Research Paper

Institutional Ownership and Earnings Management in India

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Abstract

Influence of institutional ownership has been hypothesised to efficiently monitor the managerial decisions especially discretionary role of managers in reporting earnings. The managers have been found to misrepresent the quality of earnings for a dividend declaration; new issue; takeovers and for affirming debt holders of their financial position. Panel data methodology focusing on firms listed in CNX 500 in National Stock Exchange empirically examines the impact of institutional ownership on the earnings management practices in India. Earnings management is measured using discretionary accounting accruals. Firms with higher institutional holdings are found to have higher earnings quality thus restricting managers from using their discretionary powers to report earnings. Institutional ownership has a negative relationship with earnings management for larger and matured firms. Growing firms are found to be having higher earnings management. Institutional investors monitor the firms and hence reduce aggressive earnings management practices within the firm. Foreign institutional ownership also has a negative relationship with earnings management.

Keywords

Earnings management, discretionary accruals, institutional ownership

Introduction

Institutional ownership theoretically is hypothesised to provide a monitoring mechanism that helps to align the interest of managers and shareholders (Burns,

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Kedia & Lipson, 2010). Institutional investors play a direct (through ownership) and indirect (trading their shares) role in monitoring a firm (Gillan & Stark, 2003). Critics have generally two broad views on the impact of institutional shareholding on firm's earning quality. One argument states that frequent trading and fragmented ownership by institutional investors discourage them from actively involving in the corporate governance of their portfolio of firms (Potter, 1992). On the other hand, studies by Bushee (1998) and Majumdar and Nagaraj (1997) prove that institutional investors play an active role in monitoring and disciplining managerial discretion and therefore help in improving informational efficiency in the capital market.

The institutional investors invest on behalf of their clients and are accountable to them for the investment returns. The primary objective of these investors is to invest in a portfolio of firms that generate maximum possible returns. Considering both short- and long-term investment focus, it is assumed that these institutions may look for firms with good corporate governance practice or actively monitor the firms. However, in the Indian context it has been observed that the institutional investors did not actively monitor the firm performance (Varma, 1997). The practice of earnings management within the firms may therefore pose challenge for these investors. Examining earnings management practices of firms provide information to capital market regulators on improving the disclosure practices of firms such that management discretion is minimised. Also it will help provide an additional tool for ensuring that financial reporting matches the real economic value of the firm (Ajit, Sarat & Verma, 2013). Foreign institutional investors as a part of institutional owners also focus on the earnings management practices of firms in their self-interest. Further earnings management practices could have an impact of business group affiliation and industry differences (Beuselinck & Deloof, 2014; Kim & Yi, 2006).

The growing participation of institutional investors (majority being foreign institutional investors and financial institutions) in Indian stock market iterates the need to examine their role in active monitoring of management's action. This active monitoring may influence the quality of reported earnings of firms. Literature points out that institutional investors having long-term investment goal tend to engage in controlling and monitoring the managers (Chung, Firth & Kim, 2002). However, investors with short-term investment focus do not directly involve in monitoring and make decisions on their shareholding depending on the short-term events of the firm or economy.

Institutional Investors' Impact on Earnings Management

Velury and Jenkins (2006) investigated whether the quality of reported earnings is associated with level of institutional ownership in the corporate structure. They defined institutional investors as large investors such as bank trusts, insurance companies, mutual funds and pension funds that invest on behalf of others (Bushee, 1998). They suggested that there is a general positive association between institutional ownership and earnings quality that is negatively affected by increased ownership concentration. Institutional investors interpret financial information more accurately than individual investors and firms with higher institutional

ownership are less likely to manage earnings (Bushee, 1998). Active monitoring hypothesis assumes that the institutional investors invest large magnitude of wealth in a firm, hence tend to actively participate in managing their investment. Studies support the view that institutional investors actively monitor firms and thus reduce the incidence of aggressive earnings management. Brous and Kini (1994) studied the association between the announcement-period abnormal stock price reaction and announcement-period abnormal earning forecast revisions (current year and five-year earnings growth). They found a significant positive relationship between announcement-period abnormal stock price returns and institutional ownership. However, they did not find any relationship between analysts' abnormal forecast revision in current year earnings and institutional ownership, but found a positive and significant relation between abnormal forecast revisions in five-year earnings growth and institutional ownership.

Bushee (1998) hypothesised that higher percentage of institutional holdings in a firm increases the likelihood of managers' cuts on research and development (R&D) to meet short-term earnings goal. However, the study concluded that managers are less likely to cut R&D to reverse an earnings decline when institutional ownership is high. This evidence supports the view that large stockholdings of institutional investors allows them to monitor and discipline managers and ensures that managers choose R&D level that maximises long-term value rather than to meet short-term earnings goal. Majumdar and Nagarajan (1997) found evidence that the presence of institutional investors in firms is associated positively and significantly with relatively higher spending on R&D and capital expenditures. Markets take a long-term view of corporate actions and the increase in the percentage of institutional ownership structure is positively associated with the instances of long-term behaviour of firms.

Koh (2003) discusses the short- and long-term oriented institutional investors and earnings management. It has been found that institutional investors' trading are sensitive to current earnings news of the firm. Underperformance of firm, that is, decline in current earnings, may lead to selling of shares by institutional investors. Excessive focus on current earnings by institutional investors may create incentive for managers to manage earnings upward (Potter, 1992). Also manager's compensation is linked to both current earnings performance and share price performance of the firm. Hence managers may indulge in aggressive earnings management practices (Potter, 1992). Koh (2003) investigated a non-linear association between institutional investors and income increasing discretionary accruals and the result supports the predicted non-linear association. The result indicated positive association between institutional ownership and income increasing discretionary accruals within lower region of institutional ownership and a negative association within the higher institutional ownership region which is consistent with the long-term oriented view of institutional investors.

Marsh (1990) noted that as the performance of fund manager is evaluated over shorter time period, this forces the fund managers to beat the index. Hence under tremendous pressure they sell stock of firms with poor corporate governance rather than interfering in the functioning of the firm and incur monitoring cost. Hence short-term performance measurement works against the active monitoring

by institutional investors. The short-term focus of institutional investors forces the fund managers to buy or sell stocks depending upon the earnings expectation of firms in which they invest (Graham, Harvey & Rajgopal, 2005). This gives incentives for the firm to focus on meeting or beating the short-term earnings targets to avoid earnings surprises.

Private benefit hypothesis argues that large institutional investors have access to private information of the firm and they can exploit this for trading purposes. If the firm has concentrated ownership structure, they may not encourage management to report high-quality earnings as it can be exploited by institutional investors for their own benefit. Private benefit hypothesis assumes a negative relationship between concentrated ownership and earnings quality. Potter (1992) examines the relation between the level of institutional investor ownership and the magnitude of security price variability at quarterly earnings announcement dates. The results indicated that the degree of price variability at quarterly announcement increases with the level of institutional investor ownership after controlling for firm size, earnings response coefficients and earnings variability. Further the study emphasised on the need to examine whether the presence of institutional investors, structure of institutional trading in the capital market or any other factor is responsible for the positive association between percentage of institutional ownership and security price variability during quarterly earnings announcement.

In the Indian context, Sarkar and Sarkar (2000) found that institutional investors do not play an active role in corporate governance, however as the equity holding in a firm increases monitoring role becomes effective. The impact of board characteristics on earnings management on 500 large Indian non-financial firms is studied by Sarkar, Sarkar & Sen (2008). They report that board quality is important for earnings management. Also they found that domestic institutional owners help to mitigate the adverse effect of controlling shareholders on corporate boards. Sarkar, Sarkar & Sen (2013) studied the relationship between insider control and opportunistic earnings management focusing on the effect of business group affiliation. They found a U-shaped relationship between insider control and earnings management. This relationship is found to be stronger for business affiliated firms than stand-alone firms. Business group affiliation enables the controlling shareholders to divert resources from one affiliate to another. Indian firms enter into new line of business by floating a new firm which is affiliated to a particular business group. Beuselinck and Deloof (2014) found that Belgian firms affiliated to business groups manage earnings more than stand-alone firms. Also the study indicates that fully owned group firms with majority shareholders have lower quality of earnings than groups with minority shareholders. The earnings management within group firms is mostly achieved using intra-group transactions. Ajit et al. (2013) studied the earnings management practices of non-financial publicly listed Indian firms during the year 2008–2011. The result indicated that discretionary accrual is 2.9 per cent of total asset in these firms. Also small-sized firms are found to have relatively higher earnings management practice than medium and large-sized firms. Ghosh (2011) examined how firm ownership relates to auditor choice for the year 2005 in India using Jones (1991) measure. The analysis indicates that firms having high discretionary accruals are

less likely to be audited by domestic entities and also foreign-owned firms and private firms are less likely to prefer domestic auditors. However, the study is confined to a single point in time and hence the findings are viewed as preliminary.

Large firms tend to be under scrutiny by the outsiders such as analysts than smaller firms. Hence managers of large firms may have less opportunity to exercise their accounting discretion. Large-sized firms have more sophisticated internal control system and have more competent internal auditors (Kim, Liu & Rhee, 2003). Hence larger firms are less prone to earnings management than smaller firms. Watt and Zeimmerman (1986) argue that firms having higher leverage tend to violate the debt covenants; hence, these firms are more likely to engage in earnings management. Firms having higher amount of leverage engage in aggressive use of earnings management in their effort to avoid debt covenants violation. Ghosh and Moon (2010) document a non-monotonic (curvilinear) relation between debt and earnings quality. They suggest that firms with higher debt level have lower earnings quality which increases the cost of borrowings since the benefits from avoiding debt covenants exceeds cost of borrowings. Dechow and Skinner (2000) compared firms with high accruals and low accruals and found firms with high accruals are characterised by lower leverage. Jensen's (1986) argument that higher amount of debt reduces manager's opportunistic behaviour and imply that higher level of leverage may restrict manager's ability to manipulate the income increasing accruals.

Lower profitability may motivate managers to inflate earnings in order to avoid signalling negative earnings surprises in the capital market that may have a significant impact on firm's market based performance. On the other hand higher profitability leads to earnings smoothing to report lower profits for availing tax incentives. Myers (1977) points out firms with higher investment opportunities have higher agency costs of debt. The managers of such firms may have an incentive to manage these discretionary investments for manipulative purposes. It is difficult to control and monitor high-growth firms and hence opportunistic behaviour of managers in such firms further push the earning management practices. Therefore, high-growth firms tend to have low earnings quality (AlNajjar & Riahi-Belkaoui, 2001).

Active monitoring hypothesis argues that institutional investors engage actively in monitoring the firms in which they make large investments and hence a negative relationship is expected between the institutional ownership and earnings management (Bushee, 1988). Private benefit hypothesis states that institutional investors have access to information about the firms which can be used for trading purposes. Hence, higher the concentration of block holder's ownership lesser will be earnings quality. As the ownership become concentrated private information available about the firms can be exploited and under such circumstances large block holders may not be encouraging managers to report high quality earnings (Velury & Jenkins, 2006). Literature emphasises the significant influence of institutional ownership on the quality of reported earnings (Koh, 2003; Potter, 1992; Sarkar et al., 2008; Velury & Jenkins, 2006). The identification of the level of institutional ownership that has significantly contributed to the active monitoring hypothesis would indirectly indicate the high

quality of earnings. Two models are hence proposed to test the ownership influence on earnings quality.

Research Methodology

Discretionary accruals measure the dependent variable earnings management. The impact of firm characteristics, such as, leverage, performance, size, age, growth opportunity and agency cost, is also examined. Panel data methodology helps to address the issue of unobserved heterogeneity problem. The following subsection elaborates the sample selection procedure, estimation methodology and variables measurement.

Sample Selection

The focus is on non-financial firms as the regulatory environment of financial firms (banks and insurance sectors) and government-owned enterprise requires a different focus than non-regulated manufacturing and service sector (Sarkar et al., 2008). Financial firms are excluded due to their tight regulatory control and their inclusion would distort the study since their regulation enforces specific directives on disclosure of their earnings to the public. Government-owned firms are excluded since their governance mechanism does not fully rely on market. Information from PROWESS database, maintained by Centre for Monitoring Indian Economy (CMIE) for the period 2008–2013 on 393 firms listed in CNX 500 list constitute the sample. CNX 500 is India's first broad-based benchmark of Indian capital market and represents about 96.76 per cent of the free float market capitalisation of stocks listed on National Stock Exchange (NSE) as on 31 December 2013.

Manufacturing firms constitutes 85 per cent of final sample while remaining sample consists of firms in service sector (Table 1). Business group affiliates (71.5 per cent) and stand-alone firms (28.4 per cent) differentiation of the sample would help to understand the issues of earnings quality further. Prowess group classification is used to identify group affiliation.

Table 1. Sample Selection Procedure

Period: 2008–2013	No. of Firms	% of Final Sample
Initial sample of CNX 500 listed firms	500	–
Less: Financial and government-owned firms	(107)	–
Final sample	393	100
Manufacturing firms within final sample	336	85.49
Service firms within final sample	57	14.50
Business affiliates within final sample	281	71.50
Stand-alone firms within final sample	112	28.49

Source: CMIE Prowess Database.

Model Specification and Variable Measurement

The test of equality of means across levels of institutional ownership is performed using parametric (t-test) and non-parametric analysis (Mann–Whitney test). Parametric test assumes that data is approximately normally distributed while non-parametric analysis does not rely on the shape or parameter of underlying population distribution. Using both techniques increases the robustness of the comparison analysis. The results of both the analysis can be compared and substantiated with each other.

Multivariate analysis proposes four different models to test the impact of institutional ownership on earnings quality. Models 1 and 2 consider the level of institutional ownership (dummy variable) while Models 3 and 4 use the percentage of institutional ownership.

1. ***Discretionary accruals*** = *f* (level of institutional ownership, size, age, leverage, performance, growth opportunity, agency cost, industry dummy, group dummy)
2. ***Discretionary accruals*** = *f* (level of foreign institutional ownership, size, age, leverage, performance, growth opportunity, agency cost, industry dummy, group dummy)
3. ***Discretionary accruals*** = *f* (institutional ownership, size, age, leverage, performance, growth opportunity, agency cost, industry dummy, group dummy)
4. ***Discretionary accruals*** = *f* (foreign institutional ownership, size, age, leverage, performance, growth opportunity, agency cost, industry dummy, group dummy)

The magnitude of abnormal accruals has been used to search for the evidence of earnings management (Kim et al., 2003). Larger abnormal accruals suggests more earnings management and vice versa (Velury & Jenkins, 2006). Total accruals represent both discretionary accruals (abnormal accruals) and non-discretionary accruals. The residual method from the regression of total accruals on other factors captures the discretionary component of accruals (modified Jones method (Dechow, Sloan & Sweeney, 1995). Total accruals and discretionary accruals calculation are shown in Appendix. Variations used to measure discretionary accruals are (i) absolute value of residuals (unsigned discretionary accruals) and (ii) income increasing and income decreasing accruals.

Institutional ownership is represented as the ratio of institutional shareholding to the total number of outstanding shares (Koh, 2003). A dummy variable is used to measure the level of institutional ownership where institutional holdings higher than the mean value of 21.62 per cent are coded as 1 else 0. Equity ownership by foreign institutional investor's is calculated within institutional investors. Level of foreign institutional ownership is also a dummy variable where ownership above 11.87 per cent is coded as 1 else 0. Firm size is measured as the natural log of total assets (Koh, 2003). Leverage is measured as the ratio of total borrowings to the total assets of the firm (Bhaduri, 2002). Ratio of earnings before interest

and tax to total assets examines the influence of firm's return on assets (performance) on earnings management. Growth opportunity is measured using change in firm's asset over successive periods. Agency cost is represented in terms of firm's advertising and research and development expenditures following Myer's (1977) underinvestment agency cost argument. The industry dummy classifies firms into manufacturing (coded as 1) and service sector (coded as 0). Group dummy captures the difference between business groups affiliated firms (coded as 1) and stand-alone firms (coded as 0).

Empirical Results

Summary Statistics

The average absolute discretionary accruals are approximately16 per cent of total assets for the firms for the full sample across years (2008–2013) (Table 2). Discretionary accruals are classified as income increasing (positive accruals) and income decreasing (negative accruals).

Table 2. Summary Statistics (*N* = 2322)

	Mean	Standard Deviation	Minimum	Maximum
Absolute discretionary accruals (as % of total assets)	0.164	0.284	0	9.410
Positive discretionary accruals (as % of total assets)	0.178	0.383	0.000	9.410
Negative discretionary accruals (as % of total assets)	−0.156	0.150	−0.000	−1.164
Institutional ownership (%)	21.629	13.237	.01	75.41
Foreign institutional ownership (%)	11.872	10.353	0	64.7
Leverage (Borrowings/Total assets)	0.236	0.189	0	0.794
Performance (EBITD/Total assets)	0.075	0.074	−0.287	0.756
Size (inches)	10.052	1.291	5.831	14.974
Age (years)	35.272	25.157	1	150
Growth Opportunity (%)	0.236	0.488	−1	16.35
Agency cost (R&D + Advertising/Total assets)	0.285	4.168	0	118.911

Source: Authors' analysis.

Positive accruals are 17.8 per cent of total assets; however, negative accruals are 15.6 per cent of total assets. The average percentage of institutional ownership is found to be 21 per cent of total common shares outstanding. Institutional ownership percentages range between 0.01 per cent (minimum) and 75.41 per cent (maximum) with the standard deviation of 13.23 per cent. Foreign institutional investors hold on an average 11.87 per cent of total shareholding with maximum holding of 64.7 per cent across firms and over time. The average borrowings of firms (leverage) are 23.5 per cent of total assets. Performance measuring return on asset is 7.6 per cent of total assets. The average size (measured as the natural logarithm of total assets) of the total sample is 10.04, which is approximately equal to `35,840 million worth of total assets in the firm. The change in total assets over the period which captures the growth opportunity of firms is 23.6 per cent. The average age of firms in the sample is found to be 35. The agency cost reflecting the discretionary expenses shows an average of 28.5 per cent of total sales.

Relationship between Variables

Institutional ownership and foreign institutional ownership show a significant negative relationship with discretionary accruals and is statistically significant at the 1 and 10 per cent levels, respectively (Table 3). Leverage and performance are positively related to discretionary accruals. Size, age and agency cost shows a statistically significant negative relationship with abnormal accruals. Growth opportunity is showing statistically significant positive relationship with discretionary accruals. Overall the results reveal that there is not much correlation between the variables used and hence reduces the concern of multi-collinearity for further data analysis.

Table 3. Relationship between Variables

	DA	INST	LEV	PER	SIZE	AGE	GRW	AGEN
DA	1							
INST	−0.08***	1						
FII	−0.03*							
LEV	0.05***	–	1					
PER	0.04***	0.08***	−0.53***	1				
SIZE	−0.06***	0.34***	0.24***	−0.15***	1			
AGE	−0.09***	0.13***	−0.04**	0.05***	0.13***	1		
GRW	0.69***	−0.02	0.05***	−0.07***	−0.03*	−0.08***	1	
AGEN	−0.01	−0.00	0.06***	−0.00	0.04**	−0.00	0.00	1

Source: Authors' analysis.

Notes: 1. ***, ** and * indicate statistical significance at 1, 5 and 10 per cent levels, respectively.
2. Spearman correlation analysis shows similar result as reported in Table 3 (Pearson correlation analysis) and, hence is not shown in the table for brevity.
DA = Absolute discretionary accruals; INST = Institutional ownership; FII = Foreign institutional ownership; LEV = Leverage; PER = Performance; SIZE = Size; AGE = Age; GRW = Growth opportunity; AGEN = Agency cost.

Comparison across Levels of Institutional Ownership

Institutional and foreign institutional ownership classified as high and low level (Table 4) is based on the average value of institutional (21.62 per cent) and foreign institutional (11.87 per cent) ownership over the period 2008–2013. Equity holding higher than average value of institutional ownership (21.62 per cent) is classified as high level and those lower than average value is classified as low level. Similar classification is employed for the foreign institutional ownership, which is a component of total institutional ownership. Parametric (t-test) and non-parametric (Mann–Whitney test) technique compares the difference in unsigned discretionary accruals and signed accruals across the sample.

Table 4. Comparison of Discretionary Accruals across Institutional Ownership

	Level of Institutional Ownership					
	Mean		t-Test		Mann–Whitney Test	
Variables	High level	Low level	*t*-Value	*p*-Value	*z*-Value	*p*-Value
Absolute DA (as % of total assets)	0.144	0.179	2.929	0.003	3.033	0.002
Positive DA(as % of total assets)	0.156	0.199	1.856	0.063	2.327	0.020
Negative DA(as % of total assets)	−0.144	−0.162	−2.151	0.031	−1.057	0.290

Source: Authors' analysis.

Notes: 1. DA = discretionary accruals.
2. The average value of high and low level of institutional ownership is 33.61 per cent and 11.39 per cent, respectively.

Table 4 indicates that firms with higher institutional ownership have lower absolute discretionary accruals (higher earning quality) than firms with lower level of institutional ownership and the difference is statistically significant at 1 per cent significant level (Velury & Jenkins, 2006). Also firms with higher institutional ownership are found to have lower positive and negative accruals and the difference is statistically significant. Similar result is found except for income decreasing accruals using non-parametric technique as reported on Table 4.

Absolute discretionary accruals and signed accruals are found to be lower for firms with high level of foreign institutional ownership; however, the difference is statistically insignificant except for negative accruals using parametric analyses (Table 5). On the other hand non-parametric analysis (Mann–Whitney test) indicates that absolute discretionary accruals and positive accruals are significantly (at 1 per cent significance level) low for high level of foreign institutional ownership. Based on the non-parametric tests we can conclude that firms have lower quality of earnings when the institutional ownership is lower (Chung et al., 2002). The impact of institutional holdings on accruals is established through panel data analysis.

Table 5. Comparison of Discretionary Accruals across Foreign Institutional Ownership

	Level of Foreign Institutional Ownership					
	Mean		t-Test		Mann–Whitney Test	
Variables	High Level	Low Level	*t*-Value	*p*-Value	*z*-Value	*p*-Value
Absolute DA (as % of total assets)	0.152	0.172	1.619	0.105	2.020	0.043
Positive DA(as % of total assets)	0.154	0.188	0.136	0.173	2.339	0.019
Negative DA(as % of total assets)	−0.156	−0.156	0.036	0.971	−0.492	0.623

Source: Authors' analysis.

Note: 1. DA = discretionary accruals.
2. The average value of high and low level of institutional ownership is 21.65 per cent and 4.68 per cent, respectively.

Factors Influencing Discretionary Accruals

Unsigned accrual includes both income increasing and income decreasing accruals. Regression analysis controls for industry and year effect. Robust regression analysis generates robust standard errors to avoid the problem of heteroskedasticity (unequal error variance). Panel data analysis supports the univariate results that there exists significant negative relationship between level of institutional ownership and absolute value of discretionary accruals (Table 6; model 1 and model 2).

Institutional ownership (Table 6, model 2) shows a significant negative relationship with earnings management indicating that increase in the percentage of institutional holding reduces the ability of managers to misrepresent earnings (Chung et al., 2002). Industry dummy's negative relationship with earnings management reports that manufacturing firms have higher earnings quality than firms in service sector. The two business groups (affiliates and stand-alone firms) do not show any significant relationship with discretionary accruals. Age and size show a negative relation with unsigned discretionary accruals and the relationship is significant at 5 per cent and 1 per cent, respectively. Larger size and mature firms indulge less in earnings management which is consistent with the finding of Sarkar and Sarkar (2013).

Growth opportunity shows significant (5 per cent level) positive relationship with discretionary accruals for all the models in Table 6. This reflects the fact that growing firms distort the true earnings to achieve specific objectives (capital market incentives, avoid debt covenant violations etc.). This is consistent with the finding of AlNajjar and Riahi-Belkaoui (2001) in which they attribute earnings management by growing firms with incentive to reduce political costs and political risk. They argue that firms with high level of investment opportunities make accounting choices to reduce reported earnings. Agency cost reflecting the discretionary expenses of firms (research and development expense, advertising expense) has a negative impact on discretionary accruals which indicates that firms are not using discretionary expenses such as R&D and advertisement to manage earnings but

resorting to other earnings manipulation technique such as change in depreciation methods, asset life and salvage value estimates (Keating & Zimmerman, 2000).

Table 6. Impact of Institutional and Foreign Institutional Ownership on Unsigned Discretionary Accruals

	Dependent Variable: Unsigned Discretionary Accruals			
	Model 1	**Model 2**	**Model 3**	**Model 4**
	Coefficients (t stat)	***Coefficients (t stat)***	***Coefficients (t stat)***	***Coefficients (t stat)***
Constant	0.191	0.197	0.185	0.193
Level of institutional ownership	−0.016 (−1.82)*	–	–	–
Level of foreign institutional ownership	–	−0.015 (−1.70)*	–	–
Institutional ownership	–	–	−0.0009 (−2.89)***	–
Foreign institutional ownership	–	–	–	−0.001 (−3.03)***
Group dummy	0.018 (1.54)	0.017 (1.47)	0.018 (1.55)	0.016 (1.46)
Industry dummy	−0.022 (0.067)	−0.021 (−1.74)*	−0.021 (−1.77)*	−0.020 (−1.67)*
Leverage	0.055 (1.20)	0.057 (1.22)	0.050 (1.10)	0.057 (1.23)
Performance	0.068 (0.36)	0.058 (0.30)	0.068 (0.36)	0.062 (0.32)
Size	−0.012 (−2.95)***	−0.013 (−3.17)***	−0.010 (−2.44)**	−0.011 (−2.92)***
Age	−0.0004 (−2.47)***	−0.0004 (−2.64)***	−0.0004 (−2.39)**	−0.0004 (−2.89)***
Growth opportunity	0.427 (4.84)***	0.428 (4.90)***	0.426 (4.84)***	0.428 (4.91)***
Agency cost	−0.001 (−2.08)**	−0.001 (−2.10)**	−0.001 (−2.20)**	−0.001 (−2.10)**
Year effect	YES	YES	YES	YES
F stat.	7.79	8.06	8.10	8.19
R-square	0.512	0.517	0.513	0.518
N	2219	2184	2219	2184

Source: Authors' analysis.

Note: 1.***, ** and * indicate that coefficient are statistically significant at 1, 5 and 10 per cent levels, respectively.

2. Robust regression analysis is employed to obtain heteroskedasticity-robust standard errors.

The level of foreign institutional holding is showing a negative relationship with earnings management, hence supporting the findings of univariate analysis (Table 6, model 3). Foreign institutional holding is negatively related to

discretionary accruals indicating higher earnings quality (Table 6, model 4). Other control variables are showing similar impact on earnings management as found in model 1 and model 2.

Table 7 shows the result of impact of institutional ownership on income increasing and income decreasing accruals. Institutional ownership is negatively related to both positive and negative discretionary accruals (model 1 and model 2). This substantiates the monitoring role of institutional investors for restricting the earnings management practices.

Table 7. Impact of Institutional and Foreign Institutional Ownership on Signed Discretionary Accruals

	Dependent Variable: Signed Discretionary Accruals			
	Positive Discretionary Accruals		**Negative Discretionary Accruals**	
Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**
	Coefficients (t stat)	***Coefficients (t stat)***	***Coefficients (t stat)***	***Coefficients (t stat)***
Constant	0.130	0.128	0.154	0.177
Institutional ownership	−0.001 (−1.96)**	–	−0.0006 (−2.14)**	–
Foreign institutional ownership	–	−0.001 (−3.14)***	–	−0.0002 (−0.63)
Group dummy	0.018 (1.04)	0.018 (1.02)	−0.004 (−0.46)	−0.005 (−0.51)
Industry dummy	−0.020 (−0.91)	−0.016 (−0.70)	−0.018 (−1.70)*	−0.021 (−1.93)*
Leverage	0.214 (2.54)***	0.230 (2.66)***	−0.038 (−1.35)	−0.033 (−1.16)
Performance	0.431 (1.31)	0.451 (1.35)	−0.019 (−0.20)	−0.031 (−0.30)
Size	−0.013 (−2.13)**	−0.013 (−2.31)**	0.001 (0.30)	−0.002 (−0.53)
Age	−0.0001 (−0.61)	−0.0002 (−1.09)	−0.0006 (−4.60)***	−0.0007 (−4.90)***
Growth opportunity	0.494 (7.32)***	0.496 (7.40)***	0.025 (1.10)	0.035 (1.55)
Agency cost	−0.0000 (−0.06)	0.0000 (0.02)	−0.001 (−2.57)***	−0.001 (−2.77)***
Year effect	Yes	Yes	Yes	Yes
F stat.	20.85	33.95	4.20	4.40
R-square	0.669	0.671	0.044	0.047
N	1039	1022	1180	1162

Source: Authors' analysis.

Notes: 1. ***, ** and * indicate that coefficient are statistically significant at 1, 5 and 10 per cent levels, respectively.

2. Robust regression analysis is employed to obtain heteroskedasticity-robust standard errors.

The negative impact of foreign institutional ownership is significant only for income increasing accruals (model 3). Leverage is showing a significant positive influence on positive accruals (model 1 and model 2). The result indicates that firms with higher leverage increase their accruals. This is in line with the argument of Watt and Zeimmerman (1986) that firms with higher debt level engage in earnings management to avoid violating debt covenants. Other control variables are showing similar impact on signed discretionary accruals as reported in Table 6.

Magnitude of Institutional Ownership and Earnings Management

Increased level of institutional ownership decreases earnings management (Figure 1) indicating that a negative relationship exists between institutional ownership and earnings equality of firms. At lower quartiles when average institutional ownership is 6 per cent of total equity ownership, the average value of discretionary accruals is 20 per cent of total assets. In the last quarter with average ownership percentage of 39 per cent, the discretionary accruals reduce to 13.5 per cent of total assets. The maximum benefit of holding institutional ownership for reducing earnings management is when the average percentage of institutional holding over 6-year period is above 15.3 per cent. This reduction confirms that presence of institutional investors above 15.4 per cent in a firm maintains the quality of reported earnings. Similar trend is observed between foreign equity ownership and discretionary accruals (Figure 2).

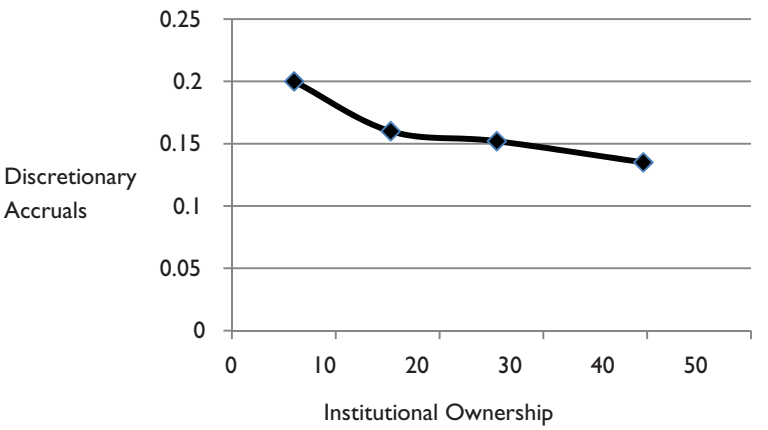

Figure 1. Average Discretionary Accruals versus Institutional Ownership

Source: Authors' analysis.

Note: Institutional ownership is divided into four quartiles based on their equity ownership in a firm over 6 years (2008–2013).

As foreign institutional ownership increases the accruals level reduces indicating higher earnings quality. The maximum benefit at which earnings management is reduced drastically (8.5–16.4 per cent) is at average foreign institutional ownership of 13.42 per cent.

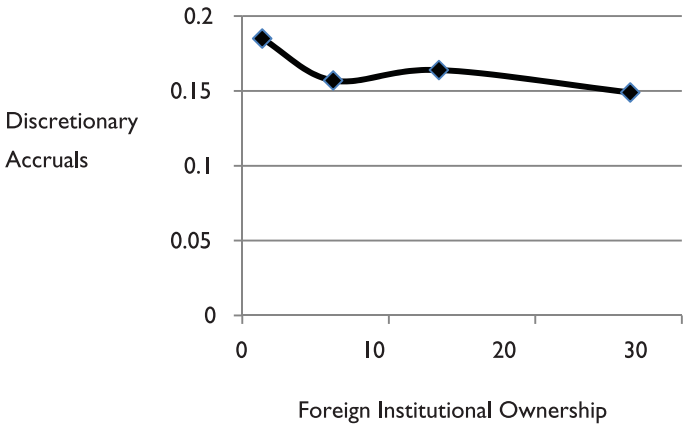

Figure 2. Average Discretionary Accruals versus Foreign Institutional Ownership

Source: Authors' analysis.
Note: Foreign institutional ownership is divided into four quartiles based on their equity ownership in a firm over 6 years (2008–2013).

Conclusion and Scope for Future Research

The equity participation of institutional investors is steadily increasing in Indian firms. Comparison across levels of institutional ownership indicates higher earnings quality for firms with substantial institutional ownership. Considering other firm specific factors such as leverage, size, age, performance, growth opportunity and agency cost the result provides support for active monitoring hypothesis indicating that institutional investors with substantial investment in a firms monitors the accounting choices made by managers. Large institutional shareholding reduces the ability of management in using discretionary accruals opportunistically. Similar evidence is found for foreign institutional ownership. Managerial control is beneficially exercised when institutional ownership is higher than 15.3 per cent and foreign institutional ownership is higher than 13.42 per cent.

Managers have an incentive to report higher profits using income increasing accruals. Similarly reported profits can be decreased using income decreasing accruals. The result supported the hypothesis that institutional ownership reduces the practice of both positive and negative accrual management.

Discretionary expenditure (such as research and development and advertising) are found to be increasing the quality of earnings which shows that firms may use other method of accounting discretion such change in depreciation methods to manage earnings. The difference in the earnings management practices between industries is significant. Service sector firms have lower quality of earnings than manufacturing firms. Larger and matured firms are found to be having higher earnings quality reflecting the fact that such firms consider reputation costs while

engaging in earnings management compared to small-sized firms. Firms would have established higher credibility over the years of their operation and are considered by the market to report more reliable information to shareholders. Firms with higher growth opportunities are found to have lower quality of earnings.

The positive influence of institutional ownership on earnings management practices (accounting based) can be substantiated with real earnings management practices such as price discounts to temporarily increase sales; overproduction to report lower cost of goods sold; reduction of discretionary expenditures to improve reported margins (Roychowdhury, 2006). Future study can consider the role of family ownership on restricting the monitoring role of institutional ownership.

Appendix

$$TA_t = \Delta CA_t - \Delta CASH_t - \Delta CL_t - DEPAMOR_t + STD_t$$

where

ΔCA_t = change in current assets in year t

$\Delta CASH_t$ = change in cash and cash equivalents in year t

ΔCL_t = change in current liabilities in year t

$DEPAMOR_t$ = depreciation and amortisation expense in the year t

STD_t = change in short-term debt in year t

After calculating total accruals next step is to calculate discretionary accruals. This study measures discretionary accruals using modified Jones model (Dechow et al., 1995). In the modified Jones model total accrual is identified as the function several variables as shown below:

$$\frac{TA_t}{A_{t-1}} = \beta_1\left(\frac{1}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta REV_t - \Delta REC_t}{A_{t-1}}\right) + \beta_3\left(\frac{PPE_t}{A_{t-1}}\right) + \varepsilon$$

where

$\frac{TA_t}{A_{t-1}}$ total accruals scaled down by total assets in the year $t-1$

$\frac{1}{A_{t-1}}$ = total assets in the year $t-1$

$\frac{\Delta REV_t - \Delta REC_t}{A_{t-1}}$ = difference between change in revenue and change in receivables in the year t scaled down by total assets in the year $t-1$

$\frac{PPE_t}{A_{t-1}}$ = gross property, plant and equipment in the year t scaled down by total asset in the year $t-1$

β_1, β_2 and β_3 = are the regression coefficients

ε = represents the residual of the model which is captured as the discretionary accruals in the year t.

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