

Are foreign institutional investors long-term investors? Korean stock market evidence

Kyung Soon Kim ^{*}
Jin Hwon Lee ^{**}
Yun W. Park ^{***}

* College of Business Administration, Chosun University, Gwang-ju, Korea; kskim66@chosun.ac.kr

** Department of Business Management, Osan University, Gyeonggi-do, Korea; jinhwon@osan.ac.kr

*** Corresponding author: College of Business and Economics, Chung-Ang University, Seoul, Korea; yunwpark@cau.ac.kr

Abstract

There has been limited empirical research on the monitoring role and investment horizon that foreign institutional investors exhibit in foreign markets. Using Korean stock market data, we investigate whether foreign institutional investors are long-term investors. We measure the influence level of foreign institutions using the trading share of foreign institutions in the total trading volume of a firm and ownership of foreign institutions. We find a positive relationship between the influence level of foreign institutional investors and opportunistic earnings management. This result suggests that institutional investors have a short investment horizon and pursue short-term profits. We also find that the negative relationship between foreign institutional investors and accounting quality intensifies during periods of low market growth and in firms with lower managerial ownership or firms unaffiliated with large conglomerates. These findings suggest that the monitoring incentives and investment horizon of foreign institutional investors depend on the economic environment, the economic reward from monitoring activity (market growth), and the costs of monitoring activity (corporate governance characteristics) in emerging markets.

Keywords: foreign institutional investors, investment horizon, opportunistic earnings management, market growth, corporate governance characteristics

JEL Classification: G14, G24, M41

Are foreign institutional investors long-term investors? Korean stock market evidence

1. Introduction

Studies that investigate advanced capital markets find that institutional investors that hold large blocks of firms' common shares play a monitoring role by restraining opportunistic earnings management (Bushee 1998; Chung, Firth, and Kim 2002; Hartzel and Starks 2003). However, some studies point out that institutional investors with short-term orientation may not act as monitors; instead, they may pressure firms' management to pursue short-term performance (Bushee 1998; Koh, 2003; Burns, Kedia, and Lipson 2010; Velury and Jenkins 2006). Thus, these studies suggest that the institutional investors' investment horizons can influence institutional investors' attitude toward earnings management.

While there is a growing body of research that examines the incentives that domestic institutional investors face, research on the incentives that foreign institutional investors face in foreign markets has been very limited. Using Korean data, our study investigates whether foreign institutional investors (international institutional investors) perform a monitoring role with long-term investment horizons by moderating opportunistic earnings management or pursue short-term profits by either condoning or encouraging opportunistic earnings reporting. It is likely that emerging markets differ from advanced markets regarding ownership structure, degree of information asymmetry, investor rationality, market risk, institutional investor characteristics, laws and regulations, etc. The differences in market environment may bring about different investment objectives, investment time horizons, and portfolio composition, which in turn may cause differences in monitoring incentives across institutional investor types. Therefore, taking advantage of Korean market data, which distinguishes between trading activities by foreign and domestic institutional investors, we examine whether foreign institutional investors pursue long or short investment horizons.

This study has two objectives. First, by exploring the relationship between influence level

and opportunistic earnings management, we investigate whether foreign institutional investors act as monitors reducing information asymmetry about firms or pursue short-term profits taking advantage of information asymmetry about firms. Unlike domestic institutional investors, who tend to make investment decisions at the firm level, foreign institutional investors are able to make investment decisions at the market level. Therefore, if the Korean capital market offers greater economic reward for monitoring activities and presents lower monitoring costs than other markets, foreign institutional investors have an incentive to hold their equity positions longer and monitor firms more actively in the Korean capital market. By contrast, if the Korean capital market offers less economic reward for monitoring activities and presents higher monitoring costs than other markets, foreign institutional investors have an incentive to pursue short-term profits in the Korean stock market. From this perspective, we interpret the negative relationship between influence level of foreign institutional investors and opportunistic earnings management as evidence that foreign institutional investors play a monitoring role in mitigating managerial myopia. In contrast, if the relationship between influence level of foreign institutional investors and opportunistic earnings management is positive, we infer that foreign institutional investors pursue short-term profits by overlooking or encouraging short-term-oriented managerial behavior. That is, we evaluate indirectly the intentions that foreign institutional investors have for holding equity positions in portfolio firms.

Second, we investigate factors that affect the investment horizon of foreign institutional investors. We expect that the investment horizon of foreign institutional investors depends on (i) the economic environment of host (or investment target) countries, (ii) the economic reward from monitoring activity, and (iii) the costs of monitoring activity. Specifically, we expect that active monitoring by foreign institutional investors will be observed in countries that offer a structural environment amenable to long term investment, and in conditions conducive to reaping large reward from monitoring activities at a limited cost. By contrast, we expect that institutional investors' incentives for pursuing short-term profits will be observed in countries that offer a structural environment inadequate for long-term investment, and in conditions conducive to realizing poor reward from monitoring activities at excessive costs. We use market growth and corporate governance characteristics as proxies for monitoring benefits and costs and analyze whether the relationship between influence level of foreign institutional

investors and earnings management impacts the proposed factors.

We investigate the monitoring effect of foreign institutional investors in the Korean stock market for the following reasons. First, the Korean stock market has features that are not found in advanced stock markets. (i) Korea is considered to be a civil-law-based country, which is known to provide limited legal protection for investors compared to common-law-based countries. (ii) There are large conglomerates with many affiliate firms in which dominant shareholders influence, govern, and manage the group firms by using affiliated firms. Their presence in the economy may contribute to increasing monitoring costs. (iii) Individual investors occupy a large share of trading activities because they have ready access to stock markets through advanced information technology infrastructure. The active stock market participation of individual investors facilitates sophisticated institutional investors with informational advantages to materialize short-term profits. (iv) Additionally, the Korean economy has a high export dependency, making it very sensitive to changes in the international economic environment and vulnerable to high systematic risk. Therefore, foreign institutional investors may be at an informational advantage relative to domestic investors because they are likely to have better access to global information. The attributes discussed above may influence foreign institutional investors' investment horizons and monitoring incentives, causing them to act differently in the Korean capital market than in advanced capital markets.

Second, institutional investors occupy a significant position in the Korean market compared to other emerging markets. Since the early 2000s, they have been consolidating their place in the market, undergoing cycles of expansion and stagnation. Therefore, we expect that the Korean capital market will serve as a useful venue to investigate the relationship between the market growth prospect and institutional monitoring. Furthermore, one can readily distinguish between trading activities by domestic and foreign institutional investors in the Korean capital market. Since the opening of the Korean capital market in the early 2000s, trading volumes for individual investors, domestic institutional investors and foreign investors are disclosed separately. The disclosure of trading volumes for various investor types in the Korean capital market makes it possible to measure the influence level of investor groups using their trading shares. Furthermore, it offers a distinct advantage for studying the monitoring effect of domestic and foreign institutional investors compared with countries where the

disclosure of institutional investors' trading information is not disaggregated.

We investigate whether foreign institutional investors are long-term investors or short-term investors using the relationship between their level of influence on firms and firms' opportunistic earnings management. We measure the foreign institutional investors' level of influence in a given firm-year by dividing their total annual trading volume with the total annual trading volumes of all investors. We assume that the trading share of foreign institutional investors is an indicator of their influence on firms. As a supplementary measure of influence level, we also use the combined ownership of institutional blockholders, defined as those shareholders with more than 5% of the firm's common stock.

On the other hand, to measure managerial short-term orientation, we use four measures of earnings management widely used in the accounting literature, namely, (i) performance-adjusted discretionary accruals (Kothari et al. 2005), (ii) discretionary accruals adjusted with asymmetric conservatism (Ball and Shivakumar 2006), (iii) level of earnings smoothing (Leuz et al. 2003), and (iv) quality of discretionary accruals (Francis et al. 2005). We analyze the effects of two measures of influence level of foreign institutional investors on four measures of earnings management.

Using the Korean data, we document the following findings. We find that there is a positive and statistically significant relationship between the influence level of foreign institutional investors and earnings management. In contrast, the relationship between the influence level of domestic institutional investors and earnings management is not statistically significant. Moreover, the positive and statistically significant relationship between the influence level of foreign institutional investors and earnings management is more acute during periods of low market growth. Furthermore, the positive and statistically significant relationship between the influence level of foreign institutional investors and earnings management observed during periods of low market growth is found primarily in firms with low managerial ownership and firms not affiliated with large conglomerates. These results suggest that foreign institutional investors are more likely to pressure firms that present them with lower influence costs. It is then possible that foreign institutional investors gain information advantage about firms they invest in through trading and share ownership.

We document that foreign institutional investors have incentives for short-term investment

and their short-term investment orientation is more pronounced during periods of limited market growth and in firms with corporate governance characteristics that are more conducive to their influencing activities. Following the introduction in Section 1, we present a literature review and develop hypotheses in Section 2. We discuss measurement methods of key variables in Section 3 and show empirical results in Section 4. We present concluding remarks in Section 5.

2. Literature review and hypotheses development

2.1 Investment horizon and monitoring effect of institutional investors

Institutional investors with large block ownership may influence firms either to use long-term oriented decision-making to create value or to use short-term oriented decision-making to facilitate institutional investors' short-term trading gains (Bushee 1998). Given the conflicting interest of institutional investors, researchers have empirically examined whether institutional investors inhibit or encourage managerial opportunism. Overall findings indicate that institutional investors with long investment horizons play a monitoring role in mitigating opportunistic earnings management. On the other hand, some studies report that institutional investors with short investment horizons may pressure firms to pursue short-term performance goals and may engage in informed trading to profit from information asymmetry. The majority of studies indicate that institutional block investors tend to have long-term investment horizons and are willing to exert influence to curb short-term orientation of management, including earnings management, reduction of R&D expenditures, etc. (Bushee 1998; Chung, Firth, and Kim 2002). Bushee (1998) reports that institutional investors with long investment horizons show a greater monitoring effect than institutional investors with short investment horizon. In addition, Chung, Firth, and Kim (2002) find that the larger the ownership of institutional investors is, the more institutional investors are able to suppress earnings management that manipulates earnings up or down to meet earnings targets set by managers. Moreover, Hartzel and Starks (2003) report that institutional investors reduce agency problems between shareholders and managers by monitoring executive compensation decisions.

In contrast, some studies report that institutional investors with short investment horizons may overlook or encourage opportunistic earnings management and profit from informed trading using the temporary information asymmetry created through opportunistic earnings management. Koh (2003) finds that the relationship between ownership of institutional investors and discretionary accruals is non-linear. Institutional investors with transient or short-term orientation induce managers to engage in opportunistic earnings management, while institutional investors with long-term orientation limit managers' incentives to engage in opportunistic earnings management. Burns, Kedia, and Lipson (2010) find a positive relationship between ownership of institutional investors and financial misreporting. They report that this effect is more pronounced in firms characterized by high monitoring costs reducing institutional investors' monitoring incentive and is found in cases where institutional investors are likely to liquidate their equity position in the firms right after the financial restatement. Velury and Jenkins (2006) show that concentrated institutional ownership can have a negative effect on earnings quality. Maffett (2012) reports that informed trading by international institutional investors is more severe if transparency of financial information is lower at both the firm and country level. He also reports that the negative relationship between informed trading by international institutional investors and transparency of financial information is more evident for transient institutional investors than dedicated institutional investors. Overall, evidence from the literature indicates that the monitoring effect of institutional investors depends on the context and the investment objective of institutional investors.

2.2 Influence of investment horizon, market growth and corporate governance characteristics on monitoring by institutional investors

Our study investigates the investment motivation of foreign institutional investors and the factors that affect their motivation. Figure 1 shows the expected relationship between the influence level of foreign institutional investors and earnings management conditional on three factors of monitoring by institutional investors, namely, investment horizon, monitoring benefits and monitoring costs. Related to our study, Maffett (2012) discusses the influence of the investment environment at the country level. Maffett argues that international institutional

investors have stronger incentives for long-term investment in countries with high transparency and, thus, are less likely to engage in informed trading and more likely to pursue long-term investment. On the other hand, they are more likely to engage in informed trading in countries with low transparency. Maffett (2012)'s findings suggest that foreign institutional investors have a strong incentive to monitor firms in countries with an information environment conducive to long-term investment, while they are likely to engage in informed trading in countries with an information environment not conducive to long-term investment.

As shown in Panels A and B we analyze the effect of the influence level of foreign institutional investors on earnings management conditional on three factors, namely, investment horizon, (market growth prospect) and monitoring costs (corporate governance characteristics) using two four by four matrices. First, we distinguish long-term and short-term investment horizons. In Panel A, we assume that foreign institutional investors have long-term investment horizons in Korea. It shows the expected influence of three proposed factors on the monitoring effect, as shown in the relationship between the influence level of foreign institutional investors and earnings management. For Panel B, we assume that foreign institutional investors have short-term investment horizons in Korea. It shows the expected influence of three proposed factors on informed trading, as shown in the relationship between the influence level of foreign institutional investors and earnings management. We interpret the negative relationship between the influence level of foreign institutional investors and earnings management as evidence of a monitoring effect and the positive relationship as evidence of short investment horizon.

Next, we consider the market growth prospect. Because the economic gain of foreign institutional investors from long-term investment is likely to increase with expected market growth, the monitoring incentive is stronger and the informed trading incentive weaker during periods of high market growth than during periods of low market growth. In this way, projected market growth can affect the monitoring incentive and the investment horizon. Therefore, we divide the sample period into high and low market growth periods and study the effect of foreign institutional investors on earnings management between two periods. We expect that monitoring incentive is stronger during the high market growth period than the low market growth period.

The third factor we consider is the costs of monitoring (or costs of informed trading). Incentives for monitoring or informed trading are likely to weaken with costs that institutional investors incur in influencing firms. Costs of influencing managers of firms with high managerial ownership are likely to be higher than firms with low managerial ownership. We also expect that foreign institutional investors' costs in influencing firms affiliated with large conglomerates controlled by dominant shareholders are likely to be higher than non-affiliated firms. Therefore, we use managerial ownership and firms' affiliation status with large conglomerates as measures of monitoring or informed trading costs.

Case 3 in Panel A corresponds to the long-term investment horizons of foreign institutional investors, large economic benefits from monitoring, and low monitoring costs. We expect a strong monitoring incentive from these characteristics leading to a strong negative relationship between the influence level of foreign institutional investors and earnings management. In contrast, Case 8 in Panel B corresponds to the short-term investment horizons of foreign institutional investors, high informed trading benefits (small economic benefits from monitoring), and low informed trading costs (high monitoring costs). We expect a strong informed trading incentive from these characteristics, leading to a strong positive relationship between influence level of foreign institutional investors and earnings management.

[Insert Figure 1 about here]

2.3 Research hypotheses

Next, we develop hypotheses based broadly on the discussions summarized in Figure 1. First, we analyze the relationship between the influence level of institutional investors and earnings management. We use trading volume data to measure the influence level of institutional investors. We also use the combined ownership of institutional blockholders as a supplementary measure of the influence level of institutional investors.

On the other hand, we use various measures of earnings management as a proxy for managerial opportunism. The measurements we adopt for this study are (i) performance-adjusted discretionary accruals (Kothari et al. 2005), (ii) discretionary accruals adjusted with

asymmetric conservatism (Ball and Shivakumar 2006), (iii) level of earnings smoothing (Leuz et al. 2003), and (iv) quality of discretionary accruals (Francis et al. 2005). If the relationship between the influence level of institutional investors and earnings management is negative (-), then we interpret the finding as evidence of a monitoring effect; if it is positive (+), then we interpret it as evidence of short investment horizon. To test whether institutional investors are long-term investors or short-term investors in the Korean capital market, we propose the following hypothesis.

Hypothesis 1. There is a non-negative relationship between the influence level of institutional investors and earnings management in the Korean capital market, ceteris paribus.

Second, we investigate whether the effect of institutional investors on earnings management depends on whether institutional investors are foreign or domestic. To analyze the differential effect of foreign investors we draw on the information asymmetry hypothesis and the knowledge spillover hypothesis. The information asymmetry hypothesis holds that foreign investors realize lower investment performance than domestic investors because foreign investors are at an informational disadvantage compared to domestic investors (Brennan and Cao, 1997; Dvorak, 2005). In contrast, according to the knowledge spillover hypothesis, monitoring by foreign institutions leads to better investment performance because they have higher expertise and talent (Grinblatt and Keloharju, 2000).

Maffett (2012) and Fang et al. (2015), among others, have investigated factors that can influence the monitoring effect of foreign institutional investors. Maffett (2012) shows that informed trading by international institutional investors increases with the lack of transparency in financial reporting. Furthermore, he presents evidence that the negative relationship between the transparency in financial reporting and the informed trading of international institutional investors is more pronounced in the transient group than in the dedicated group. In addition, Fang et al. (2015) find that the more US-based institutional investors tend to convert the financial reporting methods of emerging market firms to the US financial reporting methods, the greater is their ownership in these firms. The enhanced comparability thus realized reduces

the information asymmetry of foreign institutional investors and increases the possibility of their informed trading based on their superior international information.

Recent studies that examine Chinese markets show that foreign institutional investors are effective monitors. Firth et al. (2010) argue that domestic institutional investors are not able to play an active role in maximizing shareholder wealth in China, where the government significantly influences mutual funds. Additionally, Huang and Zhu (2015) report that compared to domestic institutional investors, foreign institutional investors are under less government influence; as a consequence, they exert a greater influence on firms that are controlled by dominant shareholders. Guo, Huang, Zhang, and Zhou (2015) find that Japanese firms with greater foreign ownership engage in more limited earnings management. They point out that after the Big Bang Accounting Reform in Japan, the knowledge spillover effect by foreign institutional investors has effectively controlled earnings management.

We expect that the following unique economic characteristics of Korea can affect the information horizon and monitoring incentive of foreign institutional investors and produce effects that are different from those observed in other countries. (i) Korea is a divided country in which military conflict is a significant risk. Adding to this, the Korean economy has high export dependency, exposing it to high macroeconomic and systemic risk. These characteristics have the potential to discourage foreign institutional investors' long-term investment in Korea. (ii) Many firms in Korea belong to large conglomerates, and the dominant shareholders of the conglomerates have the ability to exert disproportionate control over affiliated firms. Moreover, as large conglomerates often have financial firms, such as brokerage houses, asset management firms, and insurance companies as member firms, the domestic institutional investors may act as friendly blockholders of the affiliated firms of large conglomerates. As this corporate governance structure can increase foreign institutional investors' monitoring costs, their incentive for monitoring may decrease. (iii) Korea has shifted from fast growth until the middle of the first decade of 2000 to more modest growth ever since. The low economic growth potential may diminish the long-term monitoring incentives and increase the short-term informed trading incentives of foreign institutional investors. (iv) The short-sale regulation on foreign investors is not as strict in Korea as the short-sale regulation on domestic investors, causing most short-sales trades to be conducted by foreign institutions. In particular, individual

investors occupy a high proportion of trades in Korea; foreign institutional investors have the potential to realize a large profit from informed trading. These regulatory factors may induce short-term investment behavior of foreign institutional investors. (v) Most foreign institutional investors active in the Korean capital market are mutual funds. Therefore, foreign institutional investors tend to have short investment time horizons and may pursue short-term information-based trades rather than engaging in long-term monitoring activities.

We expect that foreign institutional investors tend to have short-term investment horizons and are motivated for informed trading based on these market characteristics and the characteristics of foreign institutional investors active in Korea. To test this prediction, we formulate the following hypothesis.

Hypothesis 2. There is a positive relationship between the influence level of foreign institutional investors and earnings management in the Korean capital market, ceteris paribus.

Third, we examine whether the decision whether foreign institutional investors will perform a monitoring role from a long-term perspective or pursue short-term profit-taking through informed trading depends on the following three factors, namely, the structural environment of the host country, the market growth prospect and corporate governance characteristics. If host countries present an environment amenable to long-term investment, foreign institutional investors are likely to perceive long-term monitoring incentive. The monitoring effect of foreign institutional investors will be enhanced when monitoring activities lead to greater economic gains and monitoring costs are moderate. In contrast, if host countries present an environment not amenable to long-term investment, foreign institutional investors are likely to pressure firms to pursue short-term profits and engage in informed trading based on their superior information. The rent-seeking behavior of foreign institutional investors will be enhanced when informed trading activities lead to greater economic gains and informed trading costs are moderate.

We posit that market growth prospects and corporate governance characteristics determine the benefits of monitoring (benefits from informed trading) and monitoring costs (costs of

informed trading). Studies that examine the Chinese market, which has a high growth prospect, find evidence of the monitoring effect of foreign institutional investors (Firth et al. 2010; Huang and Zhu 2015). Chung et al. (2018) report that market growth level influences the monitoring effort of institutional investors using Korean market data. For this reason, we use market growth level as a measure of monitoring benefit (benefit from informed trading). Korea shows relatively high market and economic growth before the 2008 Global Financial Crisis and relatively low market and economic growth after the 2008 Global Financial Crisis. Therefore, we define the pre-2008 period as a high-growth period and post-2008 as a low-growth period.

Monitoring costs (costs of informed trading) may depend on firms' corporate governance characteristics in which foreign institutional investors invest. The influencing costs are likely to increase with managerial ownership and are likely to be higher in firms that are affiliated with large conglomerates. Large (small) influencing costs decrease (increase) long-term investors' monitoring incentive and short-term investors' informed trading incentive. For this reason, we expect that firms' corporate governance characteristics (managerial ownership and affiliation status with large conglomerates) reflect monitoring costs (informed trading costs).

Stated otherwise, we expect the long-term monitoring incentive to be high during high market growth periods in firms with low managerial ownership that are not affiliated with large conglomerates. In contrast, we expect that the short-term informed trading incentive will be strong during low market growth periods in firms with low managerial ownership that are not affiliated with large conglomerates. To test this prediction, we propose the following hypothesis.

Hypothesis 3. The positive relationship between the influence level of foreign institutional investors and earnings management in the Korean capital market is more pronounced during low market growth periods and in firms with low managerial ownership (or in firms unaffiliated with large conglomerates), ceteris paribus.

3. Variable measurements

3.1 Opportunistic earnings management

For this study, we measure managerial opportunism using accounting numbers. A large number of accounting studies hold the view that it is desirable for earnings to closely track cash flows (Jones, 1991; Dechow et al., 1995; Dechow and Dichev, 2002; Leuz et al., 2003; Kothari et al., 2005; Francis et al. 2005; Ball and Shivakumar, 2006). Following this approach, we use four methods based on accruals to measure managerial opportunism. The first measure is performance-adjusted discretionary accruals proposed by Kothari et al. (2005). They adjust discretionary accruals with performance factors because discretionary accruals are influenced by firm performance. The second measure is proposed by Ball and Shivakumar, 2006, who consider the observation that firms recognize gains and losses asymmetrically. The third measure is the ratio of volatility of earnings to that of cash flows, which measures earnings smoothing. The higher the volatility of earnings is relative to the volatility of cash flow, the lower the earnings smoothing is. Lower earnings smoothing implies a higher probability that managers use earnings opportunistically. The last measure is the volatility of abnormal accruals proposed by Francis et al. (2005), who estimate abnormal accruals over a certain time period using the relationship between earnings accruals and cash flows. Next, we discuss the four measurement methods in greater detail.

(1) Absolute value of performance-adjusted discretionary accruals (Kothari et al., 2005)

We calculate the absolute value of performance-adjusted discretionary accruals based on Kothari et al. (2005) as follows. First, $ACCR_{i,t}$ is the total accruals of firm i in year t , which is obtained as net income in year t minus cash flows from operating activities in year t . $\Delta REV_{i,t}$ and $\Delta REC_{i,t}$ are change in revenue of firm i in year t and change in accounts receivable of firm i in year t , respectively. $\Delta PPE_{i,t}$ refers to change in property, plant, and equipment of firm i in year t . $A_{i,t-1}$ is the total assets of firm i at the end of year $t-1$. We classify firms into

12 industries based on the Korean Industry Classification Standard so that each industry-year sample has at least 50 firms for each industry-year accruals model estimation.

Using the estimated Equation (1), we obtain the accruals unaffected by earnings management, non-discretionary accrual (*NDA*). Then, we calculate the unexpected accruals by subtracting nondiscretionary accruals from the total accruals. To adjust the accruals with performance, we form five portfolios per industry using the return on assets and calculate the average unexpected discretionary accruals of each portfolio (*Matching UE_ACCR_{j,t}*). From the unexpected discretionary accruals of an individual firm, we subtract the average unexpected discretionary accruals of the portfolio to which the firm belongs. We take the absolute value of this difference (*ABSDA_{i,t-K}*) and use it as the measure of earnings management. We interpret a higher value of this measure as indicating greater earnings management.

$$\frac{ACCR_{i,t}}{A_{i,t-1}} = \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (1)$$

$$NDA_{i,t} = \widehat{\beta}_1 \left(\frac{1}{A_{i,t-1}} \right) + \widehat{\beta}_2 \left(\frac{\Delta REV_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}} \right) + \widehat{\beta}_3 \left(\frac{\Delta PPE_{i,t}}{A_{i,t-1}} \right)$$

$$UE_ACCR_{i,t} = \frac{ACCR_{i,t}}{A_{i,t}} - NDA_{i,t}$$

$$ABSDA_{i,t-K} = |UE_ACCR_{i,t} - Matching\ UE_ACCR_{i,t}|$$

(2) Absolute value of discretionary accruals adjusted with asymmetric conservatisms (Ball and Shivakumar, 2006)

We estimate Equation (2) by year-industry and use the absolute value of the estimated error to measure earnings management. We classify firms into 12 industries based on the Korean Industry Classification Standard. In Model 2, $ACCR_{i,t}$ is the total accruals of firm i in year t , which is net income in year t less cash flows from operating activities in year t . $A_{i,t-1}$, $\Delta REV_{i,t}$, $\Delta AR_{i,t}$, and $\Delta PPE_{i,t}$ are total assets, change in revenue, change in accounts receivable, and change in tangible assets, respectively. $CFO_{i,t}$ is the operating cash flow of firm in year t . $DCFO_{i,t}$ is a dummy variable taking the value of 1 if it is negative and 0, otherwise. Lastly, ε is the error term. We use the absolute value of the error term ($ABSDA_BS_{i,t}$) as the second measure of earnings management.

$$\begin{aligned} \frac{ACCR_{i,t}}{A_{i,t-1}} = & \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{\Delta PPE_{i,t}}{A_{i,t-1}} \right) + \beta_4 \left(\frac{CFO_{i,t}}{A_{i,t-1}} \right) \\ & + \beta_5 DCFO_{i,t} + \beta_6 \left(\frac{CFO_{i,t}}{A_{i,t-1}} \right) \times DCFO_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

$$ABSDA_{i,t_BS} = |\varepsilon_{i,t}|$$

(3) Earnings smoothing (Leuz et al., 2003)

Faced with temporary shocks in earnings, managers may smooth earnings by dampening fluctuations in earnings, which would enhance the informativeness of earnings. In this regard, earnings smoothing can be interpreted as a measure of earnings quality (Chaney and Lewis, 1995; Demsky, 1998). Following Leuz et al. (2003), we regard cash flows as an indicator of unsmoothed earnings and use the ratio of the volatility of earnings to the volatility of cash flows to measure earnings smoothing. We obtain the standard deviation of the ratio of earnings to

assets as well as the standard deviation of the ratio of operating cash flows to assets for five years from year $t-4$ to year t . Then, we divide the former by the latter as shown in Equation (3), to obtain the earnings smoothing measure, $Smooth_{i,t}$. We interpret a higher value of $Smooth_{i,t}$ as indicating less earnings smoothing and, therefore, lower informativeness of earnings, and a lower value of $Smooth_{i,t}$ as indicating greater earnings smoothing and, therefore, greater informativeness of earnings.

$$Smooth_{i,t} = \frac{\sigma(NI_{i,t})}{\sigma(CFO_{i,t})} \quad (3)$$

3.1.2. Measurement of discretionary accruals quality (Francis et al. 2005)

Francis et al. (2005) measure accruals quality in two steps. First, the abnormal accruals (v_{jt}) of firm i in year t is estimated using Equation (4) at the year-industry level. Then, the standard deviation of the abnormal accruals of firm i in the five years preceding year t is calculated. Francis et al. (2004, 2005) define this standard deviation as the accruals quality (AQ) of firm i in year t . In Equation (4), $TCA_{i,t}$ is the total current accruals of firm i in year t . $A_{i,t}$ is the total assets of firm i in year t computed as the average of the total assets of year t and year $t+1$. Following Francis et al. (2005) we measure $TC_{i,t}$ using $\Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STDEBT_{i,t}$, where $\Delta CA_{i,t}$ is the change in current assets of firm i between year $t-1$ and year t ; $\Delta CL_{i,t}$ is the change in current liabilities of firm i between year $t-1$ and year t ; $\Delta Cash_{i,t}$ is the change in cash of firm i between year $t-1$ and year t ; $\Delta STDEBT_{i,t}$ is the change in short-

term debt in current liabilities of firm i between year $t-1$ and year t .

$CFO_{i,t}$ is the cash flow of operating activities of firm i in year t in the statement of cash flows. $\Delta REV_{i,t}$ is the revenues of firm i in year t minus the revenues of firm i in year $t-1$. $PPE_{i,t}$ is the net fixed assets of firm i at the end of year t , and $v_{i,t}$ is the error term of Equation (4).

$$\frac{TCA_{i,t}}{A_{i,t}} = \varphi_0 + \varphi_1 \frac{CFO_{i,t-1}}{A_{i,t}} + \varphi_2 \frac{CFO_{i,t}}{A_{i,t}} + \varphi_3 \frac{CFO_{i,t+1}}{A_{i,t}} + \varphi_4 \frac{\Delta REV_{i,t}}{A_{i,t}} + \varphi_5 \frac{PPE_{i,t}}{A_{i,t}} + v_{i,t} \quad (4)$$

$$AQ_{i,t} = \sigma(\widehat{v}_{i,t})$$

Francis et al. (2004, 2005) argue that the fundamental operating risk of a firm influences the volatility of abnormal accruals ($AQ_{i,t}$); therefore, not all of the fundamental operating risk is a measure of managerial opportunism. For this reason, they decompose accruals quality into an innate risk factor, which is subject to the firm's fundamental operating risk, and a discretionary risk factor, which is due to managerial discretion. Similarly, we decompose accruals quality into innate accruals quality and discretionary accruals quality. Equation (5) shows the relationship between accruals quality ($AQ_{i,t}$) and variables that express operating risk. We estimate the innate accruals quality ($InnateAQ_{i,t}$) of firm i in year t using the predicted value of Equation (5), and the discretionary accruals quality ($DiscAQ_{i,t}$) of firm i in year t using the error term. We interpret a higher value of discretionary accrual quality as indicating greater opportunistic earnings management.

$$AQ_{i,t} = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 \sigma(CFO)_{i,t} + \beta_3 \sigma(Sales)_{i,t} + \beta_4 OperCycle_{i,t} + \beta_5 NegEarn_{i,t} + \varepsilon_{i,t}$$

(5)

$$InnateAQ_{i,t} = \widehat{AQ_{i,t}}$$

$$DiscAQ_{i,t} = AQ_{i,t} - \widehat{AQ_{i,t}}$$

$SIZE_{i,t}$ is the natural log of the market capitalization (millions of Korean won) of firm i at the end of year t . $\sigma(CFO)_{i,t}$ is the volatility of cash flows and is estimated as the standard deviation of operating cash flows scaled by total assets over five years from year $t-4$ to year t . $\sigma(Sales)_{i,t}$ is the volatility of sales, and is estimated as the standard deviation of sales scaled by total assets over five years from year $t-4$ to year t . $OperCycle_{i,t}$ is the operating cycle measured as the natural log of the sum of the average recovery period of accounts receivable and the average recovery period of inventory. $NegEarn_{i,t}$ is the frequency of loss measured as the proportion of loss-making years over the 10 years preceding year t .

3.2 Influence level of foreign institutional investors

It is widely believed that institutional investors are able to monitor and influence their decision-making. Many researchers consider that their individual or collective ownership determines in part their influence level on firms' managers. Therefore, many preceding studies have used institutional ownership as a measure of their influence level on target firms' managers. However, the total ownership of institutional investors in individual firms is not disclosed in Korea and the unavailability of the total institutional ownership has been an impediment in studying the monitoring effect of institutional investors. In this study, we propose two alternative measures of institutional ownership in order to overcome this data limitation.

The first measure is institutional investors' share of the total trading volume of firm i 's stock for year t . Daily trading volumes are reported for the following investor identities: institutions, foreigners and individuals in Korea. Institutional trading consists of trading by

domestic institutions, while foreign institutional trading is included in foreigners' trading volume. Because most foreign investors trading in the Korean stock market are institutions, it is safe to assume that most foreign trades represent trades by foreign institutional investors. We use trading share of institutional investors to measure the influence level of institutional investors on firms' management. We distinguish between the trading shares of domestic and foreign institutional investors and use them to measure the influence of domestic and foreign institutional investors on earnings management, respectively.

The second measure is based on the stock ownership of institutional blockholders, who own more than 5% of the firm's stock. While it is not possible to obtain the total ownership of institutional investors, it is possible to obtain ownership information on institutional blockholders who own more than 5% of the firm's stock in Korea. Therefore, we use the combined ownership of institutional blockholders as the additional measure of the influence level of institutional shareholders. Furthermore, we distinguish between the combined ownership of domestic and foreign institutional blockholders and use them to measure the influence of domestic and foreign institutional investors on earnings management, respectively. Next, we show the measurement methods of the two proxies of institutional influence level in detail.

(1) Trading share of institutional investors by investor identity

Trading share of institutional investors ($INST_TR_{it}$) shown in Equation (6) is the ratio of the sum of the daily buy and sell trading volume by both domestic and foreign institutional investors of firm i in year t to the total trading volume of firm i in year t . **Domestic** refers to domestic institutional investors, **Foreign** refers to foreign institutional investors, and **Total Investor** refers to all investors. **Buy_{itd}** refers to the purchase volumes of firm i in year t on trading day d , and **Sell_{itd}** refers to purchase volumes of firm i in year t on trading day d . N refers to the total trading days in year t . Trading share of domestic institutional investors ($D_INST_TR_{it}$) and trading share of foreign institutional investors ($F_INST_TR_{it}$), shown in Equations 7 and 8, respectively, are calculated similarly.

$$INST_TR_{it} = \frac{(\sum_{d=1}^N Domestic(Buy_{itd} + Sell_{itd}) + \sum_{d=1}^N Foreign(Buy_{itd} + Sell_{itd}))}{\sum_{d=1}^N Total(Buy_{itd} + Sell_{itd})}$$

(6)

$$D_INST_TR_{i,t} = \frac{\sum_{d=1}^N Domestic(Buy_{itd} + Sell_{itd})}{\sum_{d=1}^N Total(Buy_{itd} + Sell_{itd})} \quad (7)$$

$$F_INST_TR_{i,t} = \frac{\sum_{d=1}^N Foreign(Buy_{itd} + Sell_{itd})}{\sum_{d=1}^N Total(Buy_{itd} + Sell_{itd})} \quad (8)$$

(2) Ownership of institutional blockholders

We measure the influence of the block ownership by institutional investors using the combined ownership of institutional blockholders who separately own more than 5% of the firm's stock as an alternative proxy for the influence level of institutional investors. In Equations (9)–(11), **BLOCK_OWN_{it}** is the combined ownership of institutional blockholders who separately own more than 5% of firm *i*'s stock at the end of year *t*. **D_BLOCK_OWN_{it}** and **F_BLOCK_OWN_{it}** refer to the combined ownership of domestic and foreign institutional blockholders of firm *i* in year *t*, respectively. **D_BLOCK_N_{it}** and **F_BLOCK_N_{it}** refer to the number of common shares held by domestic and foreign institutional blockholders of firm *i* at the end of year *t*, respectively. **N_SHARE_{it}** refers to the total number of common shares outstanding of firm *i* at the end of year *t*.

$$BLOCK_OWN_{i,t} = \frac{(D_BLOCK_N_{i,t} + F_BLOCK_N_{i,t})}{N_SHARE_{i,t}} \quad (9)$$

$$D_BLOCK_OWN_{i,t} = \frac{D_BLOCK_N_{i,t}}{N_SHARE_{i,t}}$$

(10)

$$F_BLOCK_OWN_{i,t} = \frac{F_BLOCK_N_{i,t}}{N_SHARE_{i,t}}$$

(11)

4. Results

4.1 Sample and descriptive statistics

Our sample comprises non-financial firms listed on either the KOSPI or KOSDAQ markets from 2003 to 2014. We obtained accounting, trading volumes by investor types, ownership shares, stock price and analyst data from FnGuide Data Guide Pro.¹ We measured variables at firm-year level and analyze the relationship between influence level of institutional investors and earnings management.

Panel A of Table 1 shows the descriptive statistics of variables used in this study. Dependent variables are measures of earnings management proposed in Section 3.1, which are (i) performance-adjusted discretionary accruals (Kothari et al. 2005; $ABSDA_K_{i,t}$), (ii) discretionary accruals adjusted with asymmetric conservatism (Ball and Shivakumar 2006; $ABSDA_BS_{i,t}$), (iii) level of earnings smoothing (Leuz et al. 2003; $Smooth_{i,t}$), and (iv) quality of discretionary accruals (Francis et al. 2005; $DiscAQ_{i,t}$). Independent variables are measures of the influence level of foreign institutional investors discussed in Section 3.2. $INST_TR_{i,t}$ is the trading share of institutional investors of a firm in a given year. Similarly, $D_INST_TR_{i,t}$ and $F_INST_TR_{i,t}$ are the trading shares of domestic and foreign institutional investors, respectively. Moreover, $BLOCK_OWN_{i,t}$ is the combined ownership of institutional investors who individually own more than 5% of the common stock of the firm as measured at the end of the year. Similarly, $D_BLOCK_OWN_{i,t}$ and $F_BLOCK_OWN_{i,t}$ are the combined ownership

¹ FnGuide is a firm in Korea that offers widely used accounting, market, and economic data; FnGuide Data Guide Pro is the retrieval system of the data offered by FnGuide.

of the ownerships of domestic and of foreign institutional blockholders, respectively.

We include control variables in the research models from two perspectives. The first set of control variables are firm characteristics that can influence earnings management. $LogAnalyst_{i,t}$ is the log of one plus the number of security firms that publish analyst reports. $SIZE_{i,t}$ refers to firm size and $BM_{i,t}$ is the book-to-market ratio of the firm's equity. $DEBT_{i,t}$ is the debt ratio and $CASH_IND_{i,t}$ is the industry-adjusted cash flow. $LagEM_{i,t}$ is the one-year lag value of the dependent variable. We include this lagged variable in regression equations for two reasons. First, that there is a reversal effect in earnings management, such that the current earnings management may be affected by the last period's earnings management. Therefore, the last period's earnings management is included in order to control for its reversal effect. Second, there may be an endogenous relationship between the trading share or the ownership of institutional investors and earnings management. That is, while the trading share or the ownership of institutional investors may suppress or encourage earnings management, the size of earnings management may affect the trading share or the ownership of institutional investors. In an effort to control for the endogeneity problem, we include the lagged value of earnings management.

The second set of control variables are factors related to operating activities that influence changes in accruals. Francis et al. (2004, 2005) indicate that factors that influence changes in accruals include those that are related to operating activities and those that are related to managerial discretion. This study focuses on whether institutional investors moderate or exacerbate opportunistic earnings management. Therefore, our primary interest is the discretionary component of accruals. However, (1) performance adjusted discretionary accruals ($ABSDA_K_{i,t}$), (2) discretionary accruals adjusted for asymmetric conservatism ($ABSDA_BS_{i,t}$) and (3) earnings smoothing ($Smooth_{i,t}$) include changes in accruals due to innate operating risk. For this reason, when we use $ABSDA_K_{i,t}$, $ABSDA_BS_{i,t}$, and $Smooth_{i,t}$ as dependent variables, we include factors related to innate operating risk as control variables. Following Francis et al. (2004), we include volatility of operating cash flow ($\sigma(CFO)_{i,t}$), volatility of sales ($\sigma(Sales)_{i,t}$), operating cycle ($OperCycle_{i,t}$), frequency of reporting loss ($NegEarnRatio_{i,t}$), ratio of intangible assets to total assets ($Int_Intensity_{i,t}$), dummy variable indicating investment in intangible assets ($Int_D_{i,t}$) and ratio of tangible assets to total assets

(*Cap_Intensity_{i,t}*) as control variables in regression equations. By contrast, we do not include factors related to operating risk as control variables when we use the quality of discretionary accruals (*DisCAQ_{i,t}*) as a dependent variable. The reason for this is that factors related to operating risk are already removed from the quality of discretionary accruals, as discussed in Section 3.1. Detailed explanations of variables used in this study are found in the Appendix.

Panel B of Table 1 shows the market index and economic growth rates during the sample period (2003–2014). The Korean economy as a whole and the Korean capital market in particular show relatively high growth during the pre-2008 Global Financial Crisis period. However, during the post-2008 Global Financial Crisis period the Korean capital market is stagnant or depressed and the Korean economy shows a slower growth. We define the pre-2008 Global Financial Crisis period as a high market-growth period and the post-2008 Global Financial Crisis period as a low market-growth period and compare the monitoring effect of foreign institutional investors between two periods.

[Insert Table 1 about here]

4.2 Influence level of institutional investors and earnings management

Tables 2 and 3 present the results of the regression analysis that investigates the effect of the influence level of institutional investors on accounting quality. In Table 2, we report the results of regressing the influence level of institutional investors measured with trading volumes on accounting quality measured with four proposed variables. When we calculate the four measures of accounting quality (*ABSDA_K_{i,t}*, *ABSDA_BS_{i,t}*, *DisCAQ_{i,t}*, *Smooth_{i,t}*), we adjust the signs of these measures so that the higher values of the measures indicate lower accounting quality. Specifically, the higher values of *ABSDA_K_{i,t}* and *ABSDA_BS_{i,t}* indicate greater earnings management; the higher values of Smoothness indicate lower earnings smoothness; and the higher values of *DisCAQ_{i,t}* indicate lower quality of discretionary accruals.

The coefficients of institutional investors' trading volumes are 0.022, 0.027, 0.280, and

0.006 in Models (1) through (4), respectively, and are statistically significant in all four models. This result shows that firms with a high proportion of institutional trading tend to exhibit more earnings management, less income smoothing, and lower quality of discretionary accruals.

[Insert Table 2 about here]

In Table 3, we report regression analysis relating earnings management to institutional influence, which is measured with the combined ownership of institutions owning more than 5%. The coefficient of institutional ownership (*Block_Own_{i,t}*) is not statistically significant in either of Models (1) or (2), whereas it is 0.316 and statistically significant at 1% in Model 3 and it is 0.008 and statistically significant at 5% in Model 4.

[Insert Table 3 about here]

From Tables 2 and 3, we do not find evidence of effective monitoring of management by institutional shareholders. On the contrary, we find that earnings management is greater in firms with greater institutional influence. This result suggests that institutional investors are short-term oriented in the Korean stock market and seek informed trading rather than monitoring management.

4.3 Relationship between the influence level of foreign institutional investors and earnings management

In Tables 4 and 5, we classify institutional investors into foreign and domestic institutional investors and investigate the relationship between their influence level and earnings

management. In Table 4, we measure the influence level of foreign and domestic institutional investors using their trading share based on Equations (7) and (8), then analyze their relationship with four measures of earnings management. The trading share of domestic institutional investors ($D_INST_TR_{i,t}$) does not show a statistically significant relationship with any of the earnings management measures. By contrast, the coefficients of the trading shares of foreign institutional investors ($F_INST_TR_{i,t}$) are 0.055, 0.070, and 0.828 in Models (1), (2), and (3) and are all statistically significant at the 1% level. This result suggests that foreign institutional investors have short-term as opposed to long-term investment horizons. Therefore, this finding suggests that foreign institutional investors may pursue short-term profits rather than monitoring management for long-term value creation.

In Table 5, we measure the influence level of the block ownership by foreign and domestic institutional investors using the combined ownership of institutional blockholders, then analyze their relationship with four measures of earnings management. In Models (1) and (2), the coefficients of foreign and domestic institutional blockholders ($F_BLOCK_OWN_{i,t}$ and $D_BLOCK_OWN_{i,t}$) do not show a statistically significant relationship with any of the earnings management measures. By contrast, the coefficients of the combined ownership of domestic institutional blockholders ($D_BLOCK_OWN_{i,t}$) are positive and statistically significant in Models (3) and (4), while the coefficients of the combined ownership of foreign institutional blockholders ($F_BLOCK_OWN_{i,t}$) are positive and statistically significant in Model (3). Thus, from Table 5 as well, we do not find evidence of a monitoring effect that domestic and foreign institutional investors restrain earnings management. Rather there is some evidence that the block ownership by both foreign and domestic institutional investors is associated with a greater earnings management.

[Insert Table 4 about here]

[Insert Table 5 about here]

4.4 Market growth opportunity and monitoring incentive for foreign institutional investors (or informed trading incentive)

We posit that foreign institutional shareholders have an incentive to restrain managerial myopic behavior if they intend to invest long term in the host countries; however, they have an incentive for informed trading taking advantage of managerial myopic behavior if they have short investment horizons. Moreover, we expect that the monitoring incentive (informed trading incentive) of foreign institutional shareholders will be greater in high (low) market-growth periods.

In Tables 6 and 7, we divide the sample period into the high market-growth period and the low market-growth period and investigate the relationship between their influence level and measures of earnings management in each period. Table 6 shows the results based on trading share as the measure of influence level of domestic and foreign institutional shareholders. Panel A shows the results of the relatively high market-growth period. Neither the coefficient of trading share of domestic institutional investors ($D_INST_TR_{i,t}$) nor that of foreign institutional investors ($F_INST_TR_{i,t}$) are statistically different from 0. Panel B shows the results of the relatively low market-growth period. The coefficients of trading share of domestic institutional investors ($D_INST_TR_{i,t}$) are not statistically different from 0. By contrast, those of foreign institutional investors ($F_INST_TR_{i,t}$) are statistically significant in all four models. Panel C shows the comparison of these coefficients between the high and low market-growth periods. The coefficient of the trading share of domestic institutional investors ($D_INST_TR_{i,t}$) does not show a statistically significant difference between the two periods. However, the coefficient of the trading share of foreign institutional investors ($F_INST_TR_{i,t}$) is larger during a low growth period and the difference is positive and statistically significant. Results of Table 6 suggest that the incentive for informed trading is greater in a low market-growth period than in a high market-growth period.

Table 7 shows the results based on the combined ownership of institutional blockholders as the measure of influence level of domestic and foreign institutional shareholders. In Panel A, which shows the results of a relatively high market-growth period, both the coefficient of trading share of domestic institutional investors ($D_BLOCK_OWN_{i,t}$) and that of foreign

institutional investors ($F_BLOCK_OWN_{i,t}$) are not statistically different from 0. By contrast, in Panel B, which shows the results of a relatively low market-growth period, the coefficients of trading share of domestic institutional investors ($D_BLOCK_OWN_{i,t}$) are 0.020, 0.361, and 0.013 in Models 2, 3, and 4, respectively, and are statistically different from 0. By contrast, those of foreign institutional investors ($F_BLOCK_OWN_{i,t}$) are statistically significant in Models 1, 2, and 3 at 0.041, 0.037, and 0.512, respectively.

Following the Fama-McBeth approach, we estimate models using an annual series of cross-sectional samples generating regression coefficients of the influence level of foreign institutional investors, and then compare the regression coefficients between the pre- and post-GFC periods. Panel C shows the difference in the coefficients of the trading share of foreign institutional shareholders, measured as (the high-growth period coefficient – low-growth period coefficient). The difference in the coefficient of the trading share of domestic institutional investors ($F_BLOCK_OWN_{i,t}$) is statistically significant for Models 1 and 4, with the t-statistics of the differences being 2.669 and 1.974, respectively. Results of Table 7 suggest that the positive relationship between block ownership by foreign institutional blockholders and earnings management is larger during the low market growth period than during the high market growth period. Overall results of Tables 6 and 7 suggest that foreign institutional investors have lower incentives for monitoring management because benefits of active monitoring are limited during the low market-growth period.

[Insert Table 6 about here]

[Insert Table 7 about here]

4.5 Effect of corporate governance characteristics on the relationship between foreign institutional investors and earnings management

Earlier results show that earnings management increases with the influence level of foreign institutional investors during a low market-growth period. These results suggest that foreign

institutional investors tend to exhibit short-term orientation, and their investment horizon may become even shorter in periods of limited profit opportunities (or of limited markets growth). That is, short investment horizons of foreign institutional investors reduce monitoring incentive and exacerbate the incentive for informed trading.

Furthermore, investment horizon and monitoring (informed trading) incentives of foreign institutional investors may depend on costs of influencing management. Therefore, we measure corporate governance characteristics using monitoring costs (or costs of informed trading), and analyze the influence of these costs on the informed trading of foreign institutional investors. In Table 8, we divide the sample into four subsamples by market growth and managerial ownership, and analyze the relationship between the trading share of domestic and foreign institutional shareholders and measures of earnings management. We measure managerial ownership as the sum of the ownership of the largest shareholder and related parties. We classify firms into firms with majority managerial ownership and those with less than majority managerial ownership. We use one of four measures of earnings management as dependent variable in Panels A, B, C, and D and conduct the regression analysis for each group. For Model (4), the coefficients of $F_INST_TR_{i,t}$ are 0.130 ($p=0.000$), 0.187 ($p=0.000$), 1.437 (0.000), and 0.024 ($p=0.032$) in Panels A through D, respectively. They all are positive and statistically significant. These results indicate that the positive relationship between the influence level of foreign institutional investors and earnings management is more evident in firms with low market growth and low managerial ownership.

In Table 9, we divide the sample into four subsamples by market growth and firms' affiliation status with large conglomerates, and analyze the relationship between the trading share of domestic and foreign institutional shareholders and measures of earnings management. We use firms' affiliation status with large conglomerates reported by the Korea Fair Trading Commission. We use one of four measures of earnings management as a dependent variable in each of Panels A through D, and conduct the regression analysis for each group. For Model (4), which corresponds to the subgroup of firms with low market growth and non-affiliated status, the coefficients of $F_INST_TR_{i,t}$ are 0.092 ($p=0.001$), 0.142 ($p=0.000$), 1.543 (0.000), and 0.028 ($p=0.012$) in Panels A through D, respectively. The coefficients of $F_INST_TR_{i,t}$ are larger in Model 4 than in any other model, indicating that the positive relationship between the

influence level of foreign institutional investors and earnings management is most pronounced in firms with low market growth and non-affiliated firms.

Our results suggest that, as foreign institutional investors are likely to incur low influencing costs for firms with low managerial ownership and firms not affiliated with large conglomerates, foreign institutional investors with short investment horizons may cause managers of these firms to inflate short-term performance. That is, foreign institutional investors' myopia may promote earnings management in firms that they invest in.

[Insert Table 8 about here]

[Insert Table 9 about here]

5. Conclusion

This study investigates whether foreign institutional investors are long-term or short-term investors. We approach this question by examining whether target countries' investment environment, monitoring benefits (market growth prospect), and monitoring costs (corporate governance characteristics) affect their motivation to actively monitor managerial opportunism. Using the Korean capital market, which has some unique characteristics, we investigate how opportunistic earnings management varies with the influence level of both domestic and foreign institutional investors. We expect that foreign institutional investors decide on the investment horizon taking into consideration host countries' economic environment, market growth prospect, firm characteristics, etc. Specifically, we expect that foreign institutional investors with long investment horizons are motivated to restrain managerial myopia, whereas foreign institutional investors with short investment horizons are motivated to encourage managerial myopia, which they use for informed trading.

By examining how foreign institutional investors affect opportunistic earnings management, we shed light on whether foreign institutional investors have long investment

horizons and act as monitors or have short investment horizons and act as informed traders. We also analyze whether monitoring incentive or investment horizon varies with market growth prospects and corporate governance characteristics. We measure the level of influence that foreign institutional investors have on firms they invest in using their trading share in the total trading volume. We construct four measures of earnings management and quantify the relationship between the influence level of foreign institutional investors and earnings management. We use the combined ownership of foreign institutional blockholders as a supplementary measure of the influence level of foreign institutional investors.

We document a positive and statistically significant relationship between the influence level of foreign institutional investors and earnings management. This result suggests that foreign institutional investors view the Korean market more as a venue for short-term capital gains than as a venue for long-term investment. Additionally, we find that the positive relationship between the influence level of foreign institutional investors and earnings management intensifies during periods of low market growth. This finding suggests that market growth prospects affect foreign institutional investors' investment horizons and monitoring activities. We also investigate whether foreign institutional investors' influence on earnings management is affected by corporate governance characteristics. We find that the positive relationship between the influence level of foreign institutional investors and earnings management is more evident in firms with low managerial ownership and firms unaffiliated with large conglomerates during low growth periods. This result suggests that, when foreign institutional investors face market conditions that encourage short-term investment orientation, monitoring incentive declines especially in regard to firms that present them with low influencing cost. This study contributes to the literature by measuring the influence level of foreign institutional investors using the unique Korean trading data that distinguish between domestic and foreign institutional investors, and then identifying the factors that influence foreign institutional investors' investment horizon and monitoring incentive.

References

- Ball, R. and L. Shivakumar, 2006, The role of accruals in asymmetrically timely gain and loss recognition, *Journal of Accounting Research* 44, 207–242.
- Brennan M and H. Cao, 1997, International portfolio investment flows, *Journal of Finance* 52, 1851–1880.
- Burns, N., Kedia, S., and Lipson, M., 2010, Institutional ownership and monitoring: Evidence from financial misreporting, *Journal of Corporate Finance* 16, pp. 443–455.
- Bushee, B. J., 1998, The influence of institutional investors on myopic R&D investment behavior, *Accounting Review* 73, 305–333.
- Chaney, P. and C. Lewis, 1995, Earnings management and firm valuation under asymmetric information, *Journal of Corporate Finance* 1, 319–345.
- Chung, C. Y., J. H. Hwang, K. S. Kim, J. H. Lee and K. Lee, 2019, Do institutional investors enhance accounting earnings attributes in the Korean market? *Emerging Market Finance and Trade* 55, 39–58.
- Chung, R., M. Firth, and J. Kim, 2002, Institutional monitoring and opportunistic earnings management, *Journal of Corporate Finance* 8, 29–48.
- Dechow. P., and I. Dichev, 2002, The Quality of accruals and earnings: The role of accrual estimation errors, *Accounting Review* 77, 35–59.
- Dechow, P.M., R. Sloan, and A. Sweeney, 1995, Detecting earnings management, *Accounting Review* 70, 193–225.
- Demski, J, 1998, Performance measure manipulation, *Contemporary Accounting Research* 15, pp. 261–285.
- Dvorak, T. 2005 Do domestic investors have an information advantage? Evidence from

Indonesia, *Journal of Finance* 60, 817–839

Easley, D., and M. O'Hara. 2004, Information and the cost of capital, *Journal of Finance* 59, 1553–1583.

Fang, V., M. Maffett, and B. Zhang 2015, Foreign institutional ownership and the global convergence of financial reporting practices, *Journal of Accounting Research* 53, 593–631

Firth, M., Lin, C., Zou, H., 2010. Friend or foe? The role of state and mutual fund ownership in the split share structure reform in China. *Journal of Financial and Quantitative Analysis* 45, 685–706.

Francis, J., R. LaFond., P. Olsson, and K. Shipper, 2004, Cost of equity and earnings attributes, *Accounting Review* 79, pp. 967–1010.

Francis, J., R. LaFond, P. Olsson, and K. Shipper, 2005, The market pricing of accruals quality, *Journal of Accounting and Economics* 39, pp. 259–327.

Grinblatt, M and M. Keloharju 2000, The investment behavior and performance of various investor types: a study of Finland's unique data set, *Journal of Financial Economics* 55, 43–67.

Guo, J., P. Huang, Y. Zhang, and N. Zhou 2015, Foreign ownership and real earnings management: Evidence from Japan, *Journal of International Accounting Research* 14, 185–213.

Hartzel and Starks 2003 Institutional investors and executive compensation, *Journal of Finance* 58, 2351–2374.

Huang, W and T. Zhu, 2015, Foreign institutional investors and corporate governance in emerging markets: Evidence of a split-share structure reform in China, *Journal of Corporate Finance* 32. 312–326.

Jones, J. 1991, Earnings management during import relief investigation, *Journal of Accounting*

Research 29, 193–228.

Koh, P.S., 2007, Institutional investor type, earnings management and benchmark beaters, *Journal of Accounting and Public Policy* 26, 267–299.

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

Lee, G., Masulis, R., 2009, Seasoned equity offerings: Quality of accounting information and expected flotation costs, *Journal of Financial Economics* 92, 443–469.

Leuz, C., D. Nanda, and P. Wysocki, 2003, Earnings management and investor protection: An International comparison, *Journal of Financial Economics* 69, 505–527.

Leuz, C., and R. Verrecchia. 2004, Firms' capital allocation choices, information quality, and the cost of capital, Working paper, University of Pennsylvania.

Maffett, M., 2012, Financial reporting opacity and informed trading by international institutional investors, *Journal of Accounting and Economics* 54, 201–220

Velury U., and D. Jenkins, 2006, Institutional ownership and the quality of earnings, *Journal of Business Research* 59, 1043–1051.

Figure 1. Effect of the influence level of foreign institutional investors on earnings management conditional on three factors, namely, investment horizon, monitoring benefits (market growth prospect) and monitoring costs (corporate governance characteristics)

Panel A. Foreign institutional investors have long investment horizons: Expected relationship between foreign institutional investors' influence level and earnings management

	Large monitoring benefit Example: High market growth periods	Small monitoring benefit Example: Low market growth periods
Firms with high monitoring cost Example: High managerial ownership; firms affiliated with large conglomerates	<Case 1> ⇒ weak negative (-)	<Case 2> ⇒ zero (0)
Firms with low monitoring cost Example: Firms with low managerial ownership; firms not affiliated with large conglomerates	<Case 3> ⇒ strong negative (-): monitoring effect	<Case 4> ⇒ weak negative (-)

Panel B. Foreign institutional investors have short investment horizons: Expected relationship between foreign institutional investors' influence level and earnings management

	Low informed trading incentive Example: High market growth periods	High informed trading incentive Example: Low market growth periods
Firms with high informed trading cost Example: High managerial ownership; firms affiliated with large conglomerates	<Case 5> ⇒ zero (0)	<Case 6> ⇒ zero (0) or weak positive (+)
Firms with low informed trading cost Example: Firms with low managerial ownership; firms not affiliated with large conglomerates	<Case 7> ⇒ zero (0) or weak positive (+)	<Case 8> ⇒ strong positive (+): informed trading

Appendix. Variable definitions

1. Dependent variables (Opportunistic earnings management)

$ABSDA_K_{i,t}$	=	Absolute value of the performance-adjusted discretionary accruals of firm i in year t based on Kothari et al. (2005).
$ABSDA_BS_{i,t}$	=	Discretionary accruals of firm i in year t based on Ball and Shivakumar (2006).
$Smooth_{i,t}$	=	Earnings smoothing of firm i in year t ; ratio of $\sigma(NI)_{i,t}$, standard deviation of the ratio of earnings to assets for five years from year $t-4$ to year t , to $\sigma(CFO)_{i,t}$, standard deviation of the ratio of operating cash flows to assets for five years from year $t-4$ to year t (Leuz et al. 2003).
$DiscAQ_{i,t}$	=	Quality of discretionary accruals based on Francis et al. (2005): First, the abnormal accruals of firm i in year t is estimated using the relationship between operating cash flows and accruals at the year-industry level. Then, the standard deviation of the abnormal accruals of firm i in the five years preceding year t is calculated; this standard deviation is defined as the accruals quality (AQ) of firm i in year t . Finally, innate accruals quality of firm i in year t is estimated and the discretionary accruals quality is obtained by subtracting innate accruals quality from accruals quality.

2. Explanatory variables (Influence level of institutional investors)

$INST_TR_{i,t}$	=	Trading share of institutional investors; ratio of the sum of the daily buy and sell trading volume by both domestic and foreign institutional investors of firm i in year t to the total trading volume of firm i in year t
$D_INST_TR_{i,t}$	=	Trading share of domestic institutional investors; ratio of the sum of the trading volume by domestic institutional investors of firm i in year t to the total trading volume of firm i in year t
$F_INST_TR_{i,t}$	=	Trading share of foreign institutional investors; ratio of the sum of the trading volume by foreign institutional investors of firm i in year t to the total trading volume of firm i in year t
$BLOCK_OWN_{i,t}$	=	Ownership of institutional investors who separately own more than 5% of the common stock of firm i at the end of year t
$D_BLOCK_OWN_{i,t}$	=	Ownership of domestic institutional investors who separately own more than 5% of the common stock of firm i at the end of year t
$F_BLOCK_OWN_{i,t}$	=	Ownership of foreign institutional investors who separately own more than 5% of the common stock of firm i at the end of year t

3. Control Variables

(1) Control Variables 1 : Variables related to firm characteristic

$Log_Analyst_{i,t}$	=	Natural log of one plus the number of security firms that publish analyst reports on firm i in year t
$SIZE_{i,t}$	=	Log of the market capitalization of firm i 's equity (in billion Korean won) at the end of year t
$BM_{i,t}$	=	Ratio of the market value to book value of equity of firm i in year t
$DEBT_{i,t}$	=	Ratio of total debt to total assets of firm i at the end of year t
$Cash_IND_{i,t}$	=	Industry-adjusted cash flow of firm i in year t ; that is, ratio of a firm's cash flow minus industry median cash flow to firm's total assets
$Lag_EM_{i,t}$	=	Year $t-1$ lag value of dependent variable (earnings management in year t)
$YEAR_D_{i,t}$	=	Year control dummies

(2) Control Variables 2 : Variables related to operating risk

$\sigma(CFO)_{i,t}$	=	Volatility of cash flows; standard deviation of operating cash flows scaled by
---------------------	---	--

		total assets over five years from year $t-4$ to year t
$\sigma(sales)_{i,t}$	=	Volatility of sales; standard deviation of sales scaled by total assets over five years from year $t-4$ to year t
$OperCycle_{i,t}$	=	Operating cycle; natural log of the sum of the average recovery period of accounts receivable and the average recovery period of inventory
$NegEarnRatio_{i,t}$	=	Frequency of reporting loss, measured as the proportion of loss-making years over the 10 years preceding year t
$Int_intensity_{i,t}$	=	Ratio of intangible assets in total assets
$Int_D_{i,t}$	=	Dummy variable indicating firms with no intangible assets
$Cap_intensity_{i,t}$	=	Ratio of tangible assets to total assets

Table 1. Sample distribution**Panel A. Descriptive statistics of variables**

	N	Mean	Standard deviation	Minimum	25	50	75	Maximum
<i>Dependent Variables (Earnings Management Variables)</i>								
<i>ABSDA_K</i>	13860	0.089	0.107	0.000	0.024	0.055	0.110	0.650
<i>ABSDA_BS</i>	13860	0.082	0.113	0.000	0.019	0.044	0.096	0.687
<i>Smooth</i>	13860	1.279	1.585	0.0216	0.445	0.790	1.449	11.677
<i>DiscAQ</i>	13860	-0.005	0.054	-0.206	-0.035	-0.011	0.016	0.198
<i>Independent Variables (Institutional Trading Volume Ratio and Ownership)</i>								
<i>INST_TR</i>	13860	0.117	0.160	0.000	0.016	0.038	0.148	0.619
<i>D_INST_TR</i>	13860	0.065	0.097	0.000	0.001	0.012	0.093	0.366
<i>F_INST_TR</i>	13860	0.050	0.071	0.000	0.009	0.023	0.052	0.306
<i>BLOCK_OWN</i>	13860	0.042	0.095	0.000	0.000	0.000	0.056	1.000
<i>D_BLOCK_OWN</i>	13860	0.030	0.081	0.000	0.000	0.000	0.000	1.000
<i>F_BLOCK_OWN</i>	13860	0.012	0.049	0.000	0.000	0.000	0.000	0.811
<i>Control Variables 1 (Firm Characteristic Variables)</i>								
<i>Log_Analyst</i>	13860	0.229	0.380	0.000	0.000	0.000	0.301	1.519
<i>SIZE</i>	13860	7.870	0.667	6.049	7.424	7.755	8.198	9.921
<i>BM</i>	13860	1.335	1.139	-4.785	0.606	1.078	1.770	7.426
<i>DEBT</i>	13860	0.440	0.225	0.001	0.268	0.435	0.588	1.364
<i>Cash_IND</i>	13860	-0.014	0.137	-0.650	-0.067	-0.006	0.052	0.617
<i>Control Variables 2 (Operation Risk Measure Variables)</i>								
<i>$\sigma(\text{CFO})$</i>	13860	0.076	0.054	0.002	0.039	0.062	0.095	0.284
<i>$\sigma(\text{sales})$</i>	13860	0.193	0.169	0.002	0.083	0.144	0.244	1.087
<i>OperCycle</i>	13860	2.050	0.401	0.592	1.909	2.085	2.264	3.473
<i>NegEarnRatio</i>	13860	0.283	0.321	0.000	0.000	0.200	0.600	1.000
<i>Int_Intensity</i>	13860	0.044	0.096	0.000	0.003	0.015	0.045	0.904
<i>Int_D</i>	13860	0.024	0.152	0.000	0.000	0.000	0.000	1.000
<i>Cap_Intensity</i>	13860	0.165	0.133	-0.248	0.062	0.135	0.236	0.580

Panel B. Macroeconomic environment

YEAR	Stock index (year-end index)		Economic growth rate (%)
	KOSPI	KOSDAQ	
2002	628	444	7.4
2003	811	449	2.9
2004	896	380	4.9
2005	1379	702	3.9
2006	1434	606	5.2
2007	1897	704	5.5
2008	1124	332	2.8
2009	1683	514	0.7
2010	2051	511	6.5
2011	1826	500	3.7
2012	1997	496	2.3
2013	2011	500	2.9
2014	1916	543	3.3

2015

1961

682

2.8

Table 2. Effect of institutional investors on earnings management

	Dependent Variable: Measures of earnings management			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)
<i>Intercept</i>	0.124*** (0.000)	0.218*** (0.000)	1.059*** (0.000)	-0.007 (0.276)
<i>INST_TR</i>	0.022*** (0.005)	0.027*** (0.001)	0.280*** (0.001)	0.006** (0.050)
<i>Log_Analyst</i>	0.008** (0.017)	0.010*** (0.005)	-0.093*** (0.007)	-0.005*** (0.000)
<i>SIZE</i>	-0.013*** (0.000)	-0.024*** (0.000)	-0.062*** (0.007)	0.001 (0.168)
<i>BM</i>	-0.011*** (0.000)	-0.017*** (0.000)	-0.098*** (0.000)	-0.001*** (0.007)
<i>DEBT</i>	0.022*** (0.000)	0.026*** (0.000)	0.257*** (0.000)	-0.003* (0.061)
<i>Cash_IND</i>	-0.110*** (0.000)	-0.112*** (0.000)	-0.020 (0.765)	0.000 (-0.932)
<i>Lag_EM</i>	0.092*** (0.000)	0.167*** (0.000)	0.712*** (0.000)	0.740*** (0.000)
<i>σ(CFO)</i>	0.496*** (0.000)	0.247*** (0.000)	-4.665*** (0.000)	-
<i>σ(sales)</i>	0.011** (0.037)	0.019*** (0.000)	0.392*** (0.000)	-
<i>OperC</i>	-0.004* (0.073)	-0.003 (0.218)	-0.062*** (0.004)	-
<i>NegE</i>	0.040*** (0.000)	0.049*** (0.000)	0.699*** (0.000)	-
<i>Int_Intensity</i>	0.006 (0.451)	0.028*** (0.001)	0.459*** (0.000)	-
<i>Int_D</i>	0.013** (0.012)	0.012** (0.029)	0.170*** (0.001)	-
<i>Cap_Intensity</i>	-0.017*** (0.005)	-0.045*** (0.000)	-0.489*** (0.000)	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	13860	13860	13860	13860
<i>Adj. R²</i>	0.300	0.309	0.649	0.585

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3. Effect of ownership of institutional blockholders on earnings management

	Dependent Variable: Measures of earnings management			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.106*** (0.000)	0.197*** (0.000)	0.893*** (0.000)	0.011* (0.064)
<i>BLOCK_OWN</i>	0.007 (0.428)	0.012 (0.197)	0.316*** (0.000)	0.008** (0.019)
<i>Log_Analyst</i>	0.010*** (0.001)	0.013*** (0.000)	-0.065* (0.053)	0.004*** (0.000)
<i>SIZE</i>	-0.010*** (0.000)	-0.021*** (0.000)	-0.038* (0.069)	0.002** (0.024)
<i>BM</i>	-0.011*** (0.000)	-0.017*** (0.000)	-0.096*** (0.000)	-0.001** (0.012)
<i>DEBT</i>	0.022*** (0.000)	0.025*** (0.000)	0.247*** (0.000)	-0.003** (0.037)
<i>Cash_IND</i>	-0.110*** (0.000)	-0.113*** (0.000)	-0.027 (0.689)	0.000 (0.928)
<i>Lag_EM</i>	0.092*** (0.000)	0.167*** (0.000)	0.711*** (0.000)	0.740*** (0.000)
<i>σ(CFO)</i>	0.496*** (0.000)	0.246*** (0.000)	-4.676*** (0.000)	-
<i>σ(sales)</i>	0.010** (0.049)	0.018*** (-0.001)	0.387*** (0.000)	-
<i>OperC</i>	-0.004** (0.047)	-0.003 (-0.150)	-0.066*** (0.002)	-
<i>NegE</i>	0.039*** (0.000)	0.048*** (0.000)	0.692*** (0.000)	-
<i>Int_Intensity</i>	0.006 (0.477)	0.028*** (-0.001)	0.464*** (0.000)	-
<i>Int_D</i>	0.013** (0.011)	0.012** (-0.027)	0.171*** (0.001)	-
<i>Cap_Intensity</i>	-0.018*** (0.004)	-0.046*** (0.000)	-0.497*** (0.000)	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	13860	13860	13860	13860
<i>Adj. R²</i>	0.300	0.309	0.649	0.585

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4. Effect of institutional investor types on earnings management

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_{BS}</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.128*** (0.000)	0.223*** (0.000)	1.114*** (0.000)	-0.007 (0.324)
<i>D_INST_TR</i>	0.005 (0.715)	0.000 (0.976)	-0.059 (0.654)	0.004 (0.449)
<i>F_INST_TR</i>	0.055*** (0.001)	0.070*** (0.000)	0.828*** (0.000)	0.011 (0.103)
<i>Log_Analyst</i>	0.008** (0.019)	0.010*** (0.005)	-0.092*** (0.008)	-0.005*** (0.000)
<i>SIZE</i>	-0.013*** (0.000)	-0.024*** (0.000)	-0.070*** (0.003)	0.001 (0.211)
<i>BM</i>	-0.011*** (0.000)	-0.017*** (0.000)	-0.098*** (0.000)	-0.001*** (0.008)
<i>DEBT</i>	0.022*** (0.000)	0.025*** (0.000)	0.255*** (0.000)	-0.003* (0.059)
<i>Cash_IND</i>	-0.110*** (0.000)	-0.113*** (0.000)	-0.023 (0.736)	0.000 (0.914)
<i>Lag_EM</i>	0.092*** (0.000)	0.167*** (0.000)	0.712*** (0.000)	0.740*** (0.000)
<i>σ(CFO)</i>	0.495*** (0.000)	0.244*** (0.000)	-4.696*** (0.000)	-
<i>σ(sales)</i>	0.011** (0.033)	0.019*** (0.000)	0.395*** (0.000)	-
<i>OperC</i>	-0.004* (0.078)	-0.003 (0.230)	-0.062*** (0.004)	-
<i>NegE</i>	0.039*** (0.000)	0.048*** (0.000)	0.691*** (0.000)	-
	0.006 (0.475)	0.028*** (0.001)	0.453*** (0.000)	-
<i>Int_Intensity</i>				
<i>Int_D</i>	0.013** (0.012)	0.011** (0.031)	0.169*** (0.002)	-
<i>Cap_Intensity</i>	-0.017*** (0.007)	-0.045*** (0.000)	-0.480*** (0.000)	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	13860	13860	13860	13860
<i>Adj. R²</i>	0.300	0.309	0.649	0.585

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 5. Effect of ownership of institutional blockholder types on earnings management

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA K</i>	(2) <i>AbsDA BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.106*** (0.000)	0.197*** (0.000)	0.891*** (0.000)	-0.011* (0.065)
<i>D_BLOCK_OWN</i>	0.003 (0.787)	0.007 (0.508)	0.287*** (0.006)	0.009** (0.015)
<i>F_BLOCK_OWN</i>	0.018 (0.261)	0.024 (0.145)	0.395** (0.018)	0.004 (0.560)
<i>Log_Analyst</i>	0.010*** (0.001)	0.013*** (0.000)	-0.065* (0.052)	-0.004*** (0.001)
<i>SIZE</i>	-0.010*** (0.000)	-0.021*** (0.000)	-0.038** (0.070)	0.002** (0.024)
<i>BM</i>	-0.011*** (0.000)	-0.017*** (0.000)	-0.096*** (0.000)	-0.001** (0.011)
<i>DEBT</i>	0.022*** (0.000)	0.025*** (0.000)	0.249*** (0.000)	-0.003** (0.032)
<i>Cash_IND</i>	-0.110*** (0.000)	-0.113*** (0.000)	-0.027 (0.686)	0.000 (0.921)
<i>Lag_EM</i>	0.092*** (0.000)	0.167*** (0.000)	0.711*** (0.000)	0.740*** (0.000)
<i>σ(CFO)</i>	0.496*** (0.000)	0.246*** (0.000)	-4.675*** (0.000)	-
<i>σ(sales)</i>	0.010** (0.046)	0.018*** (0.001)	0.388*** (0.000)	-
<i>OperC</i>	-0.004** (0.050)	-0.003 (0.158)	-0.066*** (0.002)	-
<i>NegE</i>	0.039*** (0.000)	0.048*** (0.000)	0.692*** (0.000)	-
<i>Int_Intensity</i>	0.006 (0.486)	0.028*** (0.001)	0.463*** (0.000)	-
<i>Int_D</i>	0.013*** (0.010)	0.012** (0.026)	0.172*** (0.001)	-
<i>Cap_Intensity</i>	-0.018*** (0.004)	-0.046*** (0.000)	-0.496*** (0.000)	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	13860	13860	13860	13860
<i>Adj. R²</i>	0.300	0.309	0.649	0.585

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 6. Effect of institutional investor types on earnings management by market growth opportunity

Panel A. High market growth period (2003~2007)

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.051 (0.141)	0.123*** (0.001)	-0.153 (0.645)	-0.047*** (0.000)
<i>D_INST_TR</i>	-0.019 (0.389)	-0.024 (0.306)	-0.171 (0.428)	0.000 (0.965)
<i>F_INST_TR</i>	0.009 (0.753)	0.017 (0.565)	0.359 (0.200)	0.000 (0.967)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	4476	4476	4476	4476
<i>Adj. R²</i>	0.313	0.332	0.668	0.562

Panel B. Low market growth period (2008~2014)

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.213 (0.000)	0.318 (0.000)	1.805 (0.000)	0.015 (0.068)
<i>D_INST_TR</i>	0.023 (0.129)	0.015 (0.342)	-0.011 (0.947)	0.007 (0.261)
<i>F_INST_TR</i>	0.103*** (0.000)	0.125*** (0.000)	1.240*** (0.000)	0.019** (0.029)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	9084	9084	9084	9084
<i>Adj. R²</i>	0.292	0.302	0.641	0.597

**Panel C. Difference in regression coefficients between two periods
(High-growth period β - Low-growth period β)**

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA_K</i>	(2) <i>AbsDA_BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	(t-value)	(t-value)	(t-value)	(t-value)
<i>D_BLOCK_OWN:</i> <i>difference in β</i>	(1.299)	(0.509)	(0.749)	(1.411)
<i>F_BLOCK_OWN:</i> <i>difference in β</i>	(2.031)**	(2.460)**	(2.742)***	(1.832)*

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7. Effect of ownership of institutional blockholder types on earnings management by market growth opportunity

Panel A. High market growth period (2003~2007)

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA K</i>	(2) <i>AbsDA BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.045 (0.171)	0.119*** (0.000)	-0.206 (0.515)	-0.048*** (0.000)
<i>D_BLOCK_OWN</i>	-0.036 (0.101)	-0.029 (0.192)	0.073 (0.726)	-0.002 (0.784)
<i>F_BLOCK_OWN</i>	-0.027 (0.397)	0.010 (0.757)	0.148 (0.622)	-0.004 (0.736)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	4476	4476	4476	4476
<i>Adj. R²</i>	0.313	0.332	0.668	0.561

Panel B. Low market growth period (2008~2014)

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA K</i>	(2) <i>AbsDA BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)	Coefficient (p-value)
<i>Intercept</i>	0.163*** (0.000)	0.264*** (0.000)	1.397*** (0.000)	0.006 (0.397)
<i>D_BLOCK_OWN</i>	0.015 (0.177)	0.020* (0.085)	0.361*** (0.003)	0.013*** (0.002)
<i>F_BLOCK_OWN</i>	0.041** (0.024)	0.037* (0.055)	0.512** (0.011)	0.006 (0.389)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	9084	9084	9084	9084
<i>Adj. R²</i>	0.290	0.299	0.640	0.596

**Panel C. Difference in regression coefficients between two periods
(High-growth period β – Low-growth period β)**

	Dependent Variable: Earnings Management Variables			
	(1) <i>AbsDA K</i>	(2) <i>AbsDA BS</i>	(3) <i>Smooth</i>	(4) <i>DiscAQ</i>
	(t-value)	(t-value)	(t-value)	(t-value)
<i>D_BLOCK_OWN:</i> <i>difference in β</i>	(1.301)	(1.261)	(1.270)	(1.650)*
<i>F_BLOCK_OWN:</i> <i>difference in β</i>	(2.669)**	(0.802)	(1.535)	(1.974)*

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 8. Effect of institutional investor types on earnings management conditional on market growth opportunity (economic benefits of monitoring activities) and managerial ownership (costs of monitoring activities)

Panel A. Dependent Variables : <i>AbsDA_K</i>				
	High market growth		Low market growth	
	High managerial ownership	Low managerial ownership	High managerial ownership	Low managerial ownership
	(1)	(2)	(3)	(4)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>
<i>Intercept</i>	0.028	0.060	0.095***	0.243***
	(0.617)	(0.155)	(0.008)	(0.000)
<i>D_INST_TR</i>	-0.005	-0.049	-0.023	0.039*
	(0.877)	(0.100)	(0.262)	(0.052)
<i>F_INST_TR</i>	-0.064	0.041	0.027	0.130***
	(0.171)	(0.256)	(0.366)	(0.000)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	1256	3520	2454	6630
<i>Adj. R²</i>	0.170	0.342	0.218	0.302

Panel B. Dependent Variables : <i>AbsDA_BS</i>				
	High market growth		Low market growth	
	High managerial ownership	Low managerial ownership	High managerial ownership	Low managerial ownership
	(1)	(2)	(3)	(4)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>
<i>Intercept</i>	0.087*	0.140***	0.176***	0.379***
	(0.093)	(0.002)	(0.000)	(0.000)
<i>D_INST_TR</i>	-0.040	-0.031	-0.008	0.009
	(0.167)	(0.318)	(0.683)	(0.668)
<i>F_INST_TR</i>	0.007	0.023	0.005	0.187***
	(0.895)	(0.546)	(0.877)	(0.000)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	1256	3520	2454	6630
<i>Adj. R²</i>	0.180	0.347	0.213	0.312

Panel C. Dependent Variables : <i>Smooth</i>				
	High market growth		Low market growth	
	High managerial ownership	Low managerial ownership	High managerial ownership	Low managerial ownership
	(1)	(2)	(3)	(4)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>
<i>Intercept</i>	0.711	-0.396	0.440	2.220***
	(0.184)	(0.333)	(0.351)	(0.000)
<i>D_INST_TR</i>	-0.306	-0.146	-0.173	-0.060
	(0.304)	(0.613)	(0.519)	(0.782)
<i>F_INST_TR</i>	0.425	0.322	0.750*	1.437***

	(0.343)	(0.355)	(0.059)	(0.000)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	1256	3520	2454	6630
<i>Adj. R²</i>	0.730	0.649	0.667	0.634

Panel D. Dependent Variables : *DiscAQ*

	High market growth		Low market growth	
	High managerial ownership	Low managerial ownership	High managerial ownership	Low managerial ownership
	(1)	(2)	(3)	(4)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>
<i>Intercept</i>	-0.051 **	-0.044 ***	0.004	0.017
	(0.011)	(0.002)	(0.767)	(0.080)
<i>D_INST_TR</i>	-0.010	0.003	0.005	0.008
	(0.416)	(0.790)	(0.603)	(0.329)
<i>F_INST_TR</i>	-0.010	0.003	0.007	0.024 **
	(0.585)	(0.817)	(0.596)	(0.032)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	1256	3520	2454	6630
<i>Adj. R²</i>	0.565	0.560	0.619	0.590

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 9. Effect of institutional investor types on earnings management conditional on large conglomerate affiliation (costs of monitoring activities) and market growth (economic benefits of monitoring activities)

Panel A. Dependent Variables : <i>AbsDA K</i>				
	High market growth		Low market growth	
	Affiliated with a large conglomerate	Not affiliated with a large conglomerate	Affiliated with a large conglomerate	Not affiliated with a large conglomerate
	(1)	(2)	(3)	(4)
	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)
<i>Intercept</i>	-0.049 (0.458)	0.067 (0.107)	0.186*** (0.000)	0.216*** (0.000)
<i>D_INST_TR</i>	-0.053 (0.124)	-0.011 (0.693)	-0.024 (0.287)	0.032* (0.086)
<i>F_INST_TR</i>	-0.042 (0.315)	-0.009 (0.798)	0.078*** (0.007)	0.092*** (0.001)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	704	4072	1280	7804
<i>Adj. R²</i>	0.243	0.331	0.171	0.301

Panel B. Dependent Variables : <i>AbsDA BS</i>				
	High market growth		Low market growth	
	Affiliated with a large conglomerate	Not affiliated with a large conglomerate	Affiliated with a large conglomerate	Not affiliated with a large conglomerate
	(1)	(2)	(3)	(4)
	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)
<i>Intercept</i>	0.101* (0.057)	0.090** (0.039)	0.194*** (0.000)	0.346*** (0.000)
<i>D_INST_TR</i>	-0.037 (0.176)	-0.022 (0.427)	-0.023 (0.294)	0.016 (0.415)
<i>F_INST_TR</i>	-0.058* (0.079)	0.019 (0.618)	0.023 (0.413)	0.142*** (0.000)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	704	4072	1280	7804
<i>Adj. R²</i>	0.131	0.335	0.155	0.310

Panel C. Dependent Variables : <i>Smooth</i>				
	High market growth		Low market growth	
	Affiliated with a large conglomerate	Not affiliated with a large conglomerate	Affiliated with a large conglomerate	Not affiliated with a large conglomerate
	(1)	(2)	(3)	(4)
	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)	<i>Coefficient</i> (<i>p-value</i>)
<i>Intercept</i>	0.619	-0.614	1.553**	1.938***

	(0.315)	(0.127)	(0.025)	(0.000)
<i>D_INST_TR</i>	-0.323	-0.125	-0.438	-0.017
	(0.315)	(0.632)	(0.226)	(0.931)
<i>F_INST_TR</i>	-0.304	0.287	0.336	1.543***
	(0.432)	(0.416)	(0.463)	(0.000)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	704	4072	1280	7804
<i>Adj. R²</i>	0.606	0.673	0.647	0.652

Panel D. Dependent Variables : *DiscAQ*

	High market growth		Low market growth	
	Affiliated with a large conglomerate	Not affiliated with a large conglomerate	Affiliated with a large conglomerate	Not affiliated with a large conglomerate
	(1)	(2)	(3)	(4)
	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>	<i>(p-value)</i>
<i>Intercept</i>	-0.070***	-0.045***	0.007***	0.017*
	(0.004)	(0.002)	(0.693)	(0.082)
<i>D_INST_TR</i>	0.004	-0.001	0.012	0.005
	(0.769)	(0.927)	(0.203)	(0.493)
<i>F_INST_TR</i>	-0.009	0.004	0.001	0.028**
	(0.589)	(0.741)	(0.938)	(0.012)
<i>Control Variables 1</i>	Included	Included	Included	Included
<i>Control Variables 2</i>	Included	Included	Included	-
<i>Year_D</i>	Included	Included	Included	Included
<i>N</i>	704	4072	1280	7804
<i>Adj. R²</i>	0.520	0.565	0.585	0.598

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.