

**THE INFLUENCE OF CORPORATE GOVERNANCE  
ON LEVEL OF EARNINGS MANAGEMENT:  
A CASE STUDY OF KARACHI STOCK EXCHANGE**

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**ABSTRACT**

The purpose of this paper is to analyse the role of corporate governance practices on the discretionary powers of managers named as earnings management. To analyse the issue a sample of 154, financial and non-financial both, KSE listed companies for a period of five years from 2009-2013 was considered and tested through second generation technique PLS-SEM using Smart PLS. The findings of the study showed that managers were using their discretionary powers to get personal benefits in the form of compensations both cash as well as non-cash like salaries, bonuses and equity, this was the case in the era of unrevised CG code. Whereas in post revision period CG practices constrained managerial discretion of manipulating financial figures due to certain important and needed amendments in CG code. This change can lead to the point of discussion that it is vital for the governing bodies like SECP, PICG etc. that they have to keep an eye on the compliance and if modification is required then it should be timely done and implemented.

**KEYWORDS**

Board, Audit committee, Karachi Stock Exchange, Modified Jones model, Earnings management, Structural equation modelling, Smart PLS.

**1. INTRODUCTION**

History of corporate world is full of scandals and scams. All stakeholders are influenced parties and these cases are at huge level now (Alleyne & Elson, 2013). Stakeholders are users of corporate information that is provided either in annual reports or through company's websites. Some measures should be taken in order to provide protection to investors Leuz *et al.* (2003) and provision of transparency to stock markets.

Managers generally known as board of directors (BOD) are responsible for information dissemination to investors (Baker & Al-Thuneibat, 2011). They are the vital part of organizational structure and bridge gap between capital providers and users. Provision of true information whether financial or non-financial information should be provided under strict monitoring of board. As the Board is governing authority that can provide misleading information which will result in benefits of board.

Misleading information will result in wrong decisions of investors and can harm capital providers whereas beneficial for capital users. Incentives, stock options, bonuses and compensations are the benefits and attached to managerial performance. So to get more benefits managers can transform financial values which will result in system collapse.

So information transformation for sake of personal benefits is termed as earnings management (EM). EM may also be defined as desired manipulation of accounting numbers either for personal stake or to misguide some users by managers (Healy & Wahlen, 1999). Examples of such falsification Enron, WorldCom, Xerox and Tyco worldwide. Considering the case of Pakistan PTCL privatization is one of the example of such cases.

Here comes the role of mechanism that can handle and control fraudulent actions taken by managers for self-interest. Each country has developed some sort of governing and controlling authorities responsible for making guidelines for business. Some of these are SECP, Securities market supervisory authority in Portugal, SBP and PICG. SECP in Pakistan has taken various steps for good governance and devise a corporate governance code in March, 2002 and revised in 2012 that is in line with international standards. Companies listed on stock exchange of Pakistan have to follow this code.

CG is a mechanism that is used by managers for accountability, fairness and transparency in a company's relation with all constituencies. Governance is derived from Latin word meaning "to steer" implies that it is more a direction that control (Solomon & Solomon, 1999). It is used to find out the fraudulent actions of managers and a phenomenon that is globally discussed. The weakness in the CG practices may lead to falsification of accounting numbers which become the basis for BOD indulging in achievement of personal benefits. EM is an integral part of managers' job description but when they smooth earnings; they are not working for creation of firm's value rather they are lying and it is poor decision making by them (Jensen, 2005).

Both of these are of immense importance and provide some sort of opportunities to parties that are related to CG and EM. CG is believed to constrain level of EM. It is suggested by Liu & Lu (2007) that CG is significantly associated to EM and agency problems can be controlled by it. There is negative relation between CG and EM Jallow *et al.* (2012), a study conducted on US banks, where CG is better there are less EM and vice versa. Same is the case with Epps & Ismail (2009), found that EM is better where there is annually selected board with small size and independent nomination and compensation committees.

Some researchers considered Audit committee (AC) is the other factor that can be used as a barrier to opportunistic behavior of managers involved in EM activity. AC independence and EM are negatively correlated as found by Klein(2002) and non-accounting and accounting experts presence in AC significantly reduced EM.

This study explores the role of CG in constraining in EM level. What is the influence of CG i.e. Board and Audit Committee in controlling managers to avoid financial manipulation (EM) and provision of true information before and after revision of CG code? The study focused on a sample of 154 companies listed on Pakistani stock

exchange for a period of 5 years i.e. 2009-2103, found that managers were indulging in opportunistic behavior before revision period i.e. from 2009-2011 whereas this behavior changed in 2012-2013 after code of CG has been revised by governing bodies of Pakistan like SECP, PICG.

The remaining paper is scheduled as follows:

Section 2 consists on literature review and hypothesis development; section 3 emphasized on research methodology; establishment of hypothesis discussed in section 4; whereas section 5 described the findings of the study and last section enclosed conclusion and recommendations.

## 2. LITERATURE REVIEW

The relation between CG variables and EM are not only studied in financial but also in non-financial in sectors around the globe. Some of them were conducted in US, UK, Portugal, Nairobi, Philippines, Australia, China and Pakistan.

Financial and non-financial firms are equally affected by EM and both are managed or controlled by CG. González & Meca (2014) observed non-financial companies of Latin America for the period of 4 years resulted in lower use of manipulative practices i.e. EM. Turkish firms listed of Istanbul Stock Exchange (ISE) were investigated and provided that there is significant relation between CG and Discretionary accruals i.e. a proxy of EM (Aygün *et al.*, 2014).

Literature supports that CG practices are able to constrain level of EM, means that there is negative relation between CG variables and EM actions taken by managers. Following the same point of view, Jallow *et al.* (2012) conducted a research on US banks using data from 2003-08, focusing an index of 63 governance provisions and EM, found that banks that have good governance practices are outperforming those with weak governance and banks with active in following and implementation of CG code are less aggressive in EM behavior. The same association was observed by Sandra A. (2011) who used 34 non-financial Portuguese listed firms. Another study conducted identifying that presence of audit committee (AC) is a complementary part of board and AC and its industry are negatively related to EM (Sun & Liu, 2012).

Apart from negative relation mentioned in above studies other researchers found positive relation between CG attributes and level of EM. A positive association was found by the board activity (meetings), dual role of CEO with level of EM in a research that was done by Iraya *et al.*, (2015). Using 3 years data from Nairobi Stock Exchange (NSE) applying linear regression to test the impact of independent variables (CG practices) on dependent variable (EM). In line with previous study Iqbal *et al.* (2015) found a positive relation between CEO duality and EM, calculated using modified Jones model developed by (Dechow *et al.*, 1995).

EM is considered as an agency cost which is the result of managers' opportunistic behavior (Xie *et al.*, 2003; Zahra *et al.*, 2005). It can lead to wrong decisions making by outsiders means stakeholders due to manipulated financial information. Whereas agency theory and its followers are of the view that there is a contract between managers (the agents) and owners (the providers) of financial resources who vested authority to

mangers to manage their funds efficiently. As the managers are the controllers of firm's assets they have more information as compared to principals, so this information asymmetry can lead to wrong decision making.

On the other hand some managers to show their effectiveness and loyalty with owners by hiring internal auditor, so that they can communicate true information and to pose that they are rational decision makers. Such actions took by managers can secure their benefits like salaries, bonuses and stock options. This will also lead to retain them for longer time period due to provision of true information resulted in informed decision making.

According to Freeman (2010), stakeholder's theory is about managing and identifying firm's stakeholders. It also explains the relation between information and its users i.e. stakeholders. Followers of this theory are of the view that managers are not only the agents of stockholders but they are the agents of all stakeholders also. Stakeholders may include stockholders, credit providers, employees, suppliers, customers and government of the country (Hill & Jones, 1992). Managers can ignore all the stakeholders in order to receive and secure their benefits by misreporting the financial data using their opportunistic behavior.

### 3. HYPOTHESES DEVELOPMENT

Many researchers choose the way to analyze the relation between CG and EM through hypotheses. In this study only one hypothesis is developed to observe the relation between CG and EM.

#### 3.1 Impact of CG on EM

According to literature on CG and EM, it was observed that good CG practices can constrain the manipulation of financial data known as EM. Some researchers are of the view that board, audit committee and some control variables have positive, negative or no relation with EM. **Board** One of the vital feature studied in literature of CG is board. According to agency theory there should be separation between ownership and control (Jensen & Meckling, 1976). So the governance of the organization is in the hands of boards. Boards are responsible to work in the best interest of their principals as they are the agents for them. Whereas according to stakeholders theory true information should be provided to all stakeholders it is the other duty of the board (Freeman, 2010). It is involved in decision making and all the internal matters are controlled and managed by the board. The facets of board in this study like board size (BOD), board meetings (TBM), board independence (NEDs percentage), board leader either CEO or Chairman (CEO DUAL), and block-holders (BLHOL) are considered so as to analyze these characteristics' impact on board's discretionary powers and involvement in financial manipulation.

##### 3.1.1 Board Size (BOD)

Board size refers to the number of members on organizational board. The board can either be large consisted on more than 12 members or small consisted on at least 7 members. According to CG code in Pakistan the minimum number of members on the board should be not less than seven.

Research provide evidence that small board size i.e. from 4 to 6 members is more effective in establishing strategies and managing organizations (Goodstein *et al.*, 1994). On the other hand De Andres *et al.* (2005), found that smaller boards are less effective and they have greater discretion on getting maximum remuneration for themselves and tend to involve in greater EM.

In line to previous comments, larger boards are good enough to monitor and control the organization and are effective as compared to small board. Xie *et al.* (2003) found larger boards are associated with decrease in EM. So the main point here is to check on the basis of discussion that board size (BOD), either larger or smaller boards, influence EM.

### **3.1.2 Board Meetings (TBM) and Attendance (ATTPER)**

It is compulsory for the board to meet quarterly every year and members should ensure their presence in these meetings. The more they will meet more are the chances to resolve issues and is known as active board and vice versa.

So in literature, Adams (2005), who suggested that meetings are good proxy of directors' monitoring effort. Boards that do not meet or meet less are ineffective in monitoring (Menon & Williams, 1994). On the other side, Vafeas (1999) found that boards that meet more are related to good performance and can efficiently control issues like EM. In the same vein, board meetings is significantly associated in declining EM in family and non-family firms (Mansor *et al.*, 2013). On the basis of above discussion it is hypothesized that either board meetings and attendance are proxy of activeness and influence EM.

### **3.1.3 Proportion of non-Executive Directors (NEDs) on Board**

Board composition considered is one of the mechanism to control management and reduce agency cost i.e. EM. A research conducted by Peasnell *et al.* (1998) who examined the association between NEDs and EM and found that there is significant negative relation between the two variables. In the same line Klein(2002), observed that boards composed of NEDs are involved in reduction of income increasing accruals. Whereas Peasnell *et al.* (2000) and Park & Shin(2004) found no association between presence of NEDs and discretionary accruals i.e. EM. So on the basis of above discussion it is hypothesized that there is negative association between proportion of NEDs on board and EM.

### **3.1.4 CEO Duality (CEO DUAL)**

Duality occurs when CEO and chairman of the board is same person (Finkelstein & D'aveni, 1994). Agency theory followers like Boivie *et al.* (2011) said that if duality exist in an organization then CEO can use its powers wrongly to get more compensation, bonuses and prestige. This will lead to ignorance of shareholders' interests and create conflict between all the stakeholders that is not good for effectiveness of the board as well as for organizational performance. Following that in Pakistan stock exchange and Nairobi stock exchange studies found that if duality exists then organizations are indulged in EM (Iqbal & Strong 2010; Iraya *et al.*, 2015). So it is hypothesized that either duality harms stockholders through EM or not.

### 3.1.5 Block-Holders (BLHOL)

According to agency theory separation of management and ownership leads to agency problems i.e. EM (Jensen & Meckling, 1976). This separation can also decrease firm's value in the market so on these points it is suggested that higher the level of managerial ownership in one key motivation of managers. As found in turkey, where a researcher found positive relation between managerial ownership and level of EM (Aygun et al., 2014). Whereas others found negative relation between these two variables like (Iraya et al., 2015; González & Meca 2014).

Apart from above mentioned relation some found insignificant relation between block-holders and EM (Haniffa *et al.*, 2006). As there are family owned firms in Pakistan and on the basis of above discussion it is hypothesized that presence of block-holders can stop managers from using discretionary powers and make sure the provision of true and complete information.

### 3.1.6 Audit Committee (AC)

It is better for the board to establish its subcommittees to improve performance of duties. The board should have a nomination committee (NC), human resource & remuneration committee (HR&RM) and an audit committee (AC) as board do not perform all the duties itself and this is also the requirement of CG code. Leaving NC, HR&RC for future discussion AC is considered for this study as most of the firms listed on KSE have it as board's subcommittee. AC is an effective component of CG as mentioned by (De Andres *et al.*, 2005; Zhang *et al.*, 2007). AC has an important role in improving the quality of financial reporting (Carcello & Neal, 2000). AC has been included in this study because of its strong link with financial reporting.

### 3.1.7 Audit Committee Size (ACMEM)

Efficiency of AC belongs to its size (Bédard et al., 2004). The larger the size of AC it is believed that it can enhance its effectiveness in identifying financial fraud. Going in the same way, Iqbal et al. (2015) and Mansor et al. (2013) argued that AC size is able to reduce EM. On the other hand, from the results of study conducted by Nelson & Devi (2013), no significant relation was found between AC size and EM. In the same line, observations from family firms of Malaysia AC size is not a good measure in constraining EM (Mansor et al., 2013). So it is hypothesized that AC size influence EM.

### 3.1.8 Audit Committee Independence (ACI)

AC independence is expressed as presence of NEDs, independent directors or a combination of both. AC should be independent so as to remain free from any sort of undue favor or influence from top executives (Vicknair et al., 1993). It would be better to have an independent AC as it will help in preventing from financial statement fraud.

In a study it was found that there is negative relation between discretionary accruals i.e. EM and AC independence (Klein, 2002). The same association was observed in US firms by Bédard *et al.*(2004), that 100% independent AC firms' are involved in less aggressive EM. So on the basis of above discussion it is hypothesized that AC independence influence EM.

### **3.1.9 Audit Committee Meetings (ACM)**

EM is an issue that cannot be identified by any committee if it is not working actively. The activeness of AC can be measured by number of meetings conducted and attended by its members (Menon & Williams, 1994). So more the number of meetings held and attended by AC members less is the chance of EM found by (Soliman & Ragab, 2014; Xie et al., 2003). Whereas no evidence was found between AC meetings and EM in Malaysian companies (Haniffa et al., 2006). So it is hypothesized that AC meetings and attendance influence level of EM.

### **3.1.10 Big-4 Auditor (AUDTYP)**

Assurance and quality of financial reporting is linked with correct auditing. Information and insurance roles are offered by auditors to businesses (Hakim & Omri, 2010). So effectiveness of auditors contribute in reducing EM by provision of quality services to clients and quality varies in external auditors (Becker et al., 1998).

There are two types of auditors Big-4 and non-big-4. As the premium is high in case of big audit firms so firms audited by them are less engaged in EM (Behn *et al.*, 1997). If they fail to identify misstatements or fraud then they will lose a huge premium. As found by Becker *et al.* (1998) that big-6 six auditors are of better quality as compared to non-big-6 and high quality auditing is attached to less accounting flexibility (Chi *et al.*, 2011; Francis *et al.*, 1999).

Apart from previous researches others found positive relation between audit firm size and level of EM (Li & Lin, 2005). On the other side some found no relation between auditor type and EM (Maijoor & Vanstraelen, 2006). The current study focused on negative relation between auditor type and EM.

## **3.2 Control Variables**

Except governance variables some other variables also affect EM. Those are leverage, firm size, age of the firm and profitability.

### **3.2.1 Leverage (LEV)**

Business have two sources of finance one is equity financing and other is debt financing. Being emphasized on debt financing it is found from literature that debt providers have strict check and balance of debt's use. So it can be rightly said that organizations are under strict scrutiny of finance providers for availability and utilization of funds. Following this approach there should be a negative relation between leverage and financial misreporting i.e. EM (Sun & Liu, 2012). Same relation was observed in Turkey that leverage is able to constrain EM due to efficient governance of financial institutions (Aygun et al., 2014).

Some results are in contrast, in Portugal an increment was found with an increment in leverage (Sandra A. 2013). Same results were observed in UK that firms with high debt to equity ratios are more engaged in EM (Iqbal & Strong, 2010).

### **3.2.2 Firm's size (FSMC)**

Firm size is used as a proxy of availability of information. Literature provided mixed results regarding firm size. According to (Michelson et al., 1995), larger firms have more

incentives to manage earnings whereas Moses (1997) have opposite view, that larger firms have less incentives for EM.

A two directional results are available in literature regarding size and EM. A positive relation was observed between size and EM (Sandra A. 2013; Siregar & Utama, 2008). Another direction of the relation between the two variables is a negative and significant relation was provided by the research of (Sun & Liu, 2012).

### **3.2.3 Profitability (ROA)**

Organizational performance is a factor that influence EM. High performing organizations are more involved in low EM and low performance organizations are more inclined towards EM (Shah et al., 2009). A study conducted by Aygun et al. (2014) in Turkey, analyzed the effect of ROA on EM and a positive and significant relation was there. Sandra A.(2013) and González & Meca(2014) found the same results as were in Turkey.Nelson & Devi(2013) found opposing results between ROA and EM, means a negative relation between the two variables.

### **3.2.4 Firm's Age (AGE)**

Age is also considered as a control variables in this study. It is generally found that in starting years business has to face losses which with the passage of time after reaching break-even meets the mark of profit. To meet the high profit expectations of internal and external stakeholders board and its head can use discretion to manipulate financial information i.e. EM. It is a good point to be included in study as was missed in literature.

## **4. RESEARCH METHODOLOGY**

### **4.1.1 Sample Selection**

There were three stock exchanges working in Pakistan that now become one named Pakistan Stock Exchange. There are more than 800 firms listed on PSE, a large and busy stock exchange in Pakistan. Sample is selected from PSE that is a random sample. The two main reasons for its selection are; first it covered 25 sectors so results can be generalized and the second reason is like all other stock exchanges around the globe its compulsion on listed companies to issue annual audited reports every year for stakeholders' decision making.

### **4.1.2 Data Collection**

Researchers can use two types of data in their study; either primary or secondary. Primary data can be collected through survey, personal interviews or questionnaires whereas secondary data is available from published annual reports of listed companies. Some of the reports were missing as three years reports were available on websites so personal visit made it possible for collection of complete data. The data used in this study consisted on five years i.e. 200-2013. These reports are very useful for stakeholders in decision making like, investment, provision of funds, trust building, analysis of financial position and governance. Other websites like business recorder and PSE's site were used in data collection and completion.



### 4.1.3 Sample Characteristics

The final representative sample from the target population includes fifty five textile companies (spinning, weaving and composite units), seventeen sugar and oil companies, ten banks, nine cement companies, ten chemical/fertilizer concerns and rest are from others sectors. Using stratification criteria 154 companies were included in final sample consisted on 32 service and 122 from manufacturing sectors.

### 4.2 Data Analysis Technique

This is an empirical study and is analyzed using Structural Equation Modeling (SEM). This is a second generation tool in the area of research and many researchers around the globe taking benefit from it. It is using not only in pure sciences but also in social science as well. Its uniqueness is that the research model can be drawn using its features and it is also used to investigate the relation between study variables. As in this study are CG variables and EM i.e. manipulation of financial figures.

Partial least square (PLS) SEM has been used in many fields like marketing, behavioral science, management information system (MIS) and business strategy. PLS-SEM has been used by researchers like Akbari *et al.* (2013) is an example. The study employed Smart PLS version 3 developed by Ringle *et al.* (2005) and became popular with its launch in various fields as mentioned earlier. Some of its features are user friendly interface, advanced reporting, non-normality of data and dealing small and complex sample sizes are equally treatable with it. In prior study it is mentioned that 100 to 200 is a good sample for path modeling (Akbari *et al.*, 2013; Grekova *et al.*, 2013). So in line to this the sample considered in this study is good for path modeling. Considering the features of this tool another reason of it use is the suggestion of Kao &Chen (2004) who said that OLS is not appropriate when absolute values of EM are considered as dependent variable of the study like this one. Using Smart PLS the analysis can be done in two stages one is measurement model and the other is structural model.

#### 4.2.1 Measurement Model

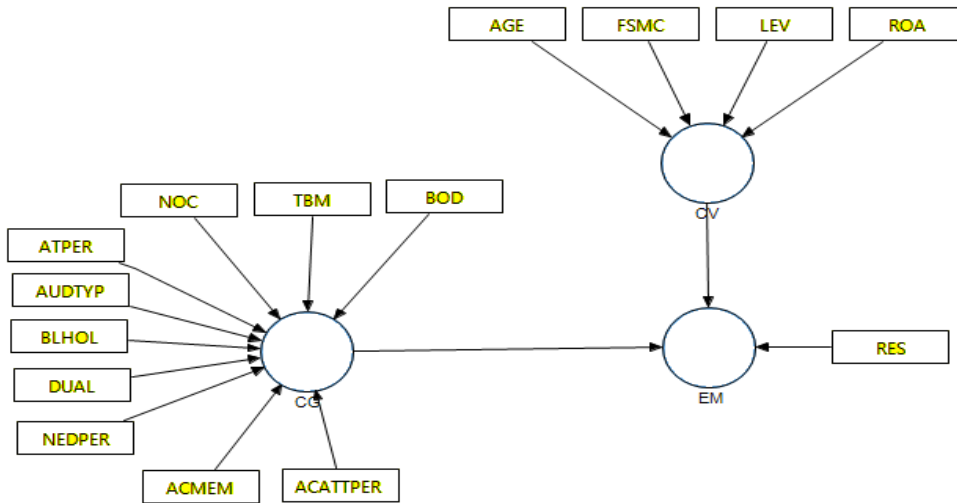
The measurement model is also known as outer model and can be developed using either formative or reflective scales. This is the relation between observed and unobserved variables. Observed variables are called manifest and unobserved are named as latent construct. In this study all the latent constructs are reflective as arrows are heading towards latent. The equations 4.1 and 4.2 for measurement models are given below:

$$CG = \beta_1 BOD + \beta_2 TBM + \beta_3 NOC + \beta_4 NEDPER + \beta_5 BLHOL + \beta_6 ATPER + \beta_7 DUAL + \beta_8 AUDTYP + \beta_9 ACMEM + \beta_{10} ACATPER + \varepsilon \quad (4.1)$$

$$CV = \beta_{11} ROA + \beta_{12} LEV + \beta_{13} FSMC + \beta_{14} AGE + \varepsilon \quad (4.2.)$$

#### 4.2.2 Structural Model

Structural model explains the theoretical or conceptual element of the path model and also known as inner model in PLS-SEM. It includes the latent constructs and their path relationship. The structural model of the study is shown in Figure 4.1.



**Figure 4.1: Structural Model**

On the basis of literature it is hypothesized that:

$$H_1 = \text{All else being equal, CG influence level of EM.}$$

The hypothesis can be expressed in equation form also. The equation for above mentioned hypothesis is as:

$$EM = \beta_1 CG + \varepsilon(H_1)$$

The details of the measurement latent exogenous and latent endogenous constructs above mentioned latent and indicators is shown given below in Table 4.1 and 4.2.

Board and AC are considered as the measures of CG. Because board is the governing body of the organization, decision maker, strategy maker so it should be the part of CG practices in this study so that its role can be analysed in this context. Whether boards are working in personal or in the shareholders' interest by correct or wrong use of their status. Board alone is not sufficient to run an organization it needs support from its committees like HR committee, Finance committee, Audit committee, remuneration committee etc. In the context of this study the role of AC is pretty much important as it is responsible to analyse the financial figures of respective organization. So it is better to include AC in CG measure as it will either become the reason in improving board efficiency or reduce it.

**Table 4.1**  
**Description of Variables Latent Variables (Shown as Circles)**

Variable	Symbol	Description
Corporate Governance	CG	Board and Audit Committee
Control Variables	CV	ROA, LEV, FSMC, AGE
Earnings Management	EM	Res (a proxy of earnings management)

**Table 4.2**  
**Manifest Variables (Shown in Rectangles)**

Variable	Symbol	Description
Board Size	BOD	Number of Directors
Board meetings	TBM	Number of board meetings in a year
Board Committees	NOC	Number of board committees
Non-executive directors percentage	NEDPER	Number of NEDs/Total board members*100
Block-Holders	BLHOL	Number of shareholders having 5% or more shares
Board meeting attendance percentage	ATPER	Board meeting attended/total board meetings*100
CEO duality	DUAL	CEO and chairman are same = 1 and 0 otherwise
Big-4 Auditor	AUDTYP	Non-Big-4 = 1 and 0 otherwise
Audit committee size	ACMEM	Number of audit committee members
Audit committee attendance percentage	ACMATPER	Meetings attended/total AC meetings *100
Profitability	ROA	Operating profit/total assets *100
Leverage	LEV	Long term debt/total assets *100
Firm's size	FSMC	Number of outstanding shares * market price per share
Firm's age	AGE	Annual general meetings
Earnings management	RES	Discretionary accruals

As far as control variables are concerned, ROA is used as a proxy of profitability. The reason behind its inclusion is that managers of highly profitable firms are more involved in using their discretionary powers and moulding financial data to meet the expectations. So it will be a good measure in finding out either managers are using such powers or not. Firms are under continuous monitoring of financial institutions to make sure reversal of their debt. That is why leverage is included in this study whether managers of leveraged firms are involved in wrong use of their powers or not same is the case with firm's size and age of the firm.

#### **4.3 Dependent Variable (Discretionary Accruals)**

Following Dechow *et al.* (1995) measurement model modified Jones model is described below:

The modified Jones model consists on regressing total accruals of three variables i.e. change in revenue, change in receivables and gross property, plant and equipment. Total accruals are divided into two categories i.e. non-discretionary accruals and discretionary accruals. The difference between total accruals and non-discretionary accruals will be the discretionary accruals or the residuals from the equation will be treated as discretionary accruals.

The modified Jones model is expressed as follows in the form of equation 4.3.

### Modified Jones Model

$$TACC_{it} / TA_{it-1} = \alpha_1 (1 / TA_{it-1}) + \alpha_2 (\Delta Rev_{it-1} / TA_{it-1}) + \alpha_3 (\Delta Rec_{it} / TA_{it-1}) + \alpha_4 (PPE_{it} / TA_{it-1}) + \varepsilon_{it} \quad (4.3)$$

The description of equation is shown in table 4.3.

**Table 4.3**  
**Description of Equation**

TACC	Total accruals (difference between operating profit and cash flow from operations)
TA	Total assets at the beginning of the year t
$\Delta REV$	Change in revenue
$\Delta REC$	Change in receivables
PPE	Gross property plant and equipment
i.t	Firm and year

All the variables are then divided by total assets (beginning year). This division is to avoid the problems of heteroscedasticity. EM will be the residuals from the above equation and is a single construct. Using single item construct is advantageous like ease of application, higher response rate and lower costs are associated with it (Fuchs & Diamantopoulos, 2009; Sarstedt & Wilczynski, 2009).

## 5. DATA ANALYSIS AND RESULTS

The study analyses the data, estimates path coefficients ( $\beta$ ), coefficients of determination ( $R^2$ ) and predictive relevance ( $Q^2$ ) using Smart PLS. All the constructs are measured as formative rather than reflective and the results are explained in two stages i.e. measurement model includes assessment of validity and reliability. The second stage is evaluation of structural model significance of relationship, amount of variance explained and model predictive relevance (Tompson *et al.*, 1995). The sequence should be followed as to ensure constructs are valid and reliable.

### 5.1 Analysis of Measurement Model

This step deals with assessment of validity and reliability. Researchers are of the view that construct reliability should be analyzed and measured through either tolerance or test of multicollinearity (Hair *et al.*, 2014). Test of multicollinearity is used in this study assessed through variance inflation factor (VIF). Whereas validity test is checked through statistical significance of weights in the model i.e. t-values (Andreev *et al.*, 2009). Validity and reliability tests are explained below.

### 5.2 Reliability Test

Reliability test can be performed through any of the followings i.e. a correlation matrix, calculation of tolerance or VIF. This phase deals with the issue of multicollinearity that is there should be no correlation between latent constructs (Coltman *et al.*, 2008; Hair *et al.*, 2014; Henseler *et al.*, 2009).

Test of multicollinearity was performed through VIF using SPSS. According to Hair *et al.* (2014) and Hair *et al.* (2011), VIF values less than 5 means no collinearity problem exist. All the VIF values over the period from 2009-2013 are far below the cutoff point of 5, so no multicollinearity issue exist and next step can be performed. This stage was reached after removing two CG variables i.e. AC independence and AC meetings as they have VIF less than cutoff point.

### 5.3 Validity Test

Smart PLS bootstrapping technique was used in assessing validity test using 5000 resamples in order to get individual indicator's significance. It was observed that no single item was significant for all five years and some were insignificant. So here is an issue to remove insignificant variables either to retain or remove them. In literature removing insignificant variables of a formative construct may lead to issue of content validity and theoretical background Jarvis *et al.* (2003) so all the indicators were retained. Weights calculated through bootstrapping procedure showed contribution of each indicator to establish a construct.

In year 2013, if CG is observe then TBM, BATPER, NOC, NEDPER and BLHOL were found significant with more contribution to CG whereas all other variables were insignificant. Out of mentioned variables NOC is the major contributor having a weight of 0.63. From CV construct all three variables are significant whereas RAO is insignificant. In establishing CV FSMC is the major contributor with a weight of 0.69.

Continues with the same explanation in 2012, 2011 and 2010 CEODUAL, NEDPER, ACMEM, BLHOL from CG and ROA is the only major contributor from CV in 2012, BOD, BATTPER, CEODUAL, BLHOL, AUDTYP from CG and ROA, FSMC from CV construct in 2011 and BATTPER, ACMEM, CEODUAL, AUDTYP form CG and ROA and AGE from CV construct are major contributors having more weights as compared to remaining indicators.

Considering year 2009, CEODUAL, AUDTYP, NOC, NEDPER from latent CG and ROA, FSMC from latent construct CV were major contributors having maximum weight of 0.66 with p-value<0.10 for AUDTYP form CG and ROA from CV having a weight of 0.95 with p-value<0.10. All other indicators were not significant in this year but retained due to content validity and theoretical background.

The details of validity and reliability tests are given below tables 5.1 to 5.3.

**Table 5.1**  
**Indicator Reliability Tests**

Variables		VIF				
Constructs	Indicators	2009	2010	2011	2012	2013
CG	BOD	1.316	1.595	1.667	1.724	1.455
	TBM	1.342	1.133	1.165	1.042	1.166
	BATPER	1.277	1.163	1.228	1.137	1.65
	CEODUAL	1.095	1.130	1.134	1.155	1.167
	NOC	1.355	1.467	1.577	1.299	1.244
	NEDPER	1.162	1.106	1.117	1.083	1.064
	BLHOL	1.108	1.082	1.068	1.085	1.064
	ACMEM	1.309	1.747	1.710	1.868	1.831
	ACATPER	1.237	1.206	1.293	1.318	1.650
	AUDTYP	1.256	1.238	1.245	1.244	1.258
CV	FSMC	1.048	1.089	1.080	1.063	1.091
	ROA	1.122	1.070	1.122	1.084	1.133
	LEV	1.208	1.067	1.145	1.063	1.175
	AGE	1.115	1.140	1.126	1.133	1.203
EM	RES	Single item construct				

Note: CG: Corporate Governance, CV: Control Variables, EM: Earnings Management.

**Table 5.2**  
**Indicator Validity Test**

Variables		2009		2010		2011	
Constructs	Indicators	Weight	t-value	Weight	t-value	Weight	t-value
CG	BOD	0.196	1.265	-0.069	0.700	0.717	3.471***
	TBM	0.108	0.961	0.137	1.517	-0.155	1.181
	BATPER	0.098	0.950	0.520	3.095***	0.590	3.645***
	CEODUAL	0.642	5.614***	0.297	2.343**	0.502	2.740***
	NOC	0.274	2.159**	-0.012	0.135	-0.113	0.830
	NEDPER	0.224	1.826*	-0.190	1.387	-0.149	1.043
	BLHOL	0.065	0.468	0.190	1.645*	-0.310	1.833*
	ACMEM	-0.019	0.110	0.645	3.865***	-0.257	1.427
	ACATPER	0.212	1.566	-0.175	1.742*	-0.063	0.653
	AUDTYP	0.669	5.213***	0.687	5.674***	0.280	1.644*
CV	FSMC	0.319	1.680*	-0.154	1.306	-0.347	2.126**
	ROA	0.958	4.857***	0.917	10.597***	0.917	9.750***
	LEV	0.222	1.081	0.187	1.519	0.004	0.050
	AGE	0.045	0.235	-0.303	1.699*	0.067	0.620
EM	RES	Single item construct					

Note: \*p < 0.10. CG: Corporate Governance, CV: Control Variables, EM: Earnings Management.

**Table 5.3**  
**Indicator Validity Test**

Variables		2012		2013	
Constructs	Indicators	Weight	t-value	Weight	t-value
CG	BOD	-0.003	0.022	0.002	0.028
	TBM	0.110	0.924	0.551	4.164***
	BATPER	0.202	1.375	0.008	2.723**
	CEODUAL	0.608	3.027***	0.271	0.134
	NOC	0.294	2.011**	0.635	3.684***
	NEDPER	0.632	2.223**	0.129	1.654*
	BLHOL	-0.347	2.329**	-0.304	2.534**
	ACMEM	-0.538	2.357**	0.017	0.192
	ACATPER	-0.119	0.942	0.004	0.075
AUDTYP	0.209	1.023	-0.019	0.269	
CV	FSMC	-0.103	0.652	0.698	3.632***
	ROA	0.985	9.011***	0.075	1.466
	LEV	0.107	1.237	0.483	2.443**
	AGE	-0.164	0.980	-0.236	1.882*
EM	RES	Single item construct			

Note: \*p < 0.10. CG: Corporate Governance, CV: Control Variables, EM: Earnings Management.

#### 5.4 Evaluation of Structural Model

The second step of PLS-SEM analysis is structural model evaluation after confirmation of validity and reliability tests previously discussed described below (Aker *et al.*, 2011):

**Table 5.4**  
**Model Estimation Test**

1	Significant relations between constructs ( $\beta$ )
2	Overall goodness of fit ( $R^2$ )
3	Predictive relevance ( $Q^2$ )

Hypotheses are accepted or rejected on the basis of significance of path coefficients i.e. ( $\beta$ ) (Hair *et al.*, 2014; Serrano-Cinca *et al.*, 2009). In order to get values of path coefficients a bootstrapping technique was used through Smart PLS version 3 applying 5000 resamples. The details of path coefficients and their significance are shown in below tables for five years.

According to Chin (1998), who stated that the values of path coefficients should not be less than 0.2 which is the minimum standard whereas if it is equal to or greater than 0.3 it is ideal condition for the acceptance of hypotheses.

Considering the above mentioned standard all the path coefficients of our study were meeting the minimum criteria in two years whereas above or equal to ideal condition in three years. In year 2009 ( $\beta=0.31$ ;  $t\text{-value}=5.51$ ), 2010 ( $\beta=0.477$ ;  $t\text{-value}=8.51$ ), 2011 ( $\beta=0.21$ ;  $t\text{-value}=3.05$ ), 2012 ( $\beta=-0.2.0$ ;  $t\text{-value}=2.76$ ), 2013( $\beta=-0.34$ ;  $t\text{-value}=3.64$ ). Which showed that there is strong influence of CG on EM. A positive relation was observed in three years i.e. 2011-2009 that is in line with (Ahmadi & Safarzadeh, 2015; Haniffa *et al.*, 2006; Sundararajan & Errico, 2002). This relation means that there is poor governance of board and directors are indulging in earnings smoothing for personal benefits. They are using their discretion for the sake of personal interests and ignoring the remaining stakeholders by doing falsification of financial data.

On the other hand in the remaining two years of study i.e. 2012 and 2013 the relation between the two constructs was significant and negative. Means proving that CG is a mechanism that can prevent board and supporting committees from misreporting of financial data. CG is a mechanism that helped in improvement of managing earnings by board and sub-committee i.e. audit committee. This negative relation between CG and EM is in line with (Jallow *et al.*, 2012; Mohd Saleh *et al.*, 2007; Sun & Liu, 2012).

Another interpretation of the negative relation between CG and EM may be revision of CG code in 2012. There are certain additions in revised code that there should be an independent director on board at least, board performance will be evaluated on annual basis, chairman and CEO must be separate, every listed company must have a HR and Remuneration committee, chairman of audit committee must be an independent director, details of directors remuneration will be given in annual reports and last but not the least a foreign citizen can be appointed as chairman of audit committee. These might be the reasons behind negative relation between CG and EM so that by decreasing managers' discretion resulted in improved earnings management.

**Table 5.5**  
**Significance of Path Coefficient**

Year	Path co-efficient ( $\beta$ ) CG -> EM	t-value
2013	-0.343	3.649***
2012	-0.200	2.768***
2011	0.215	3.055***
2010	0.477	8.510***
2009	0.317	5.512***

Note: \*\*p < 0.05. CG: Corporate Governance, EM: Earnings Management.

As far as control variables (CV) are concerned with respect to EM, it can be observed that all of them influenced level of EM. In all the five years paths of CV towards EM were found to be significant i.e.  $p\text{-value}<0.10$ . A negative relation was observed in 2009 and 2013 that was in line with (Gombola *et al.*, 2015; Jahmani & Niranjani, 2015). Means that highly leveraged, profitable big and old firms are less involved in EM as they have



active boards and ACs, check and balance or strict scrutiny of financial institutions, and other stakeholders. Whereas in remaining three years i.e. 2010-2012 a positive relation was observed that was in line with (Aygün *et al.*, 2014; Iqbal & Strong, 2010).

**Table 5.6**  
**Significance of Path Coefficient**

Year	Path co-efficient ( $\beta$ ) CV -> EM	t-value
2013	-0.597	4.934***
2012	0.221	2.377**
2011	0.440	5.605***
2010	0.254	4.893***
2009	-0.129	2.023**

Note: \*\*p < 0.05. CV: Control Variables, EM: Earnings Management.

### 5.5 Overall Estimation of Model and Testing

$R^2$  is the tool that is used to find the variation in dependent variable by independent. This explained the variance in dependent variable due to independent. In this study the value of  $R^2$  ranges from a minimum variance of 10.5% in 2012 whereas a maximum value of 65.2% in 2013. In 2009-2011  $R^2$  values were 14%, 31.6% and 29.7% respectively. According to Cohen *et al.* (1990)  $R^2$  values ranges from small, medium and large 10%, 25% and 36% respectively.  $R^2$  values of this study revealed there are some other variables that clarify difference in level of EM.

In addition to  $R^2$  predictive relevance must also be calculated that is the predictive power of independent construct using a re-use technique named as  $Q^2$  Akter *et al.* (2011) developed by (Geisser, 1975; Stone, 1974). It is used to evaluate predictive validity of model using blindfolding through PLS. Procedures that can be used for this test are cross validated communality or cross validated redundancy (Akter *et al.*, 2011). Following Chin (2010), latter should be used for large complex model, used in this study also. Its value should be greater than zero resulting that there is predictive power in independent construct for dependent construct (Chin, 1998; Hair *et al.*, 2014). Whereas latter part is useful for predictive relevance of structural model of the study (Chin, 1998). So if values of  $Q^2$  are observed for this study then it is clear that it has values more than cutoff point of zero.

**Table 5.7**  
**Coefficient of Determination and Predictive Relevance**

Year	$R^2$	$Q^2$	Criterion
2013	65.2%	0.648	>0.000
2012	10.5%	0.120	
2011	29.7%	0.155	
2010	31.6%	0.307	
2009	14%	0.034	

### 5.6 Hypothesis Testing

Acceptance or rejection of hypothesis is done on the basis of path coefficient values. According to Chin (1998) these values should be at least 0.2 and ideally greater than 0.3, in case of study's calculations in all the five years values are meeting the criteria of 0.2. On the basis of above discussion it is rightly said that CG is a mechanism in constraining level of managerial discretion thus improved earnings management (Jallow *et al.*, 2012; Sun *et al.*, 2010).

**Table 5.8**  
**Hypotheses Testing of Corporate Governance on Earnings Management**

Year	Hypothesis	Path coefficient	p-value	Remarks
2013	CG -> EM	-0.343	0.01***	Supported
2012		-0.200	0.05**	
2011		0.215	0.01***	
2010		0.477	0.01***	
2009		0.317	0.05**	

Note: \*\*p < 0.05. CG: Corporate Governance, EM: Earnings Management.

In all the years according to above table hypothesis of our study is supported that CG influenced level of EM. A positive sign was observed in three years i.e. 2009-2011 whereas in 2012-2013 a negative sign was found. The explanation of positive sign is that due to weaker following of CG code by listed companies encourage managers to use discretionary powers for personal benefits whereas after revision of CG code and certain changes made in it by governing bodies discourage managerial discretion thus moved companies, boards and subcommittees towards better management of earnings.

## 6. CONCLUSION

This study examined the relation between CG and EM, specifically Board and AC, frequency of meetings, auditor type. It was hypothesized that reduced managerial discretion is the result of good governance (Ebrahim, 2007; Sun & Liu, 2012). Another issue tested was the effect of CG before and after revision of CG code. A random sample of 154 KSE listed companies was used in this study and PLS-SEM, Smart PLS was used as an analysis tool was used. The study found that corporate governance is mechanism

that constrain the discretionary power of managers and thus resulted in better management of earnings. Another finding of the study was that before revision of CG code managers were using their discretionary power to get personal benefits (Haniffa *et al.*, 2006; Iqbal *et al.*, 2015). Whereas in post revision period managerial discretionary powers reduced and improved earnings management (Sun & Liu, 2012). The arguments behind negative relation between CG and EM were derived after comparison of CG code 2002 and CG code 2012 are adding one independent directors on boards, performance evaluation of boards, no duality, HR and Remuneration committee are some changes behind improved performance of board and subcommittees.

There are certain practical implications of the study, firstly governing bodies like SECP, PICG etc. can evaluate after two years either revised CG code has been implemented or not. Managers should be keen in developing some sort of board's evaluation criteria what factors should be considered to prepare evaluation criteria. Secondly managers should divide the burden of AC and have to create HR and remuneration committee to set up the standards for managerial compensation. Finance manager should provide a distinct or clear picture of management compensation while preparing financial statements to the owners. As far as researchers are concerned this study is a guidance in CG and EM field as first time Smart PLS SEM is used in this area. This study does have some limitations like its results cannot be generalized to non-listed companies, another limitation may be profitability portion wasn't considered in calculation of discretionary accruals. A comparison of pre and post CG code revision period can be a good future direction, second in this study EM is considered as a negative concept but its positive aspect can be of good further analysis, thirdly an industry analysis can be conducted to find out which one is more involved in EM, fourthly HR and Remuneration committees or management compensation can be used to make analysis of EM. Other EM models can also be used in future studies as no many researchers criticized modified Jones model like Beenish model, real earnings management, Kothari model etc.

## REFERENCES

1. Adams, R.B. (2005). What do boards do? Evidence from board committee and director compensation data. *Evidence from Board Committee and Director Compensation Data (March 13, 2003)*. EFA.
2. Ahmadi, M.M. and Safarzadeh, M.H. (2015). Evaluation of the Impact of Corporate Governance Components on the Relationship between Earnings Management and the Financial Performance of the Companies Listed in Tehran Stock Exchange. *Journal UMP Social Sciences and Technology Management* 3(3), 29-49.
3. Akbari, P., Rostami, R. and Veismoradi, A. (2013). The analysis impact of Human Resource Management and Intellectual Capital on organizational performance in Physical Education Organization of Iran (Case Study: Physical Education General Department of Kermanshah). *International Journal of Sport Studies*, 3(3), 263-273.
4. Akter, S., D'Ambram, J. and Ray, P. (2011). An evaluation of PLS based complex models: the roles of power analysis, predictive relevance and GoF index. *AMCIS 2011 Proceedings-All Submissions*.

5. Alleyne, B.J. and Elson, R.J. (2013). The impact of federal regulations on identifying, preventing, and eliminating corporate fraud. *Journal of Legal, Ethical and Regulatory Issues*, 16(1), 91-106.
6. Sandra A. (2013). The impact of audit committee existence and external audit on earnings management: Evidence from Portugal. *Journal of Financial Reporting & Accounting*, 11(2), 143-165.
7. Andreev, P., Heart, T., Maoz, H. and Pliskin, N. (2009). Validating formative partial least squares (PLS) models: methodological review and empirical illustration. *ICIS 2009 Proceedings*.
8. Aygun, M., Ic, S. and Sayim, M. (2014). The Effects of Corporate Ownership Structure and Board Size on Earnings Management: Evidence from Turkey. *International Journal of Business and Management*, 9(12), 123-132.
9. Baker, R.A. and Al-Thuneibat, A. (2011). Audit tenure and the equity risk premium: evidence from Jordan. *International Journal of Accounting & Information Management*, 19(1), 5-23.
10. Becker, C.L., DeFond, M.L., Jiambalvo, J. and Subramanyam, K. (1998). The effect of audit quality on earnings management\*. *Contemporary accounting research*, 15(1), 1-24.
11. Bédard, J., Chtourou, S.M. and Courteau, L. (2004). The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of Practice & Theory*, 23(2), 13-35.
12. Behn, B.K., Carcello, J.V., Hermanson, D.R. and Hermanson, R.H. (1997). The determinants of audit client satisfaction among clients of big 6 firms. *Accounting Horizons*, 11(1), 7-24.
13. Boivie, S., Lange, D., McDonald, M.L. and Westphal, J.D. (2011). Me or we: The effects of CEO organizational identification on agency costs. *Academy of Management Journal*, 54(3), 551-576.
14. Carcello, J.V. and Neal, T.L. (2000). Audit committee composition and auditor reporting. *The Accounting Review*, 75(4), 453-467.
15. Chi, W., Lisic, L.L. and Pevzner, M. (2011). Is enhanced audit quality associated with greater real earnings management? *Accounting Horizons*, 25(2), 315-335.
16. Chin, W. (1998). The Partial Least Square Approach to Structural Equal Modeling: Modern Methods for Business Research. Lawrence Erlbaum Associates, NJ. 295-336.
17. Chin, W. (2010). How to write up and report PLS analyses *Handbook of partial least squares* (pp. 655-690): Springer.
18. Cohen, P., Cohen, J., Teresi, J., Marchi, M. and Velez, C.N. (1990). Problems in the measurement of latent variables in structural equations causal models. *Applied Psychological Measurement*, 14(2), 183-196.
19. Coltman, T., Devinney, T.M., Midgley, D.F. and Venaik, S. (2008). Formative versus reflective measurement models: Two applications of formative measurement. *Journal of Business Research*, 61(12), 1250-1262.
20. De Andres, P., Azofra, V. and Lopez, F. (2005). Corporate boards in OECD countries: Size, composition, functioning and effectiveness. *Corporate Governance: An International Review*, 13(2), 197-210.
21. Dechow, P.M., Sloan, R.G. and Sweeney, A.P. (1995). Detecting earnings management. *Accounting Review*, 193-225.

22. Ebrahim, A. (2007). Earnings management and board activity: An additional evidence. *Review of Accounting and Finance*, 6(1), 42-58.
23. Epps, R.W. and Ismail, T.H. (2009). Board of directors' governance challenges and earnings management. *Journal of Accounting & Organizational Change*, 5(3), 390-416.
24. Finkelstein, S. and D'aveni, R.A. (1994). CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of command. *Academy of Management Journal*, 37(5), 1079-1108.
25. Francis, J.R., Maydew, E.L. and Sparks, H.C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory*, 18(2), 17-34.
26. Freeman, R.E. (2010). *Strategic management: A stakeholder approach*: Cambridge University Press.
27. Fuchs, C. and Diamantopoulos, A. (2009). Using single-item measures for construct measurement in management research. *Die Betriebswirtschaft*, 69(2), 197-212.
28. Geisser, S. (1975). The predictive sample reuse method with applications. *Journal of the American Statistical Association*, 70(350), 320-328.
29. Gombola, M.J., Ho, A.Y.F. and Huang, C.C. (2015). The effect of leverage and liquidity on earnings and capital management: Evidence from US commercial banks. *International Review of Economics & Finance*.
30. González, J.S. and García-Meca, E. (2014). Does corporate governance influence earnings management in Latin American markets? *Journal of Business Ethics*, 121(3), 419-440.
31. Goodstein, J., Gautam, K. and Boeker, W. (1994). The effects of board size and diversity on strategic change. *Strategic Management Journal*, 15(3), 241-250.
32. Grekova, K., Bremmers, H., Trienekens, J., Kemp, R. and Omta, S. (2013). The mediating role of environmental innovation in the relationship between environmental management and firm performance in a multi-stakeholder environment. *Journal on Chain and Network Science*, 13(2), 119-137.
33. Hair, J.F., Hult, G.T.M., Ringle, C. and Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage Publications.
34. Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
35. Hakim, F. and Omri, M.A. (2010). Quality of the external auditor, information asymmetry, and bid-ask spread: case of the listed Tunisian firms. *International Journal of Accounting & Information Management*, 18(1), 5-18.
36. Haniffa, R., Abdul Rahman, R. and Haneem Mohamed Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, 21(7), 783-804.
37. Healy, P.M. and Wahlen, J.M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting horizons*, 13(4), 365-383.
38. Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20(1), 277-319.

39. Hill, C.W. and Jones, T.M. (1992). Stakeholder-agency theory. *Journal of Management Studies*, 29(2), 131-154.
40. Iqbal, A. and Strong, N. (2010). The effect of corporate governance on earnings management around UK rights issues. *International Journal of Managerial Finance*, 6(3), 168-189.
41. Iqbal, A., Zhang, X. and Jebran, K. (2015). Corporate Governance and Earnings Management: A Case of Karachi Stock Exchange Listed Companies. *Indian Journal of Corporate Governance*, 8(2), 103-118.
42. Iraya, C., Mwangi, M. and Muchoki, G.W. (2015). The effect of corporate governance practices on earnings management of companies listed at the Nairobi securities exchange. *European Scientific Journal*, 11(1), 169-178.
43. Jahmani, Y. and Niranjani, S. (2015). Earnings Management, Weak Internal Controls, and Firm Size. *Accounting & Taxation*, 7(2), 51-64.
44. Jallow, K., Leventis, S. and Dimitropoulos, P. (2012). The role of corporate governance in earnings management: experience from US banks. *Journal of Applied Accounting Research*, 13(2), 161-177.
45. Jarvis, C.B., MacKenzie, S.B. and Podsakoff, P.M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30(2), 199-218.
46. Jensen, M.C. (2005). Agency costs of overvalued equity. *Financial management*, 5-19.
47. Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
48. Kao, L. and Chen, A. (2004). The effects of board characteristics on earnings management. *Corporate Ownership & Control*, 1(3), 96-107.
49. Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33(3), 375-400.
50. Leuz, C., Nanda, D. and Wysocki, P.D. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 69(3), 505-527.
51. Li, J. and Lin, J.W. (2005). The relation between earnings management and audit quality. *Journal of Accounting and Finance Research*, 13(1), 1-11.
52. Liu, Q. and Lu, Z.J. (2007). Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance*, 13(5), 881-906.
53. Maijor, S.J. and Vanstraelen, A. (2006). Earnings management within Europe: the effects of member state audit environment, audit firm quality and international capital markets. *Accounting and Business Research*, 36(1), 33-52.
54. Mansor, N., Che-Ahmad, A., Ahmad-Zaluki, N. and Osman, A. (2013). Corporate governance and earnings management: A study on the Malaysian family and non-family owned PLCs. *Procedia Economics and Finance*, 7, 221-229.
55. Menon, K. and Williams, J.D. (1994). The use of audit committees for monitoring. *Journal of Accounting and Public Policy*, 13(2), 121-139.

56. Michelson, S.E., Jordan-Wagner, J. and Wootton, C.W. (1995). A market based analysis of income smoothing. *Journal of Business Finance & Accounting*, 22(8), 1179-1193.
57. Mohd Saleh, N., Mohd Iskandar, T. and Mohid Rahmat, M. (2007). Audit committee characteristics and earnings management: Evidence from Malaysia. *Asian Review of Accounting*, 15(2), 147-163.
58. Moses, D.O. (1997). Income Smoothing and Incentives: Empirical Using Accounting Changes. *The Accounting Review*, 62(2), 259-377.
59. Park, Y.W. and Shin, H.H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance*, 10(3), 431-457.
60. Peasnell, K., Pope, P.F. and Young, S. (1998). *Outside directors, board effectiveness, and earnings management*: Working Paper, University of Lancaster.
61. Peasnell, K.V., Pope, P. and Young, S. (2000). Accrual management to meet earnings targets: UK evidence pre-and post-Cadbury. *The British Accounting Review*, 32(4), 415-445.
62. Puaat Nelson, S. and Devi, S. (2013). Audit committee experts and earnings quality. *Corporate Governance: The International Journal of Business in Society*, 13(4), 335-351.
63. Ringle, C.M., Wende, S. and Will, A. (2005). Smart PLS 2.0 (beta): Hamburg.
64. Sandra, A. (2011). The effect of the board structure on earnings management: evidence from Portugal. *Journal of Financial Reporting and Accounting*, 9, 141-160.
65. Sarstedt, M. and Wilczynski, P. (2009). More for less? A comparison of single-item and multi-item measures. *Die Betriebswirtschaft*, 69(2), 211-227.
66. Serrano-Cinca, C., Rueda-Tomás, M. and Portillo-Tarragona, P. (2009). Determinants of e-government extension. *Online Information Review*, 33(3), 476-498.
67. Shah, S.Z.A., Zafar, N. and Durrani, T.K. (2009). Board composition and earnings management an empirical evidence form Pakistani Listed Companies. *Middle Eastern Finance and Economics*, 3(29), 30-44.
68. Siregar, S.V. and Utama, S. (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: Evidence from Indonesia. *The International Journal of Accounting*, 43(1), 1-27.
69. Soliman, M.M. and Ragab, A.A. (2014). Audit committee effectiveness, audit quality and earnings management: an empirical study of the listed companies in Egypt. *Research Journal of Finance and Accounting*, 5(2), 155-166.
70. Solomon, A. and Solomon, J. (1999). Empirical evidence of long-termism and shareholder activism in UK unit trusts. *Corporate Governance: An International Review*, 7(3), 288-300.
71. Stone, M. (1974). Cross-validatory choice and assessment of statistical predictions. *Journal of the Royal Statistical Society. Series B (Methodological)*, 111-147.
72. Sun, J. and Liu, G. (2012). Auditor industry specialization, board governance, and earnings management. *Managerial Auditing Journal*, 28(1), 45-64.
73. Sun, N., Salama, A., Hussainey, K. and Habbash, M. (2010). Corporate environmental disclosure, corporate governance and earnings management. *Managerial Auditing Journal*, 25(7), 679-700.

74. Sundararajan, V. and Errico, L. (2002). *Islamic financial institutions and products in the global financial system: Key issues in risk management and challenges ahead* (Vol. 2): International Monetary Fund.
75. Tompson, R., Barclay, D. and Higgins, C. (1995). The partial least squares approach to causal modeling: Personal computer adoption and uses as an illustration. *Technology Studies: Special Issue on Research Methodology*, 2(2), 284-324.
76. Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113-142.
77. Vicknair, D., Hickman, K. and Carnes, K.C. (1993). A note on audit committee independence: Evidence from the NYSE on "grey" area directors. *Accounting Horizons*, 7(1), 53-57.
78. Xie, B., Davidson, W.N. and DaDalt, P.J. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance*, 9(3), 295-316.
79. Zahra, S.A., Priem, R.L. and Rasheed, A.A. (2005). The antecedents and consequences of top management fraud. *Journal of Management*, 31(6), 803-828.
80. Zhang, Y., Zhou, J. and Zhou, N. (2007). Audit committee quality, auditor independence, and internal control weaknesses. *Journal of Accounting and Public Policy*, 26(3), 300-327.