The Effect of Corporate Ownership Structure and Board Size on Earnings Management: A Case of Pakistan Stock Exchange Listed Manufacturing Firms

Ijaz Haider[*], Hazoor Muhammad Sabir[†], Muhammad Adnan Afzal[‡], Muhammad Sajid[§], and Muhammad Kashif Khurshid[**]

Abstract

This study examines the impact of corporate ownership structure and board size on earnings management for 100 Pakistani non-financial firms listed at Pakistan Stock Exchange (PSX) during the period 2001-2015. It objectives were to investigate the impact of managerial ownership, institutional ownership, block-holding and board size on earnings management of non-financial manufacturing firms listed on PSX for the period 2001 to 2015. Return on assets, leverage and firm size were taken as control variable. A panel data regression models are used to investigate the relationship of corporate ownership structure and board size on earnings management. When corporate ownership structure is measured through managerial ownership the relationship of managerial ownership and earnings management is positive and significant. When corporate ownership structure is measured through institutional ownership the relationship of institutional ownership and earning management is negative and significant. When corporate ownership structure is measured through block holding the relationship of block holding and earning management is positive and significant. Whereas the impact of board size on earnings management is negative and significant. The results of this research work can give helpful information to investors in assessing the ownership structure and board size effects on earnings management in Pakistan. The findings can also help policymakers to design policies that decrease uncertainty in revealing the results of a firm's financial and economic performance.

Keywords: Earnings management; Managerial ownership; Institutional ownership; Board size.

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Introduction

Jensen and Meckling (1976), suggested that the similarity between the shareholders and management's interest could be improved and the unethical behavior could be alleviated that might result from their conflict of interests. Accounting earnings are the major indicator of financial performance. The fact to manage earnings has earlier drawn the concentration of academic researchers. This theory recognizes the connection which is present between the owner and the executive members. Jensen and Meckling (1976) offered higher convergence of interests of being owner and managers while (Stulz, 1988)proposed less convergence to do with managing being owner and owners interests. However, it is based on the question of experience to be tested. However, these statements may change after the market crash. This sector has been divided into two parts, the first one is appropriate to the work ended by other practitioners and academicians purely on financial reporting and the problem of corporate governance and the second part consists of different literatures related to earnings management that have been offered. Contribution in financial reporting is the most significant function and part of corporate governance.

Earnings frequently symbolize performance of the firm and express the values of firms to investors(Balsam, 1998). Even so, managers may manage these accounted earnings according to the guideline of US GAAP (Generally Accepted Accounting principles) permits firms to use substitutive accounting methods as per their requirement of accounting data. Earnings management is effectual if accounted earnings and familiarized valuation are aligned to GAAP, for instance change in methods of stock valuation and depreciation. Change in annual earnings of the business beyond the guideline of GAAP. It should be considered as fraudulent activities. When it comes outside the limits of GAAP alike speeding up revenue recognition and speeding down expenses recognition. In common, earnings management is specified as the adjustment of the performance of economic development of the firm either misguides stockholders or to mold conditional results(Healy & Wahlen, 1999). Exercised fair and true accounting practices have been doubted because of these incorporated scandals and proved that activities of earnings management could be limited by outside directors. Motive and Opportunity was required to manage earnings. Dechow, Sloan, and Sweeney (1996), recommended three motives to manage earnings. Capital markets induce managers for the manipulation of earnings either to get benefit from insider transactions or to issue stocks at maximum prices. The wishes to manipulate reporting are raising tendency in earnings per share, to fulfill investor expectations,

analyst expectations and contractual benefits such as increases in bonuses and other financial benefits. The literature of earnings management analyzes the different factors which bound earnings management.

Pakistani companies; many organizations owned and controlled by families itself. That is why; a major agency problem is present between management and shareholders. Today's fiscal examination procedure is becoming an essential concern for the corporate economics agency. Every shareholder and stakeholder a right to see monetary reports and a set of books connecting to accounts, but owner sets an objective of interest for itself. Proficient authority changes an outcome of business for its own good turn. Earnings management is the instance that shows smooth earnings. Safety and exchanged commission of Pakistan has a set of rules of demeanor for solving the issue in 2002. Better governance leads and supports a superior judgment making in an association.

The institutional investors are experts in acquiring and processing information. Because of this capability they perform not only a passive but effective role in rationalize the information in capital market(Ferreira & Matos, 2008; Koh, 2003). So opportunism limiting and promoting the agency reduction costs(Chung, Firth, & Kim, 2002; Rajgopal & Shevlin, 2002). This view is supported by (Koh, 2003)and (Hsu & Koh, 2005)who advise that the roles of such firms can be assessed by observing their character past and also of the institutional shareholders in the firm. The real fact is that institutional investors have great involvement in the affairs of the organization. Such consequences become more acceptable in the company's affairs. But such idea proposes a negative relationship between institutional owners and discretionary accruals.

The earnings management range is represented by discretional. Discretional accretions reflect particular accounting selections by managers(Chung et al., 2002). The size of discretional accruals is denoted as a probability of firm assets. Earnings are manipulated greater where discretionary accruals value is higher. There are two types of accounting choices in earnings management either income-depletion or income-accretion. Income-accretion manipulation results as positive discretional accruals whereas income-depletion denotes negative discretional accruals.

In this connection, Jordan has started to execute the same money related strategies. Globalization has turned into the watchword in the new world economy. Innovation, correspondence and extreme stream of data and exchanging crosswise over border all make the world a little

village. Jordan understands that it needs to consider and embrace positive changes keeping in mind the end goal to be at standard with different countries.

Past studies recommended that ownership of management reduced the benefits of earnings management but also provided enticements to manage earnings(Gul, Chen, & Tsui, 2003). Thus, the basic purpose of exploratory research is to examine the factors that reinforce the aim alignment and established effects of management ownership on the earnings management. Some previous studies suggested and discovered a non-monotonic link among earnings management and ownership structure. Earnings management reduces due to increase in ownership structure from low level. But on the other side, earnings management increases at high levels of ownership. Then prolong this analysis by shaping whether the earnings management is likely to be thoroughly linked to noticeable and repeating firm features (size, growth, operating volatility, high-tech industry and debt) and checking (audit quality & institutional ownership & independence).
Managerial ownership could be seen as a mechanism to constrain the opportunistic behavior of managers under the similarity of interest between managers and shareholders. As a result, the discretionary accrual (as a proxy for earnings management) is expected to be negatively associated with managerial ownership(Warfield, Wild, & Wild, 1995).

Corporate governance (CG) has direct concern with technical aspects to set up rules and regulation which necessary to manage and control the organization with all aspect. CG is also very important to give direction to outside investors, shareholders and managing authorities. The major goal of corporate governance is to defend the rights of shareholders and creditors similarly to secure the interest of institutional shareholders and the managerial shareholder. Better corporate governance can take a healthy part in development of social aspects and economic conditions of a country(Teshima & Shuto, 2008).

Institutional investors are experts in acquiring and processing information. Because of this capability they perform not a passive but effective role in an ameliorating the information in capital market(Ferreira & Matos, 2008; Koh, 2003). So opportunism limiting and promoting the agency reduction costs (Chung et al., 2002; Rajgopal & Shevlin, 2002; Shleifer & Vishny, 1997). This view is supported by (Koh, 2003)and (Hsu & Koh, 2005)who advised that the roles of such firms could be assessed by observing their past and also of the institutional shareholders in the firm, where the involvement of institutional investor moved to the higher extent, they as a consequence

became more assimilated in the company's affairs. But such idea proposes a negative relation between shares proportion possessed by institutional owners in Latin America and the value of the discretionary accruals.

The research study on the corporate control and financial information quality has gained a great importance after the worldwide market crash of 2008. The management and finance are normally separated in the organizations. But two clashes are occurred by this distinction of the management and finance. First, there was a difficulty of avoiding the suppliers to discipline and control the mangers of the organization in which they have invested (Velury & Jenkins, 2006). Secondly in order to locate adequate funds for the investment of the organization the firm's mangers have to assure the market contributors. As the worth of these investments is attached with the organization and this worth rest on the business link established among the supplier and the organization. Thus the advantages to the stakeholders by accepting such investment, is influenced by their views about the organization future predictions(Velury & Jenkins, 2006).

Block-holder's ownership has various forms, including, pension funds, mutual funds, fund managers, private equity firms, corporations, individual investors, banks and trusts. Except individual investors, all the above are also known as "institutional investors" (Cronqvist & Fahlenbrach, 2008; Zhong, Gribbin, & Zheng, 2007).

Reported earnings are controlled by the effectiveness of external monitoring by stakeholders such as institutional shareholders and external block-holders, this is due to the capability of managers to manage the affairs opportunistically. Whereas they exercise these powers moderately according to the function of the size their individual or cooperative shareholdings(Chung et al., 2002). This implies fewer opportunities for accruals management or earnings manipulation.

In a company for the establishment of good practices, an important role is played by the Board of directors. To protect the interest of shareholders, directors come in charge to monitor management. The alignment of the interest of shareholders and managers is ensured by the directors. When managers use earnings management to get confidential gains (Healy, 1985) or to reduce the chances of dismissal because of low performance (Hermalin & Weisbach, 1998) then the discordance of interest arises between managers and shareholders.

The most important factor of this theory is that the mangers usually are active for their own profit and carry out every firm to attain them instead of getting the profit for the shareholders e.g. managers may be enthralled to purchase sumptuous offices, corporation cars and other

undue items, since the price is borne by the owners. Therefore, the core complexity revealed by the agency theory is very much sure that the manger's workings just for the profit and values maximization of shareholders instead of their private benefits. Argument arises since principals are unable to watch the performance of agents(Jensen & Meckling, 1976). This phase of self-concentration generates expenses to the organization that might hold the costs of the conception of contracts and loss on account of the decisions adopted by the agents and the overheads of witness and regulating the activities of the agents.

Problem Statement

In corporations, management and ownership are separated. This creates conflict called agency problems(Jensen & Meckling, 1976). Agency theory explains that sometimes managers do not want to act in behalf of shareholders to maximize their values. Therefore, it becomes essential to monitor decisions of managers to make sure that shareholders' values are increased and disclosed financial statements are accurate and transparent. The properly well-established corporate control structures are tended to decrease earnings management manipulation(Dechow et al., 1996; Geraldes Alves, 2011).

Earnings management practices are performed by the managers to reveal the desired picture of financial statement to its stakeholders. The stakeholders include managers, institutional investors and directors etc. These stakeholders have also the ownership into the company. The financial figures showed by the managers after applying the earnings management practices directly or indirectly affect can effectsthese stake holders. The focus of this study is to investigate the fact how the practices of earnings management may affect the changes of percentage of shares owned by the managers, percentage of shares owned by institutional investors, block-holders (5% or more shares holding persons) and the number of directors in the board.

Following are the objectives of the study:

- To investigate the impact of managerial ownership on earnings management.
- To investigate the impact of institutional ownership on earning management.
- To investigate the impact of block-holding on earnings management
- To investigate the impact of board size on earnings management.

Literature Review

Stakeholders may be any person who linked with organization directly or indirectly as investor, shareholder of a company. Stakeholder could be changed the management and behavior of investors. (Bushee, 1998)in recent years the institutional investors are more than the listed

firm of Tehran exchange. Their quality and quantity is much better than others because they prefer ownership and performance. They have some motivation for active management. Example institute may be active with high investment and high management of the institute(Shleifer & Vishny, 1997).

When in institutional investors or others control over company management then they achieve more than their expectations. They earn qualities. They become to encourage and motivate high qualities with expertise (Velury & Jenkins, 2006). There are two earning schools that deal with intellectual investors. The institutions tend towards short earnings. They give more attention to current earnings than long term earnings in stock pricing(Bushee, 1998). In this case they can earn more qualities.

According to (Velury & Jenkins, 2006) family ownership and institutional ownership are roles in explaining reporting earning quality. Especially higher number of family will increase the company reporting earning quality. They play a significant role in earning quality management. On the other hand, relations are found between management and earning quality. The relationship between institutional shareholder and earning management is non-linear, that is with an increase in the number of investors. Earning management raises the temporary ownership area of institutional investor.

Managerial Ownership and Earnings Management

What situation does arise when we maximize the possession stake of controlling managers in firms? We can use dual hypotheses, the first one is entrenchment and second one is alignment of interest but the answer is not clear. The hypothesis of alignment-of-interest shows that, when we increase the proprietorship states of administrators' in a firm, it cuts down the agency opposing among managers and investors(Jensen & Meckling, 1976). In turn, this should reduce the nature for opportunistic attitude on the base of managers. This idea consistent with, (Demsetz & Lehn, 1985)shows a positive link among firm performance and managerial ownership.

The entrenchment hypothesis shows that stakes ownership addition at a definite level puts a dominant position of firms' managers. A minority of shareholders can use this to manipulate (Morck, Shleifer, & Vishny, 1988).(Teshima & Shuto, 2008), who judged the relationship among earning management and managerial ownership in Japanese companies formulated a theoretical table according to which one earnings management benefits are fewer when the status of managerial ownership is either high or low; benefits are utmost at a moderate status of managerial ownership. Basically there is a three dimensional or

nonlinear association among managerial ownership and earning management. Managerial ownership is destructively associated at institutional ownership at high and low status with discretionary accruals, and optimistic are concerned with discretionary accruals at a level of moderate. Warfield et al. (1995)showed a reciprocal relationship connotation among earning management and managerial ownership.

Corporation usually define annual earnings goal; in which different cases they might fall short or exceed. For these function, a manager can manage earnings to use accruals and display their shareholders with real picture of target achieved a firm. However, it is not compulsory to present total accruals in earnings management. Earnings management reflects discretionary accruals income decreasing or increasing weather they are shared into nondiscretionary and discretionary accruals. Such action is frequently ignorant of investors and is therefore unprotect to making useless decisions supported on misrepresent information (Healy, 1985).

H_1: Firm's managerial ownership structure has significant impact on earnings management.

Institutional Ownership and Earnings Management

Institutional shareholder possesses a tough motivation to gather data for the firms in which investors have invested and taken interest in investment. Moreover, that kind of incentive develops with the identifiable position of investment engaged. Large proprietorship is possible to divide firms and determine actively the earning of some manipulation (Mitra & Rodrigue, 2002).

For better understanding about institutional ownership and earnings management, there are two different schools of belief that determine which setup of principles is better for understanding about earning management and institutional ownership. First thought is that, institutional shareholders have some incentive and strength to specific opportunistic manner by executives in the kind of practices of earnings management. While the second school of thought is that, institutional shareholders are frequently more attentive with shortened returns and controlling management is no interested: they would on the contrary deliver their risks rather than manage or dispose of ineffectual management (Healy, 1985).

Chung et al. (2002), investigated the comprehensive institutional investor with a considerable stake that could prevent earning management so that they might monitor the resources and incentive. According rules of GAAP managers using results of income decreasing and increasing accruals to prevent the moving returns from one accounting period to the next so that taking benefits of promotion and

bonuses of institutional shareholders are frequently long run invertors and dissatisfy earning management.

The motivation behind proficient income administration is that directors need to pass on private data to speculators. Such data is very helpful to enhance the substance of information to income and advance correspondence between supervisors, shareowner and general society(Siregar & Utama, 2008).

With the point of view of the pioneer, a reliable proof is discovered by a few studies. The recommendations in those studies were that the income was controlled by the managers because they had the inspiration to control the income of the firm. When stock value and choice possession was attached more firmly with their compensation or avoid the obligation contract infringement was also kept in mind (Othman & Zeghal, 2006) or abstained from income decays and reporting misfortunes. (Park & Shin, 2004). However, reliable proof was found by different studies with the effective viewpoint.

According to (Chung et al., 2002)institutional shareholders let significance over earnings management. It is compulsory to discuss about corporate governance as it's the way that managers use to present earning facts to the investing community and the efficacy of these facts in shaping values of equity. Corporate reporting serves shareholders screen managers' consistency with contractual commitments. However, the issues about majority of the data asymmetry and the costs of contracting because of the clashes of enthusiasm between principals and agents are there and result in the increase of cost of agency. Businesses costs are increasing because the insider position is used to manage earnings that are reported. Thus, basic performance of a company cannot be observed by investors or marketers and require maximum rates of return and lesser existing stock prices (Bartov, Radhakrishnan, & Krinsky, 2000).

H_2: Firm's institutional ownership has significant impact on earnings management.

Block-holders Ownership and Earning Management

The monitoring by considerable external block-shareholders is comparable to the effect of institutional ownership on earnings management (Yeo, Tan, Ho, & Chen, 2002). Two challenging views are discussed. First, for the firm's management outside block-holders require a higher return from their investment and create a bigger threat of interference. As a result, they might not be as disposed to support management to report high quality earnings (Velury & Jenkins, 2006; Zhong et al., 2007). Second, outside block-holders, has high degree of motivation and ability to monitor managers' actions than small

shareholders, earnings management might be reduce through their closer monitoring (Dechow et al., 1996)**.**

However, when based of outside directors are on incentives of self-serving or have less financial knowledge. They couldn't able to supervise managers effectively(Chung et al., 2002; Park & Shin, 2004). If outside director's proportion is different, then non-linear relationship is occurring between value of firm and discretionary accruals.

In this way, as the institutional ownership increases, the managers will most likely take part in productive earnings management. When there is the conflict between the institutional ownership and organization then institutional speculators acquire data to get momentary benefits (Lee & Chuang, 2007).

H_3: Firm's block-holding has significant impact on earnings management.

Board Size and Earning Management

The smaller size of the board creates fuss and trouble in accomplishing the task of the CG. The greater size assists in the management of the affairs and smaller one would lack efficiency. Different studies like as (Ferraz & Finan, 2011) in Brazil demonstrated the concept that the smaller the size of board the smaller would be the monitoring of management. Thus, Board assumes in larger size that a better management supervision team is necessary for a high quality of commercial decisions (Pearce & Zahra, 1992). In this situation for Hong Kong 313 firms sample, find a negative Association between the board size and EM size, concluding that a greater board lessens the practices of manipulation made by the administration of companies.

Board size is viewed as a central part of board qualities that may act on earnings business managers (Abdul Rahman & Haneem Mohamed Ali, 2006). The Jordanian code 1 of corporate governance was put forward in support of the total number of directors of company in board, while in all observed cases it ranged as 5 to 13 members in the board. Earlier studies failed to make it ready based on experience facts supporting between board size and the good effects of watching at managers. Some studies indicated that larger board size might not work well in looking at business manager's operations.

Board is defined as one of the essential inner checking appliance that may have an influence on a firm's earnings management. If board size of different regimes takes place, then non-linear relationship is occurring between discretionary accruals and value of firm. Companies can observe, control, supervise and monitor. The managers behave more effectively when they have maximum directors from outside of the company(Chung et al., 2002). Because the directors of outside from the

company are expert, well trained and have professional and independent knowledge. They can easily and independently provide better and useful recommendations and objectives for the company's benefits to enhancing value of firm(Koh, 2003). When outside director's proportion is high, then managers will easily connect with efficient earnings management.

H_4: Firm's board size has significant impact on earnings management.

Financial Leverage and Earning Management

Highly obligated firms might be less arranged to exercise pay association since they are below close examination of credit experts. Park and Shin (2004), demonstrated that levered affiliations had inducement to participate in earnings management.

Javid and Iqbal (2008), discovered exploratory attestation of empirical evidence of abnormal accruals when companies faced mandatory debt agreements. Responsibility of Debt covenant destruction argument would imagine an optimistic relationship between financial leverage and exceptional accruals. The same trend as, (Park & Shin, 2004)found the financial leverage is negatively and important related with earnings management.

Firm Size and Earning Management

Earlier studies designated no relation between business earnings managers and company size (Abdul Rahman & Haneem Mohamed Ali, 2006); Klein 2002). This supports the idea that smaller companies have persons that receive less control from authority and as an outcome of that, managers are more likely to make connections in the earnings of business managers' operations. In distinction, Mitra and Rodrigue (2002) argued the business earnings manager's activities increased with the increase of company size.

Research Methodology

This section describes the data collection process and the major sources from which data is obtained. It also includes the introduction and the definition of various variables included in the models being used in this study.

Population

This study analyses the impact of ownership structure and board size on earnings management for non-financial companies listed on Pakistan Stock Exchange. All PSX listed manufacturing firms are considered as the population of the study. The sample period is for 15 years as, 2001 to 2015. The relevant data is collected from the published annual reports of the manufacturing PSX listed firms.

Sampling and Sampling Techniques

The numbers of firms are 100 from various manufacturing industries included in this study.

These 100 companies selected from different sectors like: Textile companies, Chemical companies, Cement companies, Sugar companies and Automobile Companies etc.

The financial companies such as banks, insurance companies are excluded from the research because of their different capital structure (Shah, Zafar, & Durrani, 2009). Modified Jones Model (Jones, 1991)is used to estimate the discretionary accruals which represent the extent of earnings management. This model is selected because it has been found to be the most appropriate, widely used and accepted model in detecting the earnings management practices(Dechow et al., 1996).

Conceptual framework

This study checks the impact of ownership structure and board size on earning management. The dependent variable is earning management and independent variables are managerial ownership, institutional ownership block-holders and board size while use three control variables included as return on assets, leverage and firm size.

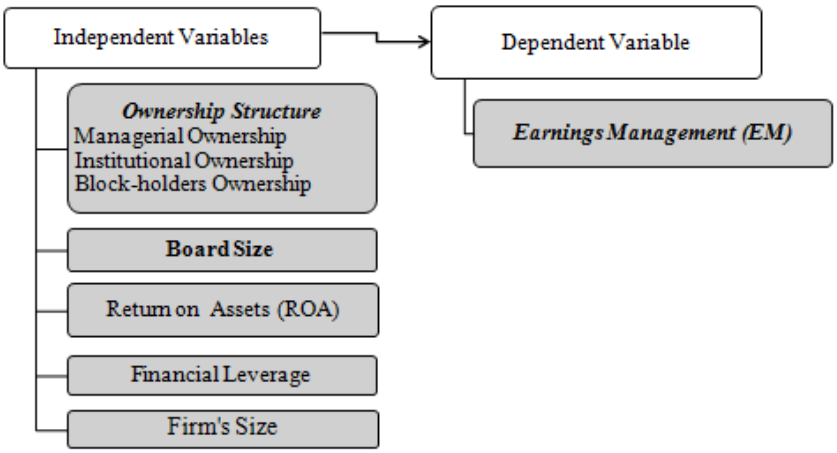

Figure 1 Conceptual framework

Dependent variable

Earning management

In this research work, earnings management is a dependent variable and discretionary accruals (DACC) approach for measuring earnings. (Dechow et al., 1996) suggested that the Modified Jones Model (Jones, 1991) is one of the most commonly used and accepted approach for estimating discretionary accruals that is similar to the methodologies used by(Shah et al., 2009). Therefore, following the models presented by (Jones, 1991) and (Dechow et al., 1996), DA is measured as follows:

Modified Jones Model (Cash Flows Statement Approach)

Accruals can also be calculated by using this approach by using the following equation:

$$\mathrm{TA}it = \mathrm{NI}it - \mathrm{CFO}it$$

Where: **TA***it* is total accruals for firm i and year t

N.I*it* is Net Income for firm i and year t

CFO*it* is cash flows from operating activities for firm i and year t

Measurement of Discretionary Accruals

According to Modified Cross Sectional Jones Model (Jones) discretionary accruals are calculated by deducting nondiscretionary accruals from total accruals and these non-discretionary accruals are calculated as follows:

$$\mathrm{NDA}it = \alpha 1\left(\frac{1}{\mathrm{A}it-1}\right) + \alpha 2\left(\frac{\Delta\mathrm{REV}it - \Delta\mathrm{REC}it}{\mathrm{A}it-1}\right) + \alpha 3\left(\frac{\mathrm{PPE}it}{\mathrm{A}it-1}\right) + \boldsymbol{\varepsilon}$$

Where:NDA*it* is non-discretionary accruals for firm i and year t

ΔREV*it* is revenues in year t less revenue in year t-1

PPE*it* is gross property plant and equipment at the end of year *it*

ΔREC*it* is net receivables in year *it* less net receivable in year *it-1*.

A*it-1* is total assets at the end of year *it-1*

α_1, α_2, α_3 are firm specific parameters

ε is the residual, it represents the firm specific discretionary portion of total accruals.

$$\mathrm{DA}it = \mathrm{TA}it - \mathrm{NDA}it$$

DA*it* is discretionary component of accruals and NDA*it*is non-discretionary accruals.

Independent variables

This study uses seven independent variables of which three are controlled.

Managerial ownership

Managerial Ownership is measured by dividing the total no. of shares held by institutional investors divided by total no. of shares outstanding (Shah et al., 2009). Large debt increases the threat of bankruptcy so higher managerial self-interest in long term sustainability of the company may induce managers to reduce gearing levels.

$$Managerial\ ownership = \frac{Total\ No.of\ shares\ held\ by\ managment}{Total\ no.of\ outstanding\ shares}$$

Institutional ownership

Institutional Ownership is measured by dividing the total no. of shares held by institutional investors divided by total no. of shares outstanding (Shah et al., 2009). Presence of institutional shareholding in a company

helps it to raise long term finance at an advantageous cost. In the first place, these institutional investors themselves act as a source of long term debt as they are willing to provide debt to a company over whose board they enjoy an influence.

Institutional ownership is measured as percentage of shares held by institutions as disclosed in annual financial reports.

$$Institutional\ ownership = \frac{Total\ No.of\ shares\ held\ by\ institutional\ investors}{Total\ no.\ of\ outstanding\ shares}$$

Block-Holders ownership

5% or more shares held by any person. Zhong et al. (2007) considered two competing views when studying the relationship between block-holders and EM. They showed inconclusive results. Some results suggest that block-holders may behave in aggressive manner and collude with managers against the shareholders' interests. This, in turn, provides some monitoring over managers, which enables the block-holder to also affect the board of directors' composition (Shleifer & Vishny, 1997).

Board size

The variable Board size is measured as the number of directors in the board. The board of directors is apex body in the corporate set up, playing central role in a firm's strategic decisions like financial mix. Board size can affect boards' functions and potentially firm performance (Jensen & Meckling, 1976). Larger the number of members in the board, increases the monitoring activity of the management. If large boards enhance monitoring, they would be associated with less use of earnings management (Dechow et al., 1996) found that larger boards are associated with lower levels of discretionary accruals.

Control variables

Some factors other than firm ownership structure and board size may also have an impact on earnings management. Therefore, this study employees three control variables.

Return on assets (Bonoma & Johnston)

In the presence of other two controlled variables, ROA also included in the study as control variable for long term growth forecasting errors, in respect to the incentive for earnings management(Bartov et al., 2000; Dechow et al., 1996)argue that the incentive to engage in earnings management is greater among firms that are experiencing financial difficulty and performing poorly, i.e. in terms of ROA. Several studies on corporate governance and earnings management include ROA as a control variable (Abdul Rahman & Haneem Mohamed Ali, 2006). ROA is calculated with formula as:

$$Return\ on\ assets = \frac{Net\ income\ after\ tax}{Total\ assets}$$

Financial leverage

Leverage is measured as the ratio of total debt over total assets. Dechow et al. (1996), however, argued that firms with a high leverage ratio are expected to report little boost in earnings. Chung et al. (2002) examined the association between discretionary accruals and leverage, but failed to find a significant relationship between the two.

Financial leverage is calculated by the formula as

$$\text{Financial leverage} = \frac{\text{Total debt}}{\text{Total assets}}$$

Firm size

Natural log of Total Assets is used as a proxy for firm's size(Koh, 2003). According to himlarge firms are closely monitored by outsiders (financial/investment analyst) than smaller firms therefore the larger the size of a firm the less is the manager's opportunities to exercise their accounting discretions. Hence, as the relationship between firm size and earnings management is not conclusive, we do not expect its direction. We use the natural logarithm of total assets to proxy for firm size.

Estimation Models

MODEL 1: $DACC_{it} = \beta o + \beta 1\ (Managerial_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

MODEL 2: $DACC_{it} = \beta o + \beta 1\ (Institutional_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

MODEL 3: $DACC_{it} = \beta o + \beta 1\ (Block\text{-}holding_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

MODEL 4: $DACC_{it} = \beta o + \beta 1\ (Board_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

Where;

DA=the discretionary accruals for firm *i*in year *t* by using the modified Jones model

βo=the constant intercept of the linear equation.

Managerial (Managerial Ownership) = the proportion of the firm's shares owned by the mangers;

ROA (Return on Assets) = the net income to total asset.

Leverage (Leverage) = the total debt to total assets.

Size (Firm Size) = the natural logarithm of the firm's total assets.

Institutional (Institutional Ownership**)** = the institutional ownership is measured as the proportion of the firm's shares held by the institutional investors.

Block-holding (Block Holders Ownership) =Investors having 5% or more shares.

Board (Board Size) = the board size is the number of members in the board.

β_1 to β_4=the coefficients to be estimated and

ε= the residual term of firm I for year t.

Results and Discussion

In this section the main focus on the analysis of the collected data with different statistical tools to test the developed research model. Before this, the descriptive and correlation analyses have been done. Next, the established model has been tested with the help of random effect model.

Table 1: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Standard Deviation
*E_***Mgt**	1500	-99.9590	88.5291	-1.8688	16.2347
M_Own	1500	0.0000	0.9998	0.2690	0.2499
I_Own	1500	0.0000	0.9200	0.0887	0.1334
B_Holder	1500	0.0000	0.9850	0.4083	0.2891
B_Size	1500	7.0000	16.0000	8.0336	1.4884
ROA	1500	-51.6200	67.5900	7.4362	13.9490
Lev	1500	0.0087	0.7506	0.3593	0.1317
F_Size	1500	7.0784	19.1958	11.1290	1.5251

Table 1, shows that, earnings management shows the mean value -1.8688, with a minimum and maximum value -99.9590 and 88.5291, respectively and standard deviation is 16.2347. On average, sample firms have negative earning management. This may show Pakistani firms are managing their earnings downwardly. Managerial ownership shows the mean value 0.2690, with a minimum and maximum value 0.0000 and 0.9998, respectively and standard deviation is 0.2499. Institutional ownership shows the mean value 0.0887, with a minimum and maximum value 0.0000 and 0.9200, respectively and standard deviation is 0.1334. Block-holders shows the mean value 0.4083, with a minimum and maximum value 0.0000 and 0.9850, respectively and standard deviation is 0.2891. Board size shows the mean value 8.0336, with a minimum and maximum value 6.0000 and 16.0000, respectively and standard deviation is 1.4884. Return on asset shows the mean value 7.4362, with a minimum and maximum value -51.6200 and 67.5900, respectively and standard deviation is 13.9490. Leverage shows the mean value 0.3593, with a minimum and maximum value 0.0087 and 0.7506, respectively and standard deviation is 0.1317. Firm size shows the mean value 11.1290, with a minimum and maximum value 7.0784 and 19.1958, respectively and standard deviation is 1.5251.

Table 2: Correlation Matrix

Variables	*E_Mgt*	*M_Own*	*I_Own*	*B_Holder*	*B_Size*	*ROA*	*F_Lev*	*F_Size*
E_Mgt	1							
M_Own	0.0178	1						
I_Own	-0.0144	-0.0010	1					
B_Holder	0.0418	-0.2408	-0.0864	1				
B_Size	-0.0196	-0.1557	-0.0373	0.0000	1			
ROA	0.0533	0.1842	0.0163	0.1041	0.2027	1		
Lev	0.0193	0.1109	-0.0860	-0.1213	-0.0601	-0.5391	1	
F_Size	0.0282	-0.2163	-0.1318	0.0864	0.2774	-0.0147	0.0517	1

Table 2 represents the significance correlation between different independent variables and dependent variable. Managerial ownership is positively and significantly correlated with earnings management, suggesting that earning management is significantly higher for firms greater managerial ownership. Institutional ownership is negatively correlated with earning management, suggesting that earning management is significantly lesser for firms with greater institutional ownership. Block holding ownership is positively correlated with earning management, suggesting that earning management is significantly higher for firms with greater block holding. A negative correlation between board size and earnings management observed which indicated that when board size increases, board becomes more effective for monitoring the earnings management. Size of firm is positively correlated with earnings management, suggesting that large firms have greater earnings management activity. A positive correlation between return on assets and earnings management which suggesting that firms with greater return on assets have greater earnings management. The correlation between leverage and earnings management is positive and significant.

Table 3: Panel Data Regression Analysis Model 1

Model 1: $DACC_{it} = \beta o + \beta 1(Managerial_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

Dependent Variable: Earning Management

Variables	Co-efficient	t-value	P-value
C	24.2194	5.9131	0.0000
M_OWN	6.2912	6.0858	0.0000
ROA	-0.0241	-6.7355	0.0000
F_LEV	-22.1086	-4.8203	0.0000
F_SIZE	-0.103284	-0.396328	0.6920
R-squared	0.3036	**F-statistics**	99.7685
Adjusted R-squared	0.3006	**Prob. (F-statistics)**	0.0000

In the above given table 3 the outcome of 1500 observations relating to 15 year's non-financial firms of Pakistan Stock Exchange shows that the constant value of earning management that will prevails in the market without any effect of all other variables is 24.2194, it represents that the minimum value of earning management. The relationship between managerial ownership and earnings management is positive and significant which suggested that the high level of managerial ownership represents the higher magnitude of discretionary accounting accruals. Consistent with the previous studies high level of managerial ownership means the higher magnitude of discretionary accounting accruals (Siregar & Utama, 2008; Stulz, 1988; Teshima & Shuto, 2008; Warfield et al., 1995; Yeo et al., 2002). Average one-unit variation in managerial ownership brings 6.2912 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between return on assets and earning management is negative and significant, average one-unit variation in managerial ownership brings -0.0241 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between Firms leverage and earning management is negative and significant, average one-unit variation in managerial ownership brings -22.1086 units, variations in earning management and the P value is less than alpha which is 0.05. R^2 value is 0.3036 and Adjusted R^2 0.3006 respectively that explains 30.3692% variation in average earning management is elaborated by managerial ownership, Returns on Assets and leverage it is shows powerful impact on earning management but firm size has no impact on earning management. F-stat shows 99.7685 with a P value 0.0000 which is less than α =0.05 stated highly significant and it is strong evidence that overall model is successful.

Table 4: Panel Data Regression Analysis Model 2

Model 2: $DACC_{it} = \beta o + \beta 1\ (Institutional_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

Dependent Variable: Earning Management

Variable	Co-efficient	t-value	P-value
C	25.4472	6.2397	0.0000
I_OWNN	-7.1091	-4.7601	0.0000
ROA	-0.0377	-4.7955	0.0000
F_LEV	-22.0794	-3.8203	0.0000
F_SIZE	-0.1373	-0.5303	0.5960
R-squared	0.3090	**F-statistics**	102.3066
Adjusted R-squared	0.30601	**Prob (F-statistics)**	0.0000

In the above given table 4 the outcome of 1500 observations relating to 15 years, non-financial firms of Pakistan Stock Exchange showsthe

relationship between institutional ownership and earning management is negative and significant which suggest that an increase in institutional ownership would reduce the discretionary accounting accruals. These results are consistent with previous studies of negative relationship between managerial ownership and earnings management (Shah et al., 2009; Siregar & Utama, 2008). Average one-unit variation in institutional ownership brings -7.1091 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between return on assets and earning management is negative and significant, average one-unit variation in return on assets brings -0.0377 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between Firms leverage and earning management is negative and significant, average one-unit variation in financial leverage brings -22.0794 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between Firms size and earning management is negative and significant, average one-unit variation in firm size brings -0.1373 units, variations in earning management and the P value is less than alpha which is 0.05. R^2 value is 0.3090 and Adjusted R^2 0.3060 respectively that explains 30.90% variation in average earning management is elaborated by institutional ownership, Return on Assets and leverage and it is shows powerful impact on earning management but firm size has no significant impact. F-stat shows 102.3066 with a P value 0.0000 which is less than $\alpha = 0.05$ stated highly significant and it is strong evidence that overall model is successful.

Table 5: Panel Data Regression Analysis Model 3

Model 3: $DACC_{it} = \beta o + \beta 1\ (Block\text{-}holding_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

Dependent Variable: Earning Management

Variable	Co-efficient	t-value	P-value
C	18.7564	4.7800	0.0000
B_HOLDER	2.9996	2.2031	0.0000
ROA	-0.0283	-4.1834	0.0000
F_LEV	-22.3556	-7.8927	0.0000
F_SIZE	0.074558	0.290634	0.7714
R-squared	0.29554	**F-statistics**	95.9708
Adjusted R-squared	0.2924	**Prob. (F-statistics)**	0.0000

In the above given table 3 the outcome of 1500 observations relating to 15 year's non-financial firms of Pakistan Stock Exchange shows that the constant value of earning management that will prevails in the market without any effect of all other variables is 18.7564, it represents that the minimum value of earning management. The

relationship between block holding and earnings management is positive and significant which represents that the higher level of managerial ownership expresses the higher magnitude of discretionary accruals. Such result of positive relationship between block-holdings and earnings management was also consistent with previous studies as (Shleifer & Vishny, 1997; Siregar & Utama, 2008; Zhong et al., 2007). In this way average one-unit variation in block holding brings 2.9996 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between return on assets and earning management is negative and significant, average one-unit variation in return on assets brings -0.0283 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between Firms leverage and earning management is negative and significant, average one-unit variation in financial leverage brings -22.3556 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between firms, size and earning management is positive but insignificant, average one-unit variation in firm's size brings 0.0745 units, variations in earning management and the P value is less than alpha which is 0.05. R^2 value is 0.2955 and Adjusted R^2 0.2924 respectively that explains 29.55% variation in average earning management is elaborated by block holding, Return on Assets and leverage, it is shows powerful impact on earning management but firm size has no significant impact. F-stat shows 95.9708 with a P value 0.0000 which is less than $\alpha = 0.05$ stated highly significant and it is strong evidence that overall model is successful.

Table 6: Panel Data Regression Analysis Model 4

Model 4: $DACC_{it} = \beta o + \beta 1\ (Board_{it}) + \beta 2\ (ROA_{it}) + \beta 3\ (Leverage_{it}) + \beta 4\ (Size_{it}) + \varepsilon_{it}$

Variable: Earning Management

Variable	Co-efficient	t-value	P-value
C	16.6326	4.0917	0.0000
B_SI(Siregar & Utama, 2008)ZE	-0.6797	-2.4937	0.0000
ROA	-0.0243	-4.1834	0.0000
F_LEV	-22.4609	-7.8927	0.0000
F_SIZE	-0.0603	-0.2269	0.8205
R-squared	0.2966	**F-statistics**	96.4570
Adjusted R-squared	0.2935	**Prob. (F-statistics**	0.0000

In the above given table 6 the outcome of 1500 observations relating to 15 years, non-financial firms of Pakistani Stock Exchange showed that the constant value of earning management that will prevails in the market without any effect of all other variables is 16.6326, it represents that the minimum value of earning management. The relationship between board size and earning management is negative and

significant which suggest that the less number of directors on the board would most likely to eliminate uses of accruals to manipulate earnings. This negative relationship between board size and earnings management consistent with previous studies (Geraldes Alves, 2011). Average one-unit variation in board size brings -0.6797 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between return on assets and earning management is negative and significant, average one-unit variation in return on assets brings -0.0243 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between Firms leverage and earning management is negative and significant, average one-unit variation in leverage brings -22.4609 units, variations in earning management and the P value is less than alpha which is 0.05. The relationship between firm size and earning management is negative and significant, average one-unit variation in firm size brings -0.0603 units, variations in earning management and the P value is less than alpha which is 0.05. R^2 value is 0.2966 and Adjusted R^2 0.2935 respectively that explains 29.66% variation in average earning management is elaborated by board size, returns on assets and leverage, it is shows powerful impact on earning management and firm size has no significant impact. F-stat shows 96.4570 with a P value 0.0000 which is less than α =0.05 stated highly significant and it is strong evidence that overall model is successful.

Conclusion and Recommendations

Conclusion

Earlier studies included in the literature explained that ownership structure and board size are very important factors having an impact on corporate earnings management (Chung et al., 2002; Dechow et al., 1996). Therefore, the purpose of this thesis is to observe the corporate ownership structure and board size impact on earnings management for a sample of Pakistani firms listed on the Pakistan Stock Exchange (PSX) for the period of 2001 to 2015. The findings show that the Pakistani firms' ownership structure and board size have significant impact on earnings management. The adjusted Jones Model (Dechow et al., 1996)and the multivariate regression model were utilized to observe the impact of corporate ownership structure and board size on earnings management. The null hypothesis that managerial ownership structure has no impact on earning management is rejected because the managerial ownership structure has positively statistically significant impact on earning management and the results consistent with the earlier researches such as (Koh, 2003; Teshima & Shuto, 2008)revealed that the impact of managerial ownership on the earnings management is positive and

significant. The null hypothesis that firm's institutional ownership and board size have no significant impact on earnings management are rejected because the institutional ownership and the board size have a negative significant impact on the earnings management. The null hypothesis firm's block-holding has no significant impact on earnings management is also rejected because the block holding impact on earnings management is positive and significant. The results also disclose that the return on assets has appositively statistically significant effect on earnings management.

Limitations and Recommendations

Though this research has contributed some value in the form of extra understanding about earning management, ownership structure and board size for investor insight but still it contains some limitation due to which a restriction come in the way for its general ability. First of all; this study is only about non-financial manufacturing firms listed in Pakistan Stock Exchange during 2001 to 2015 but provide no information about financial sector like communication and transportations companies sector which is now a day a top business sector in developing country like Pakistan. This research is a fruitful source of information about earnings management, ownership structure and board size only for those investors who want to invest in manufacturing firms only. This research does not provide any information to investors who are willing to invest in financial sectors like banks, insurance companies and services sector like telecommunication and consultancy firms etc. In addition; a study relating to comparison between two sectors like financial and non-financial as well as Pakistan's manufacturing firms with other Asian countries manufacturing firms can also be made in future. In addition; the research regarding the comparison of relationship in ten years shifts on financial and non-financial sector can also be made.

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