external stakeholders to assess the effectiveness of internal accounting systems. The findings suggest that capital market investors can use internal accounting personnel data as a reference when evaluating a company's value.

AUTHOR CONTRIBUTIONS

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ACKNOWLEDGMENTS

This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2021S1A5A8070518).

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APPENDIX A

Table A1. Variable definitions

Variable	Definition
Dependent Variables	
CAR10	Cumulative abnormal return observed from the day following the earnings disclosure through the next 10 days
CAR20	Cumulative abnormal return observed from the day following the earnings disclosure through the next 20 days
CAR30	Cumulative abnormal return observed from the day following the earnings disclosure through the next 30 days
CAR40	Cumulative abnormal return observed from the day following the earnings disclosure through the next 40 days
Independent Variables	
ICP1	Size of internal accounting personnel, number of internal accounting management personnel/ number of executives and employees
DICP1	Ranking value of internal accounting personnel size between 0 and 1
ICP2	Whether accountants (professional personnel) are deployed in the internal accounting system
SUE	Standardized unexpected earnings
DSUE	A value between 0 and 1 as a sequence value of standardized unexpected earnings
SIZE	A natural logarithm of firm market value
DSIZE	A value between 0 and 1 in the hierarchy of firm size
LEV	Debt ratio, total debt/ total assets
DLEV	A value between 0 and 1 in the order of the debt ratio
MB	Book Value to Market Value Ratio
DMB	A value between 0 and 1 as a sequence value of growth potential
ROA	net income/total assets
DROA	A value between 0 and 1 as a pecking order of profitability