

Nexus between ownership structure and earnings management: Evidence from Pakistan

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Abstract:

This study explores whether ownership structure (i.e. managerial, institutional, foreign, and blockholders) affects accruals (AEM) and real earnings management (REM). Data were collected from annual reports of non-financial firms listed on PSX during 2010-2019. Pooled ordinary least squares method was used to estimate the impact of ownership structure on AEM and REM. Results show that managerial ownership and blockholders ownership are significant and negatively related to AEM. Alternatively, institutional ownership and foreign ownership are positively related to AEM. It is essential to mention that the findings of this study are mixed related to the impact of ownership structure on different proxies of REM. For instance, managerial ownership is positively related to abnormal cash flow (AbCFO) and negatively related to abnormal discretionary expense (AbDExp). Institutional ownership is negatively linked to AbCFO and abnormal production cost (AbPC). Foreign ownership is positively related to AbCFO. Similarly, blockholders' ownership is positively related to AbPC and AbDExp. In brief, ownership structure has material effects on earnings management. Results of this study may lend-a-hand to policymakers and regulatory authorities to understand how managers manipulate earnings by residing in the ambit of reporting standards.

Keywords: Ownership structure (OS), Accruals earnings management (AEM), Real earnings management (REM), Managerial ownership (MO) Institutional ownership (IO), Foreign ownership (FO), Blockholders ownership (BO)

Introduction

It has been well documented that the ownership structure impacts earnings management. Developing countries, especially East Asian countries have concentrated ownership (La Porta et al., 1999). Agency theory explains the corporate level's principal-principal and principal-agent problems. As ownership is concentrated in east Asia, principal-agent conflict usually arises (Fama & Jensen, 1983). Weak external corporate governance mechanisms with low minority protection rights facilitate majority stakeholders to confiscate the wealth of minority shareholders for their personal interests. The same is true for

Pakistani firms. Earnings management is used to conceal that expropriation (Jadoon et al., 2021). Earnings management is the managerial judgment in reporting, to change financial reports and conceal the true performance of the firm. This concealment is either through real activities or discretionary accruals. Accrual earnings management (AEM, hereafter) is the use of managerial judgment to report earnings under GAAP (Healy & Wahlen, 1999). Conversely, real earnings (REM, hereafter) may be managed by changing discretionary expenses, cash flows, and production costs (Roychowdhury, 2006). Manipulation of reported earnings either within or outside GAAP leads to incorrect information (Rahman & Ali, 2006). Most previous academic studies have concentrated on AEM, while REM has received less attention despite the fact that REM is prevalent phenomenon than AEM. Graham et al., (2005) showed that 78% of managers use REM to report “glossy” earnings. Regardless of the notion that REM reduces shareholder value, the literature contains scant evidence related to REM manipulation.

Although, in Pakistan, the research on this subject is limited. To bridge this gap, this study incorporates widely used REM and AEM measures to assess the effect of ownership structure on EM. A few studies are available in this area, which only focus on a few aspects of ownership structure, for instance, Shaikh et al. (2019) have explored the relation between pyramidal ownership structure and REM. The results show that managers alter reported earnings to achieve short-term targets. Tabassum et al. (2015) have explored the relation between REM and firm performance. Results suggest that REM tactics decrease the firm's prospects. Shahzad et al. (2017) report that family firms in Pakistan deliberately indulge in REM practices. Further, Shah et al. (2020) report that firms in Pakistan substitute AEM with REM to gain short-term targets. A few other studies have considered family ownership (Shahzad et al., 2019; Ehsan et al., (2012), managerial ownership, blockholders ownership (Nazir & Afza, 2018; Javid & Iqbal, 2010) and institutional ownership (Haider et al., 2017).

It is worth noting that none of the previous empirical studies have jointly analyzed the impact of different variables of ownership structure on AEM and REM. Hence, this study is unique to the impact of ownership structure on EM by considering more comprehensive measures. To the best of the authors' knowledge, this is the first study in Pakistan exploring the effects of different measures of ownership structure on AEM and REM. Why this study is essential in Pakistani settings? There are several reasons, for instance, Pakistan is a developing country, and since its independence in 1947, it has suffered from social and political crises. Family firms are more dominant than non-family firms. Moreover, minority shareholders have a minor role in decision-making (Ilmas et al. 2018). Both types of agency problems arise from this sort of ownership structure and make it unique to study; as large shareholders majorly take part in the firm's decision-making (Fatima et al., 2018). Notably, in dual agency problem countries, the role of ownership structure is less studied. Moreover, emerging countries have inadequate investor protection and a less friendly institutional environment for outside investors (Fatima et al., 2018), exploring the institutional investors' role to mitigate earnings management becomes more significant. For instance, institutional investors' monitoring and disciplinary role are critical in countries with little investor protection (Aggarwal et al., 2011). Further, emerging markets have been observed to manage earnings larger than developed markets (Li et al., 2014).

Literature review

Earnings management and ownership structure

Many researchers have utilized two major categories of earnings management i.e., accruals and real earnings management (Roychowdhury, 2006; Shah et al., 2020). Various models for measuring earnings management have been developed. Dechow & Skinner (2000) define AEM as “accounting choices under Generally Accepted Accounting Principles that seek to mask actual economic performance.”

Whereas REM occurs when executives alter the real economic operations by giving price discounts and altering the timing of transactions etc. (Roychowdhury, 2006).

The AEM and REM practices can be controlled through ownership structure. González & García-Meca, (2014) demonstrates that ownership structure is an organizational form of control that is centered on the elements characterizing company ownership and states the way that titles or rights of representation redistribute the company's capital among one or more individuals or legal entities. Moreover, it plays a substantial role in firms' financial decisions (Shleifer & Vishny, 1986). The earlier relationship between individual ownership structure and earnings management is elaborated in subsequent sections.

Managerial ownership (MO)

Earlier literature on the role of MO on EM has two convincing hypotheses. Agency theory put forward by Jensen & Meckling (1976) advocated the “convergence of interest hypothesis” that managers' interests align with the shareholders, and managerial ownership help to minimize conflict between shareholders and managers. Conversely, as stated by the entrenchment hypothesis that elevated levels of managerial ownership led to low earnings quality. Prior literature has inconclusive findings on the role of MO and EM. For instance, AL-Duais et al., (2022) and Ramadan (2016) show a significant and negative relation between AEM and MO. Lin & Hwang (2010) and Teshima & Shuto (2008) observe a positive relationship. In limited REM research, Cohen et al. (2008) reveals that MO is inversely related to REM. Shayan-Nia et al. (2017) and Liu & Tsai (2015) showed insignificant relation in Taiwan. Concluding this, we propose that

H1. There exists a link between managerial ownership and AEM & REM.

Institutional ownership (IO)

According to prior research, institutional investors have two distinct approaches to dealing with agency issues (Koh, 2003). IO can prevent agency issues, monitor resources, and play an active role in minimizing managers' opportunistic behavior (Lel, 2018). Notable studies like Claessens & Fan (2002) and Senteza et al. (2005) concluded that IO is short-sighted and focuses on short-term financial outcomes and is usually inactive. As a result, management will face pressure to achieve short-term earnings projections and will opt for EM practices. According to Jung et al. (2002), IO enhances the information content of earnings. Nevertheless, the results for AEM are mixed. For instance, Cheng et al. (2013) and Jalil & Rahman (2010) reports a negative relationship between AEM and institutional investors. Conversely, Roodposhti & Chashm (2011) found a significant positive association, and Gultom & Wati, (2022) found no relationship. Within the field of REM studies, (Debnath et al., 2021) and Liu & Tsai (2015) observed a significant positive relation between IO and REM. Shayan-Nia et al. (2017) find a negative relation between REM and IO. In light of this, the subsequent hypothesis is advanced as

H2. There exists a link between institutional ownership and AEM & REM.

Foreign ownership (FO)

A little research on the impact of FO on EM has been documented in literature. Previous literature on FO corroborates the two compelling hypotheses on the role of FO in mitigating EM i.e. “information asymmetry hypothesis” and “knowledge spill-over hypothesis”. The information asymmetry hypothesis states that managers may rely on their local expertise under FO and achieve desired financial outcomes by engaging in EM (Aharony et al., 2000), as evidenced by Tran & Dang (2021) study which shows a positive relation between FO and EM. The knowledge spill-over hypothesis states that FO has superior knowledge over local managers (Guo et al., 2015) and is independent of management (Ferreira & Matos, 2008). They can propagate appropriate governance approaches outside their own country (Aggarwal et

al., 2011) in order to more effectively oversee administration through management interference (Becht et al., 2009), hence restraining EM practices. FO is linked with low discretionary accruals and high earnings quality, affirming that firms with high FO favor more persistent earnings and high-quality accounting information (Guo et al., 2015). Debnath et al., (2021) and Nguyen et al.,(2021) reported an inverse relation between FO and EM, as FO act as a control mechanism. Hence the hypothesis is

H3. There exists a link between foreign ownership and AEM & REM.

Blockholders ownership (BO)

Two opposing hypotheses about the role of BO in inhibiting EM exist in prior literature i.e. “efficient monitoring hypothesis” and “expropriation-of-the-minority shareholder hypothesis”. As stated by previous literature, large shareholders are vital in supervising managers and reining their deceitful actions under the efficient monitoring hypothesis (Jensen & Meckling, 1976; Nguyen et al. 2021; Debnath, et al. 2021). They have motives to maximize their profits and consider their concerns to gain maximum control over management (Shleifer & Vishny, 1997). Contrary to this, the expropriation of minority shareholder hypothesis suggests that controlling shareholders may confiscate minority shareholders' wealth for their gain (Lemmon & Lins, 2003). Like most East Asian firms, including Pakistan, the most dominant type of ownership is family ownership (Claessens et al., 2000). González & García-Meca (2014) reports that BO causes governance problem. This might be a scenario in Pakistan, and hence we hypothesize that

H4. There exists a link between blockholders' ownership and AEM & REM. Methodology

Data

Data from annual reports of non-financial firms listed on PSX were used to estimate the results. Data from 151 manufacturing firms during 2010 to 2019 were found completed concerning the variables used in this study. The financial firms are excluded from the study due to the reason that their balance sheets differ strikingly from non-financial firms (Chen & Wang, 2012; Türegün, 2016). Notably, two-year observations were lost due to taking changes in different variables. So final sample consists of a balanced panel of 1208 firm-year observations over a period of 8 years from 2012 to 2019.

Variables

Variables employed in this research are presented below;

Dependent variables

Accruals earnings management

Following Al-Haddad & Whittington (2019), this study utilizes residuals estimated through Kothari et al. (2005) model of discretionary accruals as AEM estimated industry and year-wise.

The normal accruals are the actual business operations i.e., the difference between income before extraordinary items minus cash flow from operations scaled by lag of total assets. Whereas abnormal accruals result from managerial discretion in the business's financial reporting process. At-1, REV, REC, PPE, and ROA are the lag assets, change in revenue, account receivables, property plant & equipment, and return on assets respectively. Kothari et al. (2005) model is

$$TA_{i,t} / A_{i,t-1} = \beta_0 + \beta_1 (1/ A_{i,t-1}) + \beta_2 (\Delta REV_{i,t} - REC_{i,t} / A_{i,t-1}) + \beta_3 (PPE_{i,t} / A_{i,t-1}) + \beta_4 (ROA_{i,t}) + \epsilon_{itAEM} \dots\dots\dots EQ.1$$

Real earnings management

Following Al-Haddad & Whittington (2019), three models for REM (based on managerial manipulations in operational activities) developed by Dechow et al. (1998), were used. These activities include; altering sales, cutting discretionary expenses and overproduction etc.

This study estimates three models to predict the residuals through OLS and use residuals as REM proxy (Roychowdhury,2006). All these models are estimated for each industry and each year and are presented below.

$$CFO_{i,t} / A_{i,t-1} = \beta_0 + \beta_1 (1/ A_{i,t-1}) + \beta_2 (St / A_{i,t-1}) + \beta_3 (\Delta St/ A_{i,t-1}) + \epsilon_{itCFO} \dots\dots EQ2$$

$$PRODi_{i,t} / A_{i,t-1} = \beta_0 + \beta_1 (1/ A_{i,t-1}) + \beta_2 (St / A_{i,t-1}) + \beta_3 (\Delta St/ A_{i,t-1}) + \beta_3 (\Delta St-1 / A_{i,t-1}) + \epsilon_{itPROD} \dots EQ3$$

$$DisExp_{i,t} / A_{i,t-1} = \beta_0 + \beta_1 (1/ A_{i,t-1}) + \beta_2 (St / A_{i,t-1}) + \epsilon_{itDisExp} \dots\dots EQ4$$

CFO and St are the cash flow from operations and sales of the year. Prod is the sum of inventory and cost of goods sales. whereas DisExp is the discretionary expenses.

Independent and control variables

Measurements of independent and control variables are reported in Table 1.

Table 1: Measurements of variables

Variable	Symbol	Definition
Independent variables		
Managerial ownership	MO	Capital stocks owned by directors / Outstanding capital stocks.
Institutional ownership	IO	Capital stocks owned by financial and other institutions / Outstanding capital stocks.
Foreign ownership	FO	Capital stocks owned by foreigners / Outstanding capital stocks.
Blockholders ownership	BO	Capital stocks owned by five individual largest shareholders / Outstanding capital stocks.
Control Variables		
Firm Size	FS	Natural log of total assets.
Tobin's Q	TQ	Market value of equity + book value of liabilities / Book value of equity + book value of liabilities.
Leverage	LEV	Total liabilities / Total assets.

Regression models

The following regression models are employed in this study.:

$$AEM_{i,t} = \beta_0 + \beta_1(MO)+\beta_2(TQ)+\beta_3(LEV)+\beta_4(FS)+ \text{yeardummy} + \text{industrydummy}+ \epsilon_{itAEM}$$

$REM_{i,t} = \beta_0 + \beta_1(MO)+\beta_2(TQ)+\beta_3(LEV)+\beta_4(FS)+\text{yeardummy}+ \text{industrydummy}+ \epsilon_{itREM}$ The above regression models are used for other ownership structures variables.

Results

Descriptive Stats

Summary statistics and Pearson correlation matrix are reported in Tables 2 and 3 respectively. Results presented in Table 2 signal that directors/management on average holds 30 percent of outstanding shares.

Institutional investors on average hold 11 percent, and Foreign investors on average hold 3 percent of outstanding shares. Most interestingly, the mean value of blockholders indicates that the five individual largest shareholders on average hold 61 percent of outstanding shares. This value indicates that the ownership structure is highly concentrated in Pakistan, and a few shareholders decide the fate of minority shareholders. The mean value of Tobin's Q is 3.21 times. Since this value is greater than 1 it indicates that managers have added value for shareholders through effective financial decisions. Finally, the mean value of leverage is 56 percent. This ratio implies that sample firms mainly rely on debt to avail of benefits of tax concession on interest payment. Finally, the mean value of firm size, is 9.66. Results presented in Table 3 indicate that the coefficients of variables are fairly small and indicate no concerns regarding multi-collinearity.

Table 2: Descriptive

Variables	N	Mean	SD	Min.	Max.
Managerial Ownership (MO)	1208	0.30	0.27	0.01	0.98
Institutional Ownership (IO)	1208	0.11	0.13	0.05	0.97
Foreign Ownership (FO)	1208	0.03	0.12	0.01	0.85
Blockholder Ownership (BO)	1208	0.61	0.20	0.05	0.98
Tobins Q (TQ)	1208	3.21	8.5	0.07	71
Leverage (Lev)	1208	0.56	0.20	0.00	0.99
Firm size (FS)	1208	9.66	0.72	6.81	11.6

Table 3: Pearson correlation

	MO	IO	FO	BO	TQ	LEV	FS
MO	1						
IO	-0.27	1					
FO	-0.20	0.04	1				
BO	-0.01	-0.06	0.09	1			
TQ	-0.08	0.05	0.02	-0.08	1		
LEV	0.16	0.01	0.04	-0.11	-0.10	1	
FS	-0.21	0.18	0.03	0.06	-0.05	0.11	1

Regression models

A balanced panel is used in this study. For estimation purposes, pooled OLS method was employed along with industry and year dummies. The estimation results are reported in Table 4. F test is significant at a 5 % level in all four models.

Results

This study estimates separate models to show the individual effects on earnings management proxies. Table 4 shows that Managerial ownership (MO) is significant and inversely linked to AEM confirming the convergence of interest hypothesis. Moreover, MO is significant and positively associated to AbCFO and negatively linked to AbDExp supporting the entrenchment hypothesis. TQ is inversely associated to AEM, AbDExp, and positively related to AbCFO and AbPC. Leverage is negatively related to AEM and all measures of REM. Firm size is directly related to AbCFO and inversely linked to AbDExp.

Institutional ownership (IO) is significant and positively connected to AEM. In addition, IO is significant and inversely related to AbCFO and AbPC. Results are in line with the entrenchment hypothesis. TQ is significant and positively related to AbCFO and AbPC and inversely related to AEM and AbDExp.

Leverage is inversely related to AEM and all measures of REM. Firm size is directly associated to AEM and AbCFO while negatively associated to AbDExp.

Foreign ownership (FO) impacts positively on AEM and AbCFO. FO partially supports the information asymmetry hypothesis and knowledge spillover hypothesis. TQ is significant and positively associated to AbCFO, while negatively to AEM and AbDExp. Leverage is significant and negatively linked to AEM and all measures of REM. Firm size is significant and directly related to AEM and AbCFO.

Blockholders ownership (BO) is significant and negatively associated to AEM. In contrast, BO is significant and directly related to AbPC and AbDExp. TQ is directly related to AbPC, and negatively to AEM, AbCFO, and AbDExp. Leverage is significant and negatively connected to AEM and all measures of REM. Firm size is positively associated to AEM and AbCFO, and negatively to AbDExp. In sum, results suggest that ownership structure has material effects on AEM and REM. In sum, all variables of ownership structure either positively or negatively related to AEM and the measures of REM. So all

Table 4. Relationship between different variables of ownership structure with AEM & REM

nnnnmmmm n	AEM	REM			AEM	REM			AEM	REM			AEM
		AbCFO	AbPC	AbDExp		AbCFO	AbPC	AbDExp		AbCFO	AbPC	AbDExp	
MO	-2.2**	2.9**	1.5	-4.0*	-	-	-	-	-	-	-	-	-
IO	-	-	-	-	2.46**	-4.45*	-2.55*	-1.56	-	-	-	-	-
FO	-	-	-	-	-	-	-	-	2.25**	2.80*	-0.64	1.73***	-
BO	-	-	-	-	-	-	-	-	-	-	-	-	-2.38
TQ	-16.*	2.1**	2.5*	-4.5*	-0.73	1.86***	2.58*	-4.20*	-0.59	-2.26**	2.43*	-2.28*	-0.80
LEV	-17.1*	-16*	-7.8*	-13*	-19.43**	-16.09*	-7.71*	-14.26*	-19.66*	-16.09*	-7.66*	-4.49*	-19.7
FS	1.1	21*	0.5	-6.2*	4.27*	21.55*	0.64	-5.04*	4.37*	20.88*	0.15	-10.33*	4.59
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.66	0.72	0.53	0.21	0.594	0.731	0.540	0.202	0.594	0.729	0.537	0.207	0.594
Adj. R ²	0.65	0.72	0.53	0.20	0.587	0.726	0.535	0.199	0.586	0.723	0.533	0.205	0.586
F Stat	107	144	0.00	80.5	78.98	146.59	122.94	76.34	78.87	144.88	121.62	78.82	78.94
Prob > F value	0.000	0.000	122	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RMSE	0.01	0.021	6.5	0.05	0.0203	0.0216	6.561	0.054	0.0203	0.0216	6.580	0.054	0.0203

hypotheses are accepted and confirming the notion that a relation exist between ownership structure and EM.

Haddad & Whittington (2019) and Shaikh et al. (2019). In contrast, institutional ownership (IO) and foreign ownership (FO) are positively related to AEM. Since the objective of institutional and foreign investors is to make money through capital gains, that is why they may force managers to manipulate earnings through managing discretionary accruals because improvement in earnings stimulates buying behavior of investors and thereby stock prices tend to rise. The positive relation corroborates the findings of Nguyen et al. (2021) and Al-Haddad & Whittington (2019).

Consistent with earlier empirical studies, three measures of REM, i.e., AbCFO, AbPC, and AbDExp are taken in this study. The effects of these measures on different ownership structure variables are found inconsistent in this study. For instance, MO is positively associated to AbCFO and negatively linked to AbDExp. The positive relation implies that managers attempt to manage earnings when they hold shares. However, the negative relation indicates that MO mitigates REM through AbDExp. It is essential to point out that IO is significant and negatively related to AbCFO and AbPC. These findings suggest that

institutional investors reduce REM through sales manipulation and cash flow. FO is directly related to AbCFO. Similarly, BO is also significant and directly related to AbPC and abDExp. These relations suggest that FO and BO force management toward REM practices. The observed relations are found consistent with earlier empirical studies such as Roy (2006) and Al-Haddad & Whittington (2019). In sum, results suggest that foreign investors and blockholders force managers to take necessary steps to increase earnings so that the market value of shares may increase. In particular, managers prefer REM over AEM because AEM alone is risky, and the auditors can easily detect AEM.

Conclusion

The present study concludes that managerial ownership mitigates AEM and REM practices by aligning managers' interests with shareholders. The possible reason is that most sample firms are family-owned, and managers and blockholders are aware of the long-term consequences of earnings management and prefer to maximize shareholders' wealth through appropriate investment, financing, and dividend decisions rather than by manipulating discretionary accruals. Alternatively, Institutional ownership and foreign ownership are positively associated with AEM. Since the primary objective of institutional and foreign investors is to make money through capital gains, that is why they force managers to manipulate earnings through discretionary accruals. Consequently, enhancement in earnings stimulates buying behavior and hence increase stock price. In the case of REM, Institutional owners deliberately monitor the manager's activities and reduce EM practices. They are aware of the long-term consequences of managers' actions by being active and vigilant as this monitoring role becomes more obvious in low investor protection countries like Pakistan. An increase in the proportion of foreign ownership leads to a rise in monitoring and hence mitigates EM practices. Finally, blockholder ownership has a positive impact on REM proxies which suggests that blockholders expropriate the wealth of minority shareholders.

Since ownership structure has substantial effects on AEM and REM. Thus, findings provide support to the regulators who are endeavoring to enhance transparency and financial reporting quality. For policy formulators, this study provides the prerequisite and significance of motivating their managers to work in the best interest of stakeholders. Hence, restrain from any manipulative practice, which might destroy the firm's long-term value. In addition, findings are fruitful for corporate management to restructure its ownership structure to improve the firm's performance with high reporting quality.

This study is not free from limitations. First and foremost is the measurement bias of the dependent variables, which is a critical issue in earnings management studies. Thus, the current study inherits the major limitations of the previous studies conducted by employing the modified Jones (2005) model. In essence, the findings of this study demonstrate that ownership structure alone is not enough to refrain managers from manipulative activities. Corporate governance mechanisms at the firm and country levels along with investor protection laws are also needed to be implemented to protect the concerns of minority investors and to restrict managers from involvement in EM practices. It is, therefore, suggested that future investigations related to earnings management should incorporate firm-level governance mechanisms like top management heterogeneity and board independence, etc., and country-level governance indicators like investor protection rights and political connectedness in describing the reporting quality of Pakistani firms.

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