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## FINANCIAL ECONOMICS | RESEARCH ARTICLE

# Ownership structure and debt structure as determinants of discretionary accruals: An empirical study of Pakistan

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**Abstract:** Financial statements are the main source of financial reporting. The basic role of financial reporting is to effectively communicate financial information to outsiders in a timely and credible manner. Firstly this study used different models to evaluate the value of accruals and then presents most reliable results which have been concluded from modified Jones 1995. In order to examine the relationship, sample of nonfinancial listed companies of Karachi Stock Exchange from 2008 to 2014 would be used to run the regression. The results are consistent with said hypothesis, measures, and methodologies. The results demonstrate that discretionary variables decrease gradually with the percentage increases in the blockholders on its significant level. Further our results indicate that financial institutional and non-financial institutional ownership has positive but significant influence on discretionary accruals. Finding of analysis proves that short-term liabilities have a positive and meaningful impact on earnings management activities while long-term obligations

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### PUBLIC INTEREST STATEMENT

During the last decades, corporate accounting scandals associated with earnings management and corporate governance structures has gained attention of policy-makers, practitioners, and researchers. Earnings management is a purposeful intervention in financial reporting, to achieve earnings targets, by varying the accounting practices without violating accounting regulations. One of the challenges for investors and creditors is to evaluate opportunistic behavior of managers to manipulate earnings in order to maximize their own utilities at the expense of the contracting parties and stakeholder. This research intends to examine the association among blockholders, ownership structure, debt structure (long term debt, short term debt) and earnings management for a sample of 100 firms listed in Karachi Stock Exchange from 2008 to 2014. The findings would be useful for creditors of long-term debt interested in monitoring the activities in restricting management toward earnings management in Pakistani firms.

have a negative and significant impact on discretionary accruals. Results reveal that in Pakistan, creditors of firms are interested in monitoring the activities in long-term debt, and this scenario restricts management less toward earnings management.

**Subjects: Statistics for Business, Finance & Economics; International Finance; Corporate Finance**

**Keywords: earnings management; blockholder; managerial ownership; financial institutional ownership; nonfinancial institutional ownership; debt structure**

## 1. Introduction

Financial statements are a central source of financial reporting. The role of financial reporting is to effectively communicate financial data to outsiders in a timely and credible manner (Fasb, 1984). Earning is one of the fundamental fragments of a financial statement which is used by insiders to report the outsiders. Financial reporting standards impact the management in perspective of reporting that on which level they are permissible to manage earnings (Shah, Zafar, & Durrani, 2009). The reliability of financial reports has been an issue for practitioners and regulators (Shah, Zafar, et al., 2009; Watts & Zimmerman, 1986). There contains a list of corporate accounting scandals concerning especially corporate governance across the world. Such as scandals of United States: WorldCom (\$3.8 Billion in 2002), Tyco (\$600 in 2002), Enron (\$111 billion in 2000), HealthSouth (\$446.0 million in 2005), Europe: Parmalat (€14 billion in 2001) and East Asian and Xerox (\$6.4 billion in 2009). Siam, Laili, and Khairi (2011) and Goncharov (2005) investigated that all these accounting scandals are concerned with earnings management. Park and Shin (2004) investigated that publicly traded firms are engaged in manipulating the earnings in order to attract investors as well as to other stakeholders (Kellogg & Kellogg, 1994; Ronen & Sadan, 1981).

Teoh, Welch, and Wong (1998) studied that tools of earnings manipulation also include the accounting method within the context of GAAP. Information asymmetry always exist between outsider and insider of a company, and moreover insider always try to gain the benefit from information asymmetry and become the cause of conflicting between insider and outsider (Byun, Hwang, & Lee, 2011; Leuz, Nanda, & Wysocki, 2003). Healy and Wahlen (1999) explained the term that earnings management is the practice to change the income figures before reporting to outsiders of the firm, on the basis of judgmental discretions as permitted by GAAP. Leuz et al. (2003) defined the term as the firms who manage their earnings via concealing financial shocks on net cash flow from operating activities. The significance of accounting incomes for all stakeholders of a particular company should not be over highlighted; as the whole vision of the companies and their stakeholder's decisions depend on it. Literatures suggested that earnings are very pertinent if only shareholders can trust upon it (Ijiri & Jaedicke, 1966). In this context, study has been conducted to know the level of influence of blockholders on earnings management.

Man, Hong, and Wong (2013) defined the term earnings management as the best choice for a manager to operate earnings under accounting policies. Earnings management literature discussed two classes of earnings management: accrual-based earnings management and the manipulation in earnings on a real basis. Ahmed, Takeda, and Thomas (1999) and Cohen, Darrrough, Huang, and Zach (2011) defined in detail about measuring discretionary accruals, a firm may use provisions as well as warranty cost to operate earnings. Dechow, Hutton, Kim, and Sloan (2012) argued that accruals earnings management may have the opposite effect.<sup>1</sup> Healy (1985) argued that managers engage in earnings manipulation just after the announcement of the bonus plan to seek the benefits for themselves. With the same sample size Healy examined 242 firms whose accounting policy changed over 1968 to 1980.

Literature highlights different logics for earnings management. First logic documented was schemes of offering compensation, which was documented by Houmes and Skantz (2010), Cheng and Warfield (2005), Gaver, Gaver, and Austin (1995), McNichols and Wilson (1988) and Healy (1985).

Shleifer and Vishny (1997) and Jensen and Meckling (1976) examined that beneficiary in outside blockholders take keen interest to monitor the manager's decisions. This scenario gives the opportunity to researchers regarding the study of the impact of ownership concentration on earnings management (Ding, Zhang, & Zhang, 2007).

Pakistan is a developing country. It is bearing political and social crises since the start of the twenty-first century. Global financial crises of 15 September 2008 and terrorist attacks had an aggressive impact on the financial and nonfinancial sector of Pakistan. Pakistan earns major portion of revenue from export and tax collection sector, as the global crises occur, it enveloped the whole economies. This financial crisis directly influenced the financial market and indirectly hit the non-financial sectors also with a high inflation rate. Investor was reluctant to invest in financial market so moved toward nonfinancial sectors. This movement of investment became the main cause of ownership concentration in Pakistan.

Concentrated ownership structure with institutional ownership (which needs to be further segregated into financial institutional ownership and nonfinancial institutional), managerial ownership, and family ownership filled the gap described by Kamran and Shah (2014). Study of Leuz et al. (2003) documented evidence that trend of earnings management is more in countries where there is weak investor protection. Earnings management is motivated such as contractual, political, taxation motivation, changes by the CEO, initial public offering and provides information relevant to the investor. Earnings manipulation can serve motivation to give direction to the manager (to leave exploiting the creditor's rights) not to expropriate the rights of creditors which are known as a<sup>2</sup> covenant violation.

Jones (1991) and Cahan (1992) investigated the political motivation of earnings management. They alleged that when a firm is politically visible and has issues connecting with government than that firm moves toward those ways of manipulation which is more secure and needed to show lower earnings. This enhances positivity in the security market which ultimately increases the amount of investment in both markets: financial and nonfinancial. Study<sup>3</sup> Xuefeng Jiang, Petroni, and Yanyan Wang (2010) investigated that upper level management's decisions are linked to firm performance. Chin, Chen, and Hsieh (2009) and Das, Shroff, and Zhang (2007) investigated that firms that issue projected financial statement are more engaged in earnings management. McVay, Nagar, and Tang (2006) documented that firm with inconsistent earnings growth would be more conscious about firm's earnings, as they gain more compensation from firms as compared to other stakeholders of the firm (prosper theory) and are also engaged in reducing the operational cost of transaction.

The corporate scandals of Enron and Worldcom in financial history of the corporate sector of private and public firms, Pakistan faced a big financial scandal of PTCL privatization. One of the senior vice president of PTCL claimed that privatization of PTCL became the biggest financial scam of history of Pakistan. Some officials disclosed that deal was made with regard to 2.6 billion dollars. It also includes the U-fone and Pak net, but if go with the actual value of just U-fone, then the value should be not merely 6 billion of this deal. Another news is uncovered in the newspaper that<sup>4</sup> PTCL worth is a lot more as measured against the stated value in agreement. Another financial scam of Rs. 5 billion encountered by the economy of Pakistan. Management of SBP and KASB deal was an illicit acquisition of shares of KASB bank in the financial sector of Pakistan. National Logistic Cell revealed another financial scam of Rs. 4 billion via investing in the stock market by an army-run NLC, with the favor of chief financial officer of the stock market.

### **1.1. Earnings management with ownership concentration and debt structure**

Denis and McConnell (2003) argued in their research that ownership concentration is most suitable in a country where there is a strong level of protection of shareholders. But in case of Asian countries, the level of ownership is much more as compared to level of protection of shareholders. Khanna and Palepu (2000) described that seeking higher control over firms by little hands, strengthen the families but weakens the country's firms. The county level investment moves downwards which

become the major cause of country deficit balance of payment. It undermines the legal system and effective control over firms. There are plenty researches available in literature to prove the given statement that in all Asian firms, the concentration level is high overall (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2008).

Literature is available to look at the conflict of interest between blockholders and earnings management (Dechow & Skinner, 2000; Fields, Gupta, & Wilkins, 2012; Healy & Wahlen, 1999; Ronen & Sadan, 1981; Stolowy & Breton, 2004). It leads by basis to search the scope and significance of earnings management. In a developing country like Pakistan, the reasons for managing earnings may vary from developed market. As in our case, major listed firms are owned by few shareholders that are why ownership is high. In most of the developed capital market, literature suggested that managers of the companies play an essential role in manipulation (Ramsay & Blair, 1993; Roodposhti & Chashmi, 2011). Few persons with heavy investment have more contributors to bother about decisions regarding firm's activities and future financial health. As discussed earlier, Shleifer and Vishny (1997) gave two solutions for agency problem, at this point, the respective focus on these issues, as this has not been done before in the case of a developing country like Pakistan. As the agency cost is directly related to the monitoring cost, so there is need to investigate about this issue in depth from an agency perspective (Ding et al., 2007).

Here are two basic arguments which are used in order to the literature to defend the association between earnings management and ownership concentration. According to Morck, Shleifer, and Vishny (1988), the first argument is concerned with entrenchment effect of ownership structure. The level of ownership is high in East Asia countries, so, the blockholders entrenched the rights of minority shareholders. Under weak and inefficient judicial system, rules and regulations did not have the means to secure the rights of minority investors in profit of the firm (Hriber, Jenkins, & Johnson, 2006). Jensen and Meckling (1992) explained that the second argument has to do with proprietary information and particular human capital." In case of concentrated ownership, decisions are transferred to a few hands that have that special knowledge (Christie, Joye, & Watts, 2003). These particular persons conceal information from political lobby which ultimately gives support to an organization to withhold the competitive advantage.

In Pakistan, due to recession periods, financial and especially nonfinancial firms rely more on debts as compare to firm's assets because a high rate of uncertainty connected with marketing. This situation makes less transparency of firm's financial position because large amount of manipulation is done under accrual based earnings management. There are<sup>5</sup> three main objectives to investigate the relationship among short-term liabilities, long-term liabilities and earnings management.

## 2. Literature review and hypothesis development

### 2.1. Earnings management

Latif and Abdullah (2015) described that managers evaluate the future economic events at their own discretion and these can be observed in the firm's financial reports. Kurawa and Saheed (2014) expounded two different perspectives of earnings management: opportunistic perspective and information perspective. Different models have been proposed to measure the difference in earnings management across the world. Man et al. (2013) investigated that models are divided into two main classes: the first model is based on accrual while the second is related to real earnings management. Discretionary accruals are classified into two classes in the first class firms manipulate financial data by manipulating the firm's provisions (Ajide & Aderemi, 2014; Anandarajan, Hasan, & McCarthy, 2007), "warranty costs" (Cohen et al., 2011), "inventory values", the timing, and "amount of unusual Items." In the second class, model uses the real variables, which may have more cost (Dechow et al., 2012). In the second type of the proposed model is the use of real variables, which can be costly, to affect the firm's long-term interest. Graham, Harvey, and Rajgopal (2005) argued that most studies consider real variables more reliable to manage earnings.

Earnings management on an accrual basis is a most common and famous model to measure the level of earnings management. Here are some examples of accruals for manipulation: change in provisions and delaying or accelerating write-off of assets (De Vries, 2012; Roychowdhury, 2006). These accruals can be divided into two categories, “discretionary accruals (DA)” and “nondiscretionary accruals (NDA).” Haider, Ali, and Sadiq (2012) defined “non-discretionary accruals as it occurs when economic activity took place which are logical with regard to the reporting and show the real picture of future conditions for a particular company. On the other hand, to report the income of the firm, manager uses the discretionary accruals that have been received directly from economic activity. The two most cited models for measuring the discretionary accruals are, “Jones model (Jones, 1991)” and “modified Jones model (Dechow, Sloan, & Sweeney, 1995).”

Roychowdhury (2006) defined “the term that presented earning is different from normal operational practices. This level of earnings provoked manager’s desire to mislead at least some of its stakeholders into believing that financial reporting goals have been met in the normal course of operations” (Cohen et al., 2011). Gunny (2005) defined many types of real earnings management such as manipulations of discretionary expense: “research and development expenses, discretionary selling, general, and administration expense, timing of sale of intangible assets, mass level of manufacturing product to cut down expenditure and provide credit lines on easy installment basis. Literature mostly preferred accrual-based earnings management because of large amount of modification done by accrual-based earnings management.

## **2.2. Association between earnings management and ownership concentration**

In case of Pakistan, the study of Latif and Abdullah (2015) and Javid and Iqbal (2008) is made available to a major contribution to the literature of ownership concentration. Different proxies have been used to capture the interface of ownership concentration, for example study of Cornett, Marcus, and Tehranian (2008) used managerial and institutional ownership to investigate the relationship among interested variables. Study argued that there are two solutions to this traditional agency problem. One is protection of shareholders and second about ownership concentration. Two alternative impacts of ownership concentration on income smoothing: Entrenchment and alignment effect.” In the case of alignment effect, it occurs where there is a high level of concentration of shareholders in a market. Fan and Wong (2002) gave arguments in favor of an alignment effect as that alignment effect not only decreases the benefits of blockholders of the firm but they also seize firm for the sake of their firm’s benefit. Study provides arguments of having weak governance in a country that has a stronger level of ownership concentration just like in the scenario of Asian countries. Alves, Rodrigues, and Canadas (2012), Abdoli (2011) and Roodposhti and Chashmi (2010) have a same point of view and found indirect relationship between blockholders and earnings.

Halioui and Jerbi (2012) described about the researchers who directly associated blockholders with income smoothing (Aharony, Lee, & Wong, 2000; Claessens, Djankov, & Lang, 2000; Roodposhti & Chashmi, 2010). Beasley and Petroni (2001) argued that board independence weakens the strength of gray directors. They are all affiliated with the management of the firm and involved in making special decisions regarding all affairs of the organization. Literature endorses this view of a positive relationship between earnings management and concentration of ownership (Choi, Jeon, & Park, 2004; Kim & Yoon, 2008; Liu & Lu, 2007). In case of Pakistan, ownership structure has been categorized further in distinct classes; one of them is family ownership.

Ding et al. (2007) expounded the impact of ownership concentration on earnings management as curve linear relationship. McConnell and Servaes (1990) investigated a negative relationship in the beginning, reached it at its turning point to convert it into a positive association. As ownership concentration is slow and steady, that is why they are not all entrenched in the beginning. Therefore, those shareholders serve as alignment at an initial level. They are fully entrenched as they get the maximum rights concerned with proxies and then they are intended to commit such actions which are in conflict of interest of minority shareholders.

The association between earnings manipulation and ownership structure shows an u-shape pattern which shows that in the beginning, ownership concentration encourages earnings management to move upwards and has a positive relationship. As for the next stage when it crossed 50%, the blockholders indirectly pressurize the management to slow down the process of earnings smoothing. The left half of the curve considers the entrenchment effect, while the right half reflects the alignment. Ding et al. (2007) claimed that concentrated ownership makes it possible to strictly monitor the firm and take all those decisions which are supported by the organization. That study used 273 listed firms in Chinese stock exchange to confirm their statement. Kamran and Shah (2014) argued that literature on property rights give a comprehensive structure for measuring factors related to ownership structure. The body of literature emphasizes social norms, the law and legal systems and role of customs in making the index of “property rights and their governance systems.”<sup>6</sup> Property rights arrangements might be discovered through the corporate share ownership in which shareholder has some rights against business property.

#### 2.2.1. Ownership concentration in Europe and East Asia

Kirchmaier and Grant (2005) investigated the effect of ownership concentration on firm performance by using the 100 firms of five economies of Europe. Cheffins (1999) investigated with Canadian firms to measure the impact of blockholders on minority investor’s rights. Park and Shin (2004) argued that Canadian institutes work in an exceptional jurisdiction where equity markets are highly established but ownership is very well concentrated but with the zealous protection of minority investors. World’s most massive financial scams and noticeable earnings management incidences were carried out by conglomerate giants such as Enron and Worldcom.

It is observed under one of the prediction of property rights that property rights not are well established in countries where control is in the hands of the state. Shleifer and Vishny (1997) extended this study and elaborate that the gains from concentration are comparatively more in less developed countries where rights of property in a market are not much about protection by state shareholders of the world and found that weak legal environment are connected with high concentration level. In the case of East Asia and most of the other locations outside East Asia such as UK and US, nature of this agency conflicts shift from managers to shareholders.

#### 2.2.2. Agency theory

Usman and Yero (2012) explained that two competing theories exist to explain two aforementioned opposing findings (which confirm a linear relationship). Jensen and Meckling (1976) purposed the agency theory, acting in conformity with this theory, conflict of interest between shareholder and manager which gives opportunity to manager to manipulate the earnings. Ramsay and Blair (1993) investigates that this monitoring cost exceeds the agency cost and became the cause of having a negative relationship between earnings management and ownership concentration. In literature, this tendency is recognized as alignment effect of ownership concentration (Chen, Elder, & Hung, 2010; Ding et al., 2007).

Fan and Wong (2002) investigated that a higher level of ownership gives opportunity to avail higher voting and cash flow rights in the firm. With a higher level of shares in the firm, shareholders need to be able to entrench the voting rights. As it crosses a limit, the cash flow diverted toward management because the shareholder does not have the capacity to entrench the cash flow. Gomes (2000) investigated that higher ownership concentration serves as a reliable commitment between large and small shareholders because it is willing to build a reputation; not expropriate the minority shareholders of the firm. Ding et al. (2007) reported that La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999) proved that ownership concentration is higher in most part of the world. That most part of the largest corporation exists in world’s 27 wealthiest countries and control of these firms lie in the hands of few people. Fan and Wong (2002) argued that ownership concentration is in a position to decide about the accurate distribution of profit among all shareholders. Study argued that small investors are trapped with uncertainty that controlling shareholder gets a right to deny them of their rights through the entrenchment effect.

There are a couple of features of an ownership structure mostly followed in East Asian countries: pyramidal structure, cross holding structure. In the case of Pakistan, most investors are less educated and have very trivial information about the actual condition of the stock market. Teoh and Wong (1993) investigated about reliability of earnings in the mind of stakeholders. This reliability may be monitored in accordance with the firm's audit report. It is on the market value of share and related information about firm's earnings. This process of conversion of entrenchment effect into alignment can be observed in U-Shape pattern and literature support in the same way as described above (McConnell & Servaes, 1990; Morck et al., 1988). As they get a monopoly. Now they have more rights on cash flow from operation. The study hypothesis is that there is negative relationship between earning management and blockholder of firm, as hypothesis exists in literature (Ramsay & Blair, 1993), as described in study that investigates that this monitoring cost exceeds the agency cost and became the cause of having a negative relationship between earnings management and ownership concentration.

H1: There is negative impact of blockholders on earning management.

### **2.3. Earnings management and institutional ownership**

Latif and Abdullah (2015) and Shah, Zafar et al. (2009) defined the term institutional ownership as "share held by financial institutions (both banks and non bank financial companies) and non-financial corporation (both public and private institutions). Johnson and Greening (1999) and Mahoney and Roberts (2007) stated that institutional investors reflect the finance held by non-individual investors like banks, insurance companies, pension funds, private investment organizations and any other party that keep and invest funds for the benefits of their customers. Lskavyan and Spatareanu (2011) and Feldmann and Schwarzkopf (2003) expounded that institutional shareholders play a very significant role in structuring the firm's corporate governance. Dechow et al. (2012) and Chung, Firth, and Kim (2005) investigated that institutional investors have more courage and are able to play an active role in monitoring and disciplining managerial activities and also improve information asymmetry in the capital market. Kamran and Shah (2014) described that there are<sup>7</sup> two schools of thoughts regarding institutional ownership in discouraging activities regarding income smoothing.

Al Fayoumi, Abuzayed and Alexander (2010) argued that their advance knowledge with appropriate experience and investment level in the firm, discourages the manager to halt a process and practices of earnings management. Studies of Cheng and Reitenga (2000) and Rajgopal, Venkatachalam, and Jiambalvo (1999) supported this view and found a relationship between institutional ownership and less income increasing discretionary accruals. Latif and Abdullah (2015) investigated with a sample of 120 nonfinancial firms listed on the Karachi Stock Exchange from 2003 to 2012. Study discovered the positive association between income earnings management and institutional shareholders. Study divided the institution in two regions, upper region and a lower region. Study started raising a negative relationship between higher institutional ownership regions and found a definite relationship between lower institutional region and earnings management. Their findings were expressed for the view that long term institutional shareholders lessons manager's aggressive earnings manipulation. Mitra (2002) stated that controlling owners are more attentive to becoming familiar with any news regarding earnings manipulation owing to their heavy investment. Roodposhti and Chashmi (2011) investigated in Iranian firms and found a significant positive relationship between institutional ownership and earnings management. As the study hypothesis are:

H2a: There is positive impact of financial Institutional Ownership on earning management.

H2b: There is positive impact of nonfinancial Institutional Ownership on earning management.

#### **2.4. Earnings management and managerial ownership**

To foresee the relationship between director's ownership and firm value, Stulz (1988) developed a theoretical model that infers measure the "roof-shaped" association. In this model, as director's ownership level rises, the entrenched internal shareholder tries to take such decisions as the cost of external investors which are infected gives potential benefits. This situation lowers the price of share of the firm but fills the private pocket of managers (McConnell & Servaes, 1990; Morck et al., 1988). La Porta et al. (1999) argued that different studies also followed the same model and found the same results with ownership stratum. Warfield, Wild, and Wild (1995) investigated that affirmativeness of earnings affected by managerial ownership. Study also investigated that earnings management moves downward when managerial ownership level increases in the firm. Managerial ownership controls the monitoring cost of the firm which has ultimately positive impact on earnings management. What happens, when we raise the level of managerial ownership? The answer is not so simple but it can be explained using two hypotheses: (1) alignment of interest (2) entrenchment.

Entrenchment hypothesis is strong in the case of Pakistan, as the stock markets are captured by blockholders and play a leading role in taking a decision on financial and nonfinancial affairs of the firm (Abdoli, 2011; Shleifer & Vishny, 1997). Morck et al. (1988) found that the entrenchment hypothesis explained that managerial ownership gives managers the dominant position. Managers practice their positions to expropriate minority shareholders. Study of Demsetz and Lehn (1985) endorsed the view of the positive relationship that is between firm performance and managerial ownership. As the study research hypothesis is:

H2c: There is positive impact of managerial ownership on earning management.

#### **2.5. Earnings management and family ownership**

Family ownership can be defined as "those in which the founder or a member of his or her family by either blood or marriage is an officer, Director, or the blockholder, either individually or as a group." Anderson and Reeb (2003) described that 75% Standard & Poor's 500 companies are family owned. La Porta et al. (1999) stated a definition of shareholders as "large" if "it directly or indirectly holds more than 10% of a firm's Shares". In the case of Pakistan, ownership is concentrated in hands of few big families (Javid & Iqbal, 2008). They also investigated that most developing markets (like Pakistan) are captured by a few families, government, and institutions who dominate the corporate sector. Bertrand and Schoar (2006) expounded that agency theorists discuss another view of agency problem: entrenchment. Family-owned firms captured the dominant position by appointing the family member at the top position of firms, having lack of knowledge, they select such persons as executive who are less competent and lead the firm toward failure (Bennedsen, Pérez-González, & Wolfenzon, 2010; Volpin, 2002). Miller, Breton-Miller, and Lester (2010) investigated that agency theorists claim that where there is high ownership concentration, lesser the level of information asymmetry (Amihud & Lev, 1981, 1999; Denis, Denis, & Sarin, 1997; Fame & Jensen, 1983; Miller et al., 2010).

H2d: There is negative impact of family ownership on earning management.

#### **2.6. Earnings management and debt structure**

As the topic of earnings management is extensively studied in developed countries of the world and few studies have been conducted yet to investigate the impact of debts and its diversification on earnings management. Watts and Zimmerman (1986) contended that managers of the highly leveraged firms aim to manipulate earnings upwards for raising their bargaining power of acquiring debts for their operations. Wang and Lin (2013) investigated that internal capital market plays a significant role in modifying earnings of all firms. Study included Taiwanese firms in its sample to provide evidence that is compatible with the hypothesis. Firm's profitability rises when found the non-monotonic association between earnings management and debt to assets ratio. Valipour and Moradbeygi (2011) studied the relationship between earnings quality and corporate financing by using 81



Tehrani Firms in their sample from 2005 to 2009. Study discovered the positive association between low levels of debt ratio with earnings management.

Toor and Abbas (2010) found a positive relationship between leverage and earnings manipulation in the textile sector of Pakistan. Textile sector in Pakistan heavily relies on debts so their capital structure facilitates managers in such a way that they may easily engage in earnings smoothing activities. Rodríguez-Pérez and van Hemmen (2010) investigated that marginal increase in debt gives opportunity to the manager to manipulate earnings and diversify the manager relating to the required context in which manager may smoothen the earnings. Results of the study showed that debt individually impacts negatively on earnings management but when debts are connected with their diversification. They have significant and positive impact on earnings management. Ghosh, Marra, and Moon (2010) documented the threshold impact on earnings smoothing, study included 634 firms of US and declared the negative association between earnings quality and debt financing. Cheng and Liu (2008) decided the threshold level for nonlinear panel regression after which change of debt to equity occurs and influence earnings management (Hansen, 1999). Mohd and Ahmed (2005) investigated that debt is negatively associated with earnings management. The study indicated that renegotiation related to firm's contracts (who have high leverage ratio) provides benefits to lower earnings.

Jelinek (2007) finds insignificant results regarding the relationship between earnings management and firm size. Investigated that leverage and earnings management has a negative relationship with earnings management because of the high level of monitoring creditors of the firm. Fields et al. (2012) studied the impact of debt on earnings management and documented results that firms with high leverage ratio pressurize the firms to manipulate the earnings for winning the confidence of creditors. Othman and Zeghal (2006) found a positive association between income increasing, earnings management and debts because of raising the bargaining power of negotiation with external and internal creditor. Fields et al. (2012) segregated debts of firms into three classes, being influenced by the maturity level: short term, long term and total debt, and their effect on earnings management. In case of weak monitoring level by creditors, due to low level of debts in the firms, managers involved higher to smooth firm's earnings. As the debt level goes higher in a firm, monitoring cost also rises which reduced incentives for managers. These all are the motivations to consider separately all categories of debts with earnings management.

H3a: There is positive impact of short-term debt on earning management.

H3b: There is negative impact of long-term debt on earning management.

### 3. Empirical design

Earnings management activities are not risk-free operation. There are several types of risk involved in managing earnings. Litigation risks are attached with earnings manipulation that is why. Companies get more benefits as compare to its cost and risk. Zang (2011), Burgstahler, Hail, and Leuz (2006), and Bergstresser and Philippon (2006) introduced some incentives for earnings management. These incentives of earnings management can be further classified into three major classes (1) explicit contracts (bonus plans and debt agreements), (2) implicit contracts (business capital market, political cost, and regulatory), (3) specific circumstances (earnings increases and decreases). Further section of paper comprises an overview of sample, data sources, variables, and methodology used for measures of those variables.

#### 3.1. Sample selection procedure data sources

All financial firms (including banks) are excluded because this industry is regulated and has fundamentally altered cash flow and accrual processes and have unusual capital structure and profits (Roodposhti & Chashmi, 2011). Financial companies are regulated differently i.e., accruals behaviors vary from that of nonfinancial companies and are less easily covered by the model of total accruals

**Table 1. Sample details and data sources**

Companies	No. of companies
Total number of companies listed in KSE in 2014	579
Financial firms excluded	282
Total non-financial firms	297
Sample firms (annual reports available from 2008 to 2014)	158
Sample firms included in the analysis	100
<b>Document or data sources</b>	
Annual reports of firm	
Company handbooks	
Companies ordinance 1984	
SECP 1997	
Securities Act, 2015	

Sources: Author's calculation.

(Bedard, Chtourou, & Courteau, 2004). Firms with insufficient data to compute discretionary accruals are also necessary to eliminate. The sample comprises 100 companies. The study used secondary data harvested from the published annual reports of firms. Financial and accounting data are gathered directly either from annual reports or from company's handbooks. The sample has been selected for study from Karachi stock exchange 100 indexes (Table 1).

### 3.1.1. Time period

This study is conducted from 2008 to 2014; there are some reasons to select data from 2008: First of all, it's a period when historical events occurred in the financial market of the world as well as in Pakistan. These events have a special effect on the overall financial market such as financial crises of 15 September 2008. Overall global market faced the worst crises since after the Great Depression of 1930's. This wave not only covered the financial market of the world but also hit the nonfinancial sector, because those financial market who relies on heavy loans, suffered a lot. The American automobile industry found them at the edge of the gorge. Overall share prices of the firms go down which became the cause of earnings management. The share price of Dow Jones Industrial Average goes down and faced loss of 33.8% of its value at the end of year 2008. Worldwide high oil prices had influenced the state banks that they set a high interest rate in order to keep interest rates high as a bulwark. Interest rate was set high so this financial crises wave should have a lower impact on the inflation rate which was directly connected with real market. This recession time period ended in June or July 2009 in United States.

### 3.2. Dependent variable

There is not any unanimity on the definition of earnings management (Beneish, 2001). For example, Davidson, Chandy, and Cross (1987) quoted in Schipper (1989) the term as "the process of taking prudent steps within the limitations of Generally Accepted Accounting Principles to fetch a desired level of reported income". There are three methods to manipulate earnings: first one is about variation in accruals, second is about arranging the payment and revenue transactions, and<sup>8</sup> third is about the following methods of accounting for recording the economic transaction in financial statement (McNichols & Wilson, 1988; Schipper, 1989).

Study used the accrual-based earnings management and the model of Jones (1991) has been established in order to measure discretionary accruals. Accruals are the main part of our earnings, and in addition to the cash flow from operating activities of a firm of that particular period of accounting.<sup>9</sup>Accrual is considered to be the difference between net income before extraordinary item and net cash flow from operating activities. Roychowdhury (2006) gave an illustration that accrual manipulation occurs at the time of depreciation and provisions. Accruals are divided into 2

classes: “discretionary accruals and non-discretionary accruals”. Rao and Dandale (2008) described the term nondiscretionary accruals as these are basically accounting adjustment of cash flows within the prescribed standard accounting rules. The term discretionary accruals are described as the accruals adjustment of cash flow as decided by the board of directors of the firm. For testing the study hypothesis, Jones model (1991) has been used to evaluate the abnormal accruals of firm, which is in fact the proxy of dependent variable used in this study.

### 3.3. Independent variables and control variables

As blockholder is used as our independent variable in the study, blockholders can be measured by splitting the number of shares retained for more than 5% of the firm divided by total number of shareholders (Shleifer & Vishny, 1997). Institutional ownership is further parted into financial (banks, insurance companies, mutual funds) and nonfinancial institutional ownership (non-financial corporations, include both privately and publicly owned institutions). Managerial ownership is monitored by the number of shares held by non-executive director divided by total number of director (Miller, Breton-Miller, Minichilli, Corbetta, & Pittino, 2014). Family ownership is considered as percentage of share held by husband, wife, son, and daughter and other family members, whose star name are same as family members where the founder or a member of his or her family by either blood or marriage and found negative relationship with earnings management (Javid & Iqbal, 2008).

There are some control variables used in the regression line to capture the actual impact of explanatory on explained variables. Size of the firm influences the decision-making regarding accrual. Watts and Zimmerman (1986) suggests that activities of gigantic corporations are observed very consistently. Azhari (2012) gave the opposite view as given by literature and criticized that if there is fruitful information about the old shareholders then it is difficult for the board of directors to make such manipulation which is required in order to attract new equity holders. Founded on literature, there is no exact direction of relationship found with discretionary accruals. This study uses the natural logarithm of total assets as a proxy for firm size (Kamran & Shah, 2014).

Firm leverage is a function of the total debt to total assets of the firm. As literature proved that firms with high leveraged ratio have more chances to indulge in income smoothing and wish to take up aggressive earnings manipulation (Watts & Zimmerman, 1986). Mashayekhi and Bazaz (2008) stated that firm financial leverage is measured by debt to assets, is included, as a proxy for risk. This is explained by the fact that, managers follow different techniques of manipulation when they have more doubt about facing default on a debt contract. Return on asset is calculated by net income divided by total assets (Usman & Yero, 2012). Sales growth value is established by dividing the current year sales subtracted by previous sales and divided by previous year sales (Rodríguez-Pérez & van Hemmen, 2010). Return on equity is calculated on the basis of dividing the net income on shareholder equity of the firm.

### 3.4. Methodology

Toor and Abbas (2010) stated that normally accruals are used as a measure of earnings management. Managers may be able to shift the receivable and payment in projected financial statement so they may save the organization of bearing higher tax, dividend or bonus etc. Healy (1985) utilized the total accrual a proxy of earnings management. De Angelo, De Angelo, and Rice, (1986) contended that a better measure earnings management should be modified into total accruals after criticizing the work done by Healy (1985). After five year Jones (1991) criticizes on the assumption introduced by De Angelo et al. (1986), and gave the logic that nature of nondiscretionary accruals is not stationary. In her model, she developed a regression line based on discretionary expenses and revenue which changes with the changes that take place in the economy. This gap can be controlled by using the change in revenue, as well as the change in property plant and equipment.

Model also included the total accruals to evaluate the actual value of discretionary model. Dechow et al. (1995) criticized the Jones model (1991) and suggested some mutation in model. Study suggested that change in receivable should be taken from the change in turnover. This item reduced the

possibility of making frauds in receivable while reporting the actual earnings of the firm. Mostly developed countries utilized the modified Jones model (1995) to estimate discretionary accruals which is a proxy for earnings management. As mentioned above earnings management will be a dependent variable in this study. In this study discretionary accruals have served as a proxy for earnings management. Discretionary accruals can be found out by two different approaches: balance sheet approach and Cash flow statement approach.

#### 3.4.1. Balance sheet approach

The discretionary accrual according to the Jones model (1991) is calculated in the following steps. The first step is to estimate the total accruals. Following Healy (1985), we state total accrual as follows:

$$TA_{it} = \Delta CA_t - \Delta CL_t - \Delta CASH_t + \Delta DCL_t - DEP_t \quad (1)$$

where

$TAC_t$  = total accruals at time  $t$

$\Delta CL_t$  = Cash flow from operation at time  $t$

$\Delta CASH_t$  = Change in cash at time  $t$

$\Delta CA_t$  = Change in current assets at time  $t$

$\Delta DCL_t$  = Change in debt included in current liabilities at time  $t$

$DEP_t$  = Depreciation and amortization expenses at time  $t$

#### 3.4.2. Cash flow approach

Another and most commonly used approach for measuring total accruals is cash flow approach. Most of researchers preferred to use cash flow statement approach for measuring the discretionary accruals instead of balance sheet approach. We also used cash flow approach in our methodology. Main motive behind adopting this approach is to have reliable results. Hribar and Collins (2002) argued that balance sheet approach to calculate the value of total accruals is less reliable in contrast of cash flow approach. The outcomes are more accurate as compared to balance sheet approach. In this approach we calculate following variables

$$TA_t = N.I_t - CFO_t \quad (2)$$

Following equation is used to calculate the total accruals.

$N.I$  = Net Income or Profit in  $t$  year

$CFO$  = Net Cash flow from operating activities in  $t$  year

By following the above formula, study calculates the total accrual of the firm, after measuring the total accruals, this series is used to measure the residual of the firm, and time series method is followed for each year for every firm.

### 3.5. Research model

Chen, Lin, and Zhou (2007) and Jones (1991) described the calculation of aggregate accruals that can be evaluated by taking the difference between net cash flow from operating activities and net income before tax. Discretionary accrual (DAC) is the study employed as a proxy of earnings manipulation which is dependent variable in our study. Discretionary accrual in fact represents the mutations made by the company's manager in cash flow of financial statement. Nondiscretionary accruals are accounting-based adjustments in the cash flow of the financial statement (Rao &

Dandale, 2008). Literature use discretionary accruals as a proxy of earnings management (Latif & Abdullah, 2015; Roodposhti & Chashmi, 2011). To calculate discretionary accruals researchers used various methods like the Modified Jones Model, the Jones Model (1991), DeAngelo Model (1986), and the Healy Model (1985). This study uses these models to calculate discretionary accruals, for this purpose, first study calculate the total accrual

$$TA_{it} = NI_{it} - CFO_{it} \quad (3)$$

where  $TA_{it}$  capture the interface of total accruals of the company  $i$  at time  $t$ ,  $NI_{it}$  capture the interface of net income of the company  $I$  at time  $t$ , and  $CFO_{it}$  captures the interface of cash flow from operating activities of the firm. After calculating the value of total accruals with the above formula, discretionary accruals will be measured through the following formula.

$$DA_t = TA_t - NDA_t \quad (4)$$

whereas  $NDA_t$  is firm's nondiscretionary accruals in year  $t$ , and  $DA_t$  is discretionary accruals in year  $t$ . Literature used four models to divide the accruals into discretionary and nondiscretionary components. Jones (1991) introduced a model that captured the company's changing economic environment while explaining total accruals. Her model is described as:

$$TA_{it}/A_{it-1} = \alpha_1[1/A_{it} - 1] + \alpha_2[\Delta REV_{it}/A_{it-1}] + \alpha_3[PPE_{it}/A_{it-1}] + e_{it} \quad (5)$$

where  $TA_{it}$  denotes total accruals (calculation has been described above),  $A_{it-1}$  is the lagged of total assets  $\Delta REV_{it}$  denotes the value of change in revenue for the company  $i$  at time  $t-1$ , and  $PPE_{it}$  capture the interface of gross property, plant, and equipment for company  $i$  in time  $t$ . This model includes  $\Delta REV$  and  $PPE$  to capture the variation in nondiscretionary accruals which are due to the changing in the macroeconomic environment of a country. Changes in revenue capture the shifting of the economic environment of a country and level of growth also. On the other hand, property, plant and equipment apprehend the impact of nondiscretionary depreciation expenses on total accruals. All variables are scaled by lagged total assets ( $A_{it-1}$ ) to seize the heteroskedasticity (Kothari, Leone, & Wasley, 2005; Liu & Lu, 2007). These all models can be used to evaluate the discretionary accrual, literature use all these models to measure the discretionary accruals, but found the best result with Modified Jones model (1995) in case of developed financial environment and for developing country Jones model (1991). Study conducted in Bangladesh found insignificant results with Modified Jones Model (1995) and found the best results with Jones Model (1991).

As Bangladesh is a developing country like Pakistan, so study used the same model of Jones (1991) to measure the discretionary models. As stated above, this measurement of discretionary accruals followed by two steps. At first step, total accruals are measured for each firm by subtracting the cash flow from operating activities from earnings of that particular year (Okolie, 2014; Roodposhti & Chashmi, 2011). At second stage, these accruals are used in the Jones model (1991) in order to measure the residuals (discretionary accruals) with time series analysis as described in Equation (5). It is presumed that accruals are constant in the equation overtime and found no change in property plants and equipment and revenue. At the final stage, these residuals are used in place of discretionary accruals.

Jones (1991) assumes that company's manager do not manipulate its revenue. For example, revenues are nondiscretionary, there may be a situation in which firm's manager manipulate the earnings. Dechow et al. (1995) argued that if managers decide to raise the firm's revenue at the end of the year where the bill has yet to be received. The revenues will reflect the inflation level of the year, which show the higher amount of account receivable. Kothari et al. (2005) adjusted the Jones (1991) model to account for this managerial discretion over income. They deducted the change in account receivable ( $\Delta REC$ ) from the change in revenues ( $\Delta REV$ ). Their model is shown in equation:

$$TA_{it}/A_{it-1} - 1 = \alpha_1[1/A_{it} - 1] + \alpha_2[(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \alpha_3[PPE_{it}/A_{it-1}] + \mu_{it} \quad (6)$$

Kaszniak (1999) include the change in free cash flows ( $\Delta\text{CFO}$ ) to the Dechow et al. (1995) model because of evidence from Dechow et al. (1995) model suggested that  $\Delta\text{CFO}$  is negatively correlated with total accruals. Estimation error will be higher if  $\Delta\text{CFO}$  eliminated from total accrual's equation, The Kazniak model is given below:

$$\text{TA}_{it}/A_{it} - 1 = \alpha_1[1/A_{it} - 1] + \alpha_2[(\Delta\text{REV}_{it} - \Delta\text{REC}_{it})/A_{it} - 1] + \alpha_3[\text{PPE}_{it}/A_{it} - 1] + \alpha_4[\Delta\text{CFO}_{it}/A_{it} - 1] + \mu_{it} \quad (7)$$

Kothari et al. (2005) implied a technique similar to Dechow et al. (1995) and add lagged ROA. They submit that the proxy of earnings management would give measurement error if one did not control for prior performance. This is because accruals are tied to operating performance. So they proposed the following model:

$$\text{TA}_{it}/A_{it} - 1 = \alpha_1[1/A_{it} - 1] + \alpha_2[(\Delta\text{REV}_{it} - \Delta\text{REC}_{it})/A_{it} - 1] + \alpha_3[\text{PPE}_{it}/A_{it} - 1] + \alpha_4[\Delta\text{ROA}_{it}/A_{it} - 1] + \mu_{it} \quad (8)$$

whereas:

$\text{TA}_{it}$  is the total accruals at the end of the year

$A_{t-1}$  is change in total assets at the end of the year  $t - 1$

$\Delta$  Revenue is change in total revenue as compare to previous year  $t - 1$

$\Delta$  Receivable is change in total receivable as compare to previous year  $t - 1$

$\Delta\text{CFO}_{it}$  is the change in cash flow from operations as compare to previous year  $t - 1$

PPE is property plant and equipment at the end of year  $t$

$\text{ROA}_{it}$  is return on assets at the end of year  $t$

$\alpha_1, \alpha_2$  and  $\alpha_3$  are the firm-specific parameters

$e_{it}$  is the residual

After measuring the discretionary accruals, study run the regression analysis to measure the relationship among blockholders, managerial ownership, institutional ownership (which is further divided into financial institutional ownership and nonfinancial institutional ownership), family ownership and earnings management by adding the controlled variables in the regression lines (Latif & Abdullah, 2015; Roodposhti & Chashmi, 2011). In our first model, for measuring the relationship among earnings management, blockholders with control variables. An Ordinary Least Square regression line is in place to measure the impact of ownership concentration on earnings management. Regression model is as shown below (Roodposhti & Chashmi, 2011; Rozeff, 1982).

$$\text{EM}_{it} = \alpha_{0it} + \beta_1\text{BH}_{it} + \beta_2\text{Lev}_{it} + \beta_3\text{ROA}_{it} + \beta_4\text{Size}_{it} + \beta_5\text{SG}_{it} + \mu_{it} \quad (9)$$

In our second model, for measuring the association among earnings management, financial institutional ownership concentration, nonfinancial institutional ownership, managerial ownership, and family ownership with control variables. A linear regression is applied to measure the impact of institutional ownership concentration on earnings management. Second regression model is as shown

$$\text{EM}_{it} = \alpha_{0it} + \beta_1\text{FIO}_{it} + \beta_2\text{NFIO}_{it} + \beta_3\text{MOC}_{it} + \beta_4\text{FOC}_{it} + \beta_5\text{Lev}_{it} + \beta_6\text{ROA}_{it} + \beta_7\text{Size}_{it} + \beta_8\text{SG}_{it} + \mu_{it} \quad (10)$$

In the third model, study will estimate the association among short-term liabilities, long-term liabilities and total liabilities with earnings management. Ordinary least square regression has been applied to evaluate the level of effect of debt on earnings management. As it has shown in the below regression model,

$$EM_{it} = \alpha_{0it} + \beta_1 LTL_{it} + \beta_2 Lev_{it} + \beta_3 ROA_{it} + \beta_4 Size_{it} + \beta_5 SG_{it} + \mu_{it} \quad (11)$$

$$EM_{it} = \alpha_{0it} + \beta_1 STL_{it} + \beta_2 Lev_{it} + \beta_3 ROA_{it} + \beta_4 Size_{it} + \beta_5 SG_{it} + \mu_{it} \quad (12)$$

where

$EM_{it}$  = Earning management for firm “*i*” at time “*t*”

$OC_{it}$  = Ownership concentration for firm “*i*” at time “*t*”

$FIO_{it}$  = Financial institutional ownership for firm “*i*” at time “*t*”

$NFIO_{it}$  = Nonfinancial institutional ownership for firm “*i*” at time “*t*”

$ManOC_{it}$  = Managerial ownership concentration for firm “*i*” at time “*t*”

$FamOC_{it}$  = Family ownership concentration for firm “*i*” at time “*t*”

$STD_{it}$  = Short term debt for firm “*i*” at time “*t*”

$LTD_{it}$  = Long term debt for firm “*i*” at time “*t*”

$LEV_{it}$  = Leverage for firm “*i*” at time “*t*”

$ROA_{it}$  = Return on assets for firm “*i*” at time “*t*”

$ROE_{it}$  = Return on equity for firm “*i*” at time “*t*”

$FSize_{it}$  = Firm size for firm “*i*” at time “*t*”

$SG_{it}$  = Sales growth for firm “*i*” at time “*t*”

*it* = Firm “*i*” at time “*t*”

$\alpha_0$  = Constant term

$\mu_{it}$  = Error term for firm “*i*” at time “*t*”

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7,$  and  $\beta_8$  are the coefficients of all explanatory variables and “ $\mu$ ” is the error term.

Table 2 of variables description give a comprehensive detail of all variables used in this study. It gives details about measurements, proxies and its references.

In this section, study analyses our data according to the model set forth in the literature. To analyze these models, we receive information from the annual report and hand books of concerned firm. Study includes all nonfinancial sectors to measure the impact of ownership structure on earnings management (Halioui & Jerbi, 2012; Okolie, 2014; Roodposhti & Chashmi, 2011). Study used discretionary accruals as a proxy of earnings management, which has been prepared individually for each

**Table 2. Variables descriptions**

Variables		Measured By
Ownership concentration	BH	Shareholder holding more than 5% (Kurawa & Saheed, 2014; Qu, 2004)
Managerial ownership	MO	Percentage of common stock held by management (Kamran & Shah, 2014; Ruan, Tian, & Ma, 2011)
Financial institutional ownership	FIO	Percentage of common stock held by financial institution
Nonfinancial institutional ownership	NFIO	Percentage of common stock held by nonfinancial institution
Family owned	FamO	Dummy variable (Miller et al., 2010)
Short-Term Liability	STL	Percentage value of Short term Liability/Total Assets (Rodríguez-Pérez & van Hemmen, 2010)
Long-Term Liability	LTL	Percentage value of long term Liability/Total Assets (Rodríguez-Pérez & van Hemmen, 2010)
Firm Size	Fsize	Log of total assets (Roodposhti & Chashmi, 2011)
Leverage	LEV	Ratio of total Liabilities to total assets (Roodposhti & Chashmi, 2011)
Sales Growth	SG	Percentage growth in sales (Rodríguez-Pérez & van Hemmen, 2010)
Return on assets	ROA	Ratio of Net income to total assets (Bekiris & Doukakis, 2011)
Return on Equity	ROE	Ratio of net income to shareholders equity (Chen & Yaun, 2004)

**Table 3. Descriptive statistics**

Variable	Firm	Minimum	Maximum	Mean	Std. deviation	Variance
DA	600	1.898	9.574	6.04	1.266	1.603
BH	600	0.001	0.998	0.644	0.245	0.06
MO	600	0.000	0.984	0.169	0.246	0.06
FIO	600	0.000	0.983	0.111	0.153	0.023
NFIO	600	0.000	0.893	0.086	0.175	0.031
FamO	600	0.000	1.000	0.694	0.461	0.213
STL	600	0.054	1.045	0.681	0.263	0.069
LTL	600	0.000	1.404	0.316	0.265	0.07
LEV	600	0.001	6.423	0.611	0.465	0.216
ROE	600	-8.52	5.951	0.129	0.67	0.449
SG	600	-0.999	9.817	0.200	1.019	1.038
ROA	600	-1.961	42.832	0.146	1.914	3.662
FSize	600	4.542	10.525	7.551	1.169	1.367

Source: Author's calculations.

firm through time series analysis. After finding the residuals value through time series analysis for each firm study draw empirical model, discretionary accruals used as a dependent variable which is depending on overall ownership structure (i.e. managerial ownership, financial institutional ownership, nonfinancial institutional ownership concentration, and family ownership). Study used control variables (i.e. ROA, Leverage, Firm Size) found in literature to measure the actual association among predicted variables.

To investigate each hypothesis prescribed in the literature, first need to know about descriptive statistics connected with each variable included in the study. The outcome of the test connected to pre-assumptions of multiple Ordinary Least Square regression is present in Table 3. The criteria related to check the normality of the variables before applying the Ordinary Least Square regression will be shown (Ashbaugh-Skaife, Collins, Kinney, & LaFond, 2008; Dhaliwal, Naiker, & Navissi, 2010;



Prawitt, Smith, & Wood, 2009). To check the heteroskedasticity in the data, study analyzed the normality in the data. Study is not concerned that data should be perfectly normally distributed but approximately normally distributed. To check the normality in the data, different test can be implemented in data such as Kolmogorov–Smirnov test has been applied and diagrammatic method has been used for easy understanding the normality level of the data.

## 4. Results

### 4.1. Descriptive statistics

Table 3 shows the mean value of all independent and depends on variables as well as the control variables. It not only shows the mean value but also shows the standard deviation, variance, maximum and minimum value of all variable. Table 4 shows the descriptive data of firms which are contained in our research. Mean value of discretionary accruals is 6.04. While the value of standard deviation is 1.266 and variance is 1.603, which are supposed to be very near to each other. Results of Skewness in 2.09 are near to the required criteria and Kurtosis value is, 0.7649 also lies within the given criteria. The mean value of the block is 64.46% which represent the portion of blockholders in total equity while the standard value and variance are 0.2452 and 0.06. Mirza, Afzal, Rizvi, and Naqvi (2013) investigated the blockholder's impact on firm's performance, and calculated value was 48.9% which is lower than calculated value of current study.

Family ownership is in an average value is 69.5% which means that family ownership has a beneficial impact on earnings management which is more than double that calculated in Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) which was 37%. On average, directors, their spouses, children, and other relatives hold 17% of the common equity firms. This indicates the proportion of managerial ownership in absolute ownership while the other two values of criteria to check the normality are near the limit given in literature but is not found perfectly in the given criteria. Financial institutional ownership means value is 11.13%, while the value of standard deviation from its variance is near to each other. The average value of a nonfinancial institution is 8.6% and the difference between standard deviation and variance is acceptable. Collectively financial and nonfinancial institutional shareholder hold 19.72% in the firm's equity which is less than the value calculated previously (Kamran & Shah, 2014).

The average value of short term and long term debt are 68.10 and 31.60%, respectively, which shows that short-term debts are more as against long-term debt and there is a slight difference between standard deviation and variance values which shows positive results. This value sets the evidence that firms avail more succinct term loans for their working capital and there is high liquidity in the financial market because of some microeconomic environment. So, financial institutions provide short-term loans to save their earnings via interest. The mean value of sales growth was found 20% approximately. The average value of the return on assets is about 14.60% and mean value of the return on equity is 12.90%. The value of firm size is 7.5 log million. Most of the values are in agreement with the results calculated above mean value, and difference value is due to different sample size and time variation. In this study, some outliers are found which mislead the consequences so first remove these outliers by applying normality test. Kurtosis and Skewness test value roughly lies within the prescribed range +5 and +1.96 and normal Q-Q plot also supports that test is not in a position to reject the null hypothesis which is that data are approximately normally distributed.

### 4.2. Multicollinearity

The coefficients of Pearson correlation matrix of all model collectively is presented in Table 4, which shows that there is no serious multicollinearity problem.

Only one coefficient of the explanatory variable is more than 0.7. This is analyzed by the variance inflation factor (VIF) that value should be greater than 10. The coefficients value shows that there are a negative and significant association among and blockholders, and family ownership, and

**Table 4. Correlation matrix**

	DA	BH	MO	FIO	NFIO	FamO	STL	LTL	LEV	ROE	SG	ROA	FSize
DA	1												
BH	-0.118**	1											
MO	0.045	-0.023	1										
FIO	0.058	-0.153**	-0.199**	1									
NFIO	0.045	-0.066	-0.191**	0.052	1								
FamO	-0.011	-0.038	-0.051	0.047	0.083	1							
STL	-0.104*	-0.016	-0.085	0.052	0.120**	0.028	1						
LTL	0.107*	0.006	0.066	-0.044	-0.113*	-0.035	-0.977**	1					
LEV	0.025	-0.113*	0.036	0.016	0.054	0.049	0.082	-0.089*	1				
ROE	0.089*	0.048	-0.03	0.003	0.085	0.012	-0.025	0.037	-0.059	1			
SG	0.001	-0.071	0.055	-0.035	0.009	-0.021	0.097*	-0.089*	0.008	0.042	1		
ROA	0.03	0.02	0.098*	-0.039	-0.017	-0.065	-0.078	0.078	-0.02	0.025	-0.035	1	
FSize	0.469**	-0.02	-0.023	0.021	-0.023	0.046	-0.203**	0.207**	0.003	0.041	-0.038	-0.058	1

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

short-term liability with discretionary accruals. Director, spouses and minor children, financial institutional ownership, nonfinancial institutional ownership and long-term liability have a positive impact on discretionary accruals. Results are in agreement with the literature. Only one variable value is greater than seven which is short term and long term debt and the reason behind it is logically that short term and long term debt have a negative and greatly significant correlation. For this reason study ran the separate OLS regression to measure the influence of short term and long term debt on discretionary accruals.

### 4.3. Empirical results

In this section, study run Ordinary Least Square regression on three models separately to check the unbiased and actual relationship among the estimated variables. The results of regression analysis are showed in the Table 5. DAC (Proxy of earnings management) is regressed on explanatory variables and control variables. The regression model 1 is highly significant but explanatory power of  $R^2$  is 23.60.

Here the value of  $R^2$  tells that 23.60% of the variability in discretionary accruals can be explained by having ownership in the firm. The value of  $R^2$  represents that only a good part of variability of earnings management is explained by changing the value of explanatory variables. However, this level of  $R^2$  is acceptable in any study done employing discretionary accruals as a proxy of earnings management (Peasnell et al., 2000). The  $R$  square and adjusted  $R$  square values are very close to each other which confirms the goodness of fit of model 1 and the value is approximately parallel which confirms that observation is enough to study the relationship. The Durbin-Watson value is a little bit lower which should be within the range of 1.5 to 2.5 that shows that data has some multicollinearity problem. In Table 5, regression result represents that blockholders are significant and negative. The unstandardized beta value tells that if one unit change in the block, 32.36% reductions in discretionary accruals. These results of blockholders are consistent with this view. Kamran and Shah (2014), Alves et al. (2012), Abdoli (2011) find a significant and inverse relationship with earnings management.

In Table 6, regression result represents that managerial ownership is highly significant and has a positive impact on earnings management and the outcome is consistent with results obtained by Kamran and Shah (2014). Regression results represent that financial institutional ownership is insignificant and positive influence on earnings management in relationship as expected. Nonfinancial institutional ownership has positive and significantly impacted as expected in hypothesis. According to the regression coefficient of family ownership, there is negative and insignificant relationship existence between family ownership and earnings management.

**Table 5. Results for DAC regressed on blockholder**

Variables	Coefficients	t-statistics	p-value
BH	-0.323	-2.746	0.006
FSize	0.292	11.917	0.000
LEV	0.020	0.318	0.750
ROA	0.023	1.512	0.131
SG	0.000	0.413	0.680
R			0.485
$R^2$			0.236
Adjusted $R^2$			0.228
Durbin-Watson			1.310
F statistics			38.400
Significance level			0.000

Note: Standard errors are presented in the table for clustering at company's level and significance level presented with value of  $t$  statistics denoted by "\*\*\*\*", "\*\*\*\*", "\*\*\*" at 1, 5, and 10% respectively.

Source: Authors calculations.

**Table 6. Results for DAC regressed on ownership structure**

Variables	Coefficients	t-statistics	p-value
MO	0.224	1.839	0.067
FIO	0.295	1.539	0.124
NFIO	0.287	1.710	0.088
FamO	-0.021	-0.333	0.739
FSize	0.295	11.980	0.000
LEV	0.028	0.455	0.649
ROA	0.020	1.334	0.183
SG	0.000	0.348	0.728
R			0.485
R <sup>2</sup>			0.235
Adjusted R <sup>2</sup>			0.222
Durbin Watson			1.309
F statistics			18.984
Significance level			0.000

Note: Standard errors are presented in the table for clustering at company's level and significance level presented with value of t statistics denoted by "\*\*\*\*", "\*\*\*\*", "\*" at 1, 5, and 10% respectively.

Source: Authors calculations.

Here the value of R<sup>2</sup> tells that 23.50% of the variability in discretionary accruals can be explained by having ownership in the firm. An increase in family ownership resists the management to do earnings manipulation. These results are consistent with the results measured by Miller, Lee, Chang, and Le Breton-Miller (2009) in USA. Pakistan is also a common law country which supports this phenomenon. Family owners want to have control on business, so they keep an eye on management of their firms for saving their wealth portfolio, Table 7 shows the relationship between long term liability and earnings management. Mehmood and Sharif (2015) argued after empirically measuring the value of an institution holding in ownership that institutes hold 20% in those companies who for 45% shares of the market.

**Table 7. Results for DAC regressed on long-term liability**

Variables	Coefficients	t-statistics	p-value
LTL	-0.065	-3.922	0.000
FSize	-0.013	-3.567	0.000
LEV	0.015	4.055	0.000
ROA	0.000	-0.196	0.845
SG	0.000	-0.494	-0.494
R			0.672
R <sup>2</sup>			0.451
Adjusted R <sup>2</sup>			0.448
Durbin Watson			1.257
F statistics			0.830
Significance level			0.000

Note: Standard errors are presented in the table for clustering at company's level and significance level presented with value of t statistics denoted by "\*\*\*\*", "\*\*\*\*", "\*" at 1, 5, and 10% respectively.

Source: Authors calculations.

**Table 8. Results for DAC regressed on short-term liability**

Variables	Coefficients	t-statistics	p-value
STL	0.064	3.881	0.000
FSize	0.711	19.477	0.000
LEV	0.015	4.050	0.000
ROA	0.000	-0.193	0.847
SG	0.000	-0.495	0.621
R			0.304
R <sup>2</sup>			0.093
Adjusted R <sup>2</sup>			0.459
Durbin Watson			1.290
F statistics			72.090
Significance level			0.000

Note: Standard errors are presented in the table for clustering at company's level and significance level presented with value of t statistics denoted by "\*\*\*\*", "\*\*\*\*", "\*" at 1, 5, and 10% respectively.

Source: Authors calculations.

Estimated regression equations have been presented in Table 8, finding of analysis proves that short term liabilities has a positive and significant impact on earnings management activities (Wang & Lin, 2013). Long term liabilities have a negative and significant impact on discretionary accruals of the firm (Rodríguez-Pérez & van Hemmen, 2010). Results reveal that in Pakistan, creditors of firms take an interest in monitoring the activities in short term debt, and this scenario facilitates management more toward earnings management.

High monitoring cost and fewer benefits do not develop interest for short-term creditors to keep an eye on the functions of management. This study runs three models to check the impact of debt structure on earnings management. In the second model, regression line is estimated to check the impact of short-term debt on earnings management have positive while a negative relationship with raising the level of debt (Valipour & Moradbeygi, 2011).

In Table 8, results are shown that long-term debt has a negative as well as significant impact on earnings manipulations. Leverage and sales growth has a positive impact on discretionary accruals and firm size has a negative impact on discretionary accruals. All control variables are meaningful beside sales growth. The value of R in the model is 0.672, while r-square value and the adjusted r-square value is very close to each other. Here the value of R<sup>2</sup> tells that 46.50% of the variability in discretionary accruals can be allocated to have short-term debt in the firm. Negative sign shows that creditors are more attentive to monitor those activities in which they found short-term benefits as they have higher leverage level and more probability regarding bad debts. As the debt level increases, creditors of the firm need to be more conscious about the recovery of debt so they tightly monitor and imply such kinds of strategies and restriction which restrict the managers not to involve in earnings smoothing activities. Countries with strong investor protection gratify to break the stereotype concept of ownership concentration with the passage of time. Investors are entitled to deal with their shares in the stock market that motivated new investors to participate in the financial trading of shares.

## 5. Discussion and conclusion

### 5.1. Discussion

The purpose of this study is to investigate the association among blockholders, ownership structure (managerial ownership, financial institutional ownership, nonfinancial institutional ownership, and family ownership), debt structure (long-term debt, short-term debt) on earnings management for a

sample of 100 firms listed in Karachi Stock Exchange from 2008 to 2014. In this study, proxy of earnings management is discretionary accruals which are estimated at four models. Earnings management was regressed on different variables, along with the most repetitive control variables. Results indicate that financial institutional ownership has a negative and highly significant impact on discretionary accruals of the firm. They limit the manager not to manipulate the firm's earnings for their best interest. Nonfinancial institutional ownership has a negative but insignificant impact on discretionary accruals of firm.

## 5.2. Conclusion

In the history of Pakistan, there have been many financial scams which disclosed the inefficiency and irregularities of law as well as the institutions. In Pakistan, institutions are there to highlight the financial scams but need to figure out the sources through which institutes and management get a chance to manipulate the earnings of the corporate giant. So this study contributes in this way to highlight those sources through which one may indulge in a financial scam. As in recent news, National Accountancy Bureau of Pakistan revealed the amount under different financial scams was Rs. 428 billion, which certainly a big amount for a country in which purchasing power parity is just about 5.66%. On the basis of the above results of foregoing analysis and the discussion of the findings, certain recommendations are made. First, country's regulatory agencies such as the Securities and Exchange Commission of Pakistan, National Accountancy Bureau of Pakistan, Financial Reporting Council of Pakistan, Professional Accounting Bodies, and the National Assembly, under their supervisory position, should distinguish between legitimacy, outright fraudulent reporting and earning statements. The Financial Reporting Council in particular should strengthen efforts at ensuring higher quality financial reporting. Effective environment under corporate governance should be set up. Relevant channels (that may directly or indirectly signal an apprehensive financial environment that incline managers to restrict earnings management) should be defined and installed. Second, in case of Pakistan, unethical aspects of earnings manipulation should be detected by new accounting software. Financial statement notification on company's accounting practices, should guide shareholders in areas of investment, warning signs, adopting different accounting methods from the ones their competitors use, and assets or liabilities on (or off) the balance sheet that might affect future earnings. The principle based accounting method practiced in Pakistan, seems to facilitate excessive flexibility for companies to indulge in manipulation practices. Though, the rule-based method is not without its individualities, certain measures should be introduced to reduce the propensity of misleading reports. Third, Code of Corporate Law (2012) and Companies Ordinance (1984) should be strengthened in order to secure the minority shareholders in the presence of ownership concentration. This kind of practice of law secures foreign investment which supports to increase per capita income. Securities Exchange Commission of Pakistan should strictly follow up laws, that each firm listed on the stock exchange will make a comprehensive statement about the managing body and follow the same guidelines for making the annual report. This strategy, of developing the annual report encourages researchers and financial analyst to strive for an authentic analysis.

This study has also limitations, because of these limitations; study is not able to measure the variables directly. As detail of the pattern of shareholding is the major issue while collecting the data from annual reports. Each annual report has a different format normally which is a hurdle to retrieve data smoothly and within less time. The impact of inflation on data of financial statements has been ignored so it may be affected to the figure of discretionary accruals. This research has been achieved in different ways but still can be extended because few studies have been conducted from the perspective of ownership concentration, debt structure and earnings management. This research divides the institutional ownership further into two classes, financial and nonfinancial institutional ownership. Further study may need to be done to segregate the public and private ownership influence on ownership concentration. It can also be segregated into group level such as insurance companies, mutual fund, and modarbas companies.

As the principal hurdle of our research was data of yearly report. In Pakistan, financial data available are a loophole. Further research may be made to use board independence, board meetings and

auditor tenure. Corporate governance index may be prepared that includes the clauses regarding the main body of the firms, in a clearly and established manner. Anti-director rights index may be prepared by adding some more items in the index from the law for the developing country like Pakistan. Another possible line for future research that panel data from Asian countries can be used to study these variables at a broader level. Researchers may engage to study age and qualification of board members and CEOs. The compensation may take by the board of directors, proxies of directors to participate in the annual general meeting.

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#### Notes

1. First portfolio consisted of firms who adopt and manipulate their bonus plan in the year and the other portfolio consisted of firms who did not. The second category of earnings manipulation is done with real variables, the cost is higher and it impacts the firm's long-term interest.
2. Sweeny (1994) investigated existence of covenant violation in firms and these firms develop strategies to imply those rules which raise manipulation in accounting.
3. There is some evidence found that upper level manipulation facilitates compensations, which gain by managers. This term is known as "big bath" that will increase the chances of taking bonus in the current period earnings.
4. In Pakistan, PTCL has developed the monopoly from the start of our history. This corporate sector has strong roots in the country, and its roots not only covered the area of Pakistan but as well as the region of Asia. There was big discount of Rs. 394 million was offered to Etisalat, with including the offer of downsize the 20,000 employees. This deal also including the including the loss 50% of its lying cost of employees but the deal was canceled by Etisalat.
5. First, International accounting now become a major topic in the field of research. Economic globalization and international accounting standard laws convergence make it possible to research for its betterment. Second, all countries have different economic, social, and geographical characteristics which give base for researchers to research about making more effective accounting standards for all of its stakeholders. Earnings management practices are different across the world so required more detailed studies to understand international issues and their solution under laws connected with accrual based earnings management (Ronen & Yaari, 2008). Third, study shows that earnings management and ownership concentration are connected with each other and earnings management can be done via debts so need to study the relationship between debts structure and earnings management of firms.

6. First and the most significant right is the decision right, under which shareholders have the power to take decision for allocating the organizational property, i.e. rights regarding proxy during annual general meeting. Second, as the investor invest their wealth to get some profit from business so they have first right to secure their dividend in either form: cash dividend (it could be in the form of cash flow from operating activities), stock dividend (bonus share or rights share). Third, shareholders have right regarding call and put option and as well rights regarding controlling and operating cash flows.
7. First school of thought is about the opportunistic behavior, under this, managers have the capacity to verify the practices of accounting standard followed by the organization while smoothing the income. Institutional ownership should have more techniques to check the opportunistic behavior of the board of directors even executive, and blockholders. Under second approach, institutional shareholders take interest in gaining return in a short time and they have no concern with blockholders.
8. These three methods of manipulation are followed across the world but literature found most significant method is accrual based earnings management. As in all over the world, mostly shareholders have a bit knowledge about the accruals so this is most famous method used by brokers and managers (Bartov, Givoly, & Hayn, 2002; Wroblewski, Jarne, & Callao, 2014).
9. These accruals used to match the revenue with its expenses of that particular periods. Accruals can be manipulating where there is time lag between actual payment and receiving time and the time when earnings and payment expired.

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