

**Review Article**

**MODERATING INFLUENCE OF AUDIT QUALITY ON THE RELATIONSHIP BETWEEN CONCENTRATED OWNERSHIP AND ACCOUNTING CONSERVATISM: IN PAKISTANI LISTED FIRMS: EMPIRICAL EVIDENCE FROM GMM TECHNIQUE**

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**Abstract:**

Using random effect and GMM system model on Pakistani listed companies from 2006 to 2016, this study found that concentrated ownership in Pakistani listed firms has a negative effect on conservatism with and without moderation of audit quality. We divided concentrated ownership into three categories such as family, foreign and state ownership. Our results indicated that concentrated family ownership has a positive relation with accrual-based conservatism and asymmetric timeliness (AT) but a negative relationship with market-based conservatism. However, moderation of audit quality leads to a positive effect on market-based conservatism in these firms. Moreover, we also found a negative influence of concentrated foreign ownership on accrual-based conservatism and asymmetric timeliness and positive relation with market-based conservatism before moderation. The positive influence of audit quality caused higher AT and thus, higher conservatism in these firms after moderation. Concentrated state ownership firms were found to have a positive effect on accrual-based conservatism and market-based conservatism but negative relation with asymmetric timeliness without moderation but after interaction with audit quality that relationship turns into positive as well. Our findings suggest that audit quality has an overall positive influence on the relationship between concentrated ownership and accounting conservatism in Pakistani listed firms.

**Key Words:** Ownership Concentration, Audit Quality, Accounting Conservatism

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**INTRODUCTION**

One of the primary purpose of accounting standards is to lessen the agency conflicts interconnected with the managerial investment decision, constrain managers opportunistic behavior and to give an appropriate account of the bad news relatively early than the good news. In other words, it lessens the management's ascendant bias through conservative accounting numbers and by helping the outsider to enhance the effectual valuation of their entitlements and obligation agreements in the presence of asymmetric information (Guay & Verrecchia, 2006; Lafond & Roychowdhury, 2008).

Conservatism principle can be explained as the inclination of accountants to entail a higher level of verification in measuring the profits as compared to the losses (Basu, 1997). The accounting conservatism might be described as an approach of pessimism that is not expecting future profit as earned but anticipate all potential losses (Watts, 2003a). Under the conditions of pessimism, the accounting conservatism is beneficial to prevent the opportunistic tendencies of managers (Watts, 2003b).

The effect of audit quality, measured using audit firm size as proxy, on financial reporting has been discussed in detail by many prior studies. On the one hand, Yeganeh et al. (2012) examined the impact of audit quality on conservative earning reveals no significant result of the impact of audit quality on accounting conservatism. Ammar et al. (2018) Concluded that big four audit firm does not deter earnings management in Pakistan listed firms'. On the other hand, (Braunbeck, 2010) suggest that audit firm size significantly improve the quality of accounting information reported.

Audit firm size affects accounting conservatism due to its affiliation with audit quality and thereby influence on accounting conservatism. Large audit firms are not dependent on a single client financially, and thus, deliver better quality audit which leads to better accounting information reported (DeAngelo, 1981; Thomas Kramer et al., 2011). DeAngelo, (1981) conducted the first-ever study on the factor that influenced audit quality and reported a positive effect of audit firm size on audit quality.

The concentration of ownership denotes to the ownership concentrated in the restricted number of shareholders. Highly concentrated ownership arises due to high managerial agency costs (Roe, 2005), to overcome inadequate legal investor protection (La Porta et al. 1998; Shleifer & Vishny, 1997). However, it could also lead to conflict between majority and minority shareholders (Gedajlovic & Shapiro, 2002) as ingrained controlling shareholders exploit the rights of minority shareholders significantly (Claessens & Fan, 2002; Ducassy & Guyot, 2017; Fan & Wong, 2002; Kaul, Mehrotra, & Morck, 2000; La Porta et al. 1999).

The weakness of legal system in some countries leads to a negative influence on minority shareholders' interest by large shareholders (La Porta et al. 2000). Large shareholders, by gaining voting rights in excess to their cash flow rights may engage in expropriation behaviour at the expense of minority shareholders (La Porta et al. 2000). Their power to influence the different ways of redistribution of wealth may not be aligned with other stockholders (Shleifer & Vishny, 1997).

The motivation of this study derived from the highly concentrated and distinctive ownership structure prevailing in Pakistani listed firms (Shaikh, Fei, Shaique, & Nazir, 2019), and impact of this

highly concentrated ownership structures on the way financial reports are prepared and presented. Since, agency conflict between majority and minority shareholders is highly prevalent in Pakistani listed companies (Khan & Nouman, 2017), and Pakistani firms' extensively engage in earnings management practices, (Shaikh et al., 2019), therefore, this study also intends to find out if application of conservatism principles could reduce the moral hazard problems resulting from agency conflict, (Mora & Walker, 2015).

Conservatism literature in Pakistan is short supply, even though, weak regulatory mechanism together with a firm control on the board by large shareholders usually family members suggest that financial reporting policies followed by these owners are less inclined to conservative reporting and more prone to earning management, Bhutta, Knif, & Sheikh, (2016). Thus, this study tries to fill the gap by examining the moderating role of audit quality on the relationship between concentrated ownership and accounting conservatism.

Lafond & Roychowdhury (2008) explained in their findings that higher agency conflict occurs due to the lower managerial ownership, which leads to more significant information asymmetry and higher demand for conservatism by shareholders. However, the study by Lafond & Roychowdhury, (2008) was based on U.S data while Pakistan has highly concentrated ownership (Shaikh et al., 2019) like many other Asian countries, in contrast with dispersed ownership structures commonly found in the USA and other Anglo-American countries.

We extended Lafond & Roychowdhury, (2008) study by focusing on concentrated ownership in Pakistani listed companies, where concentrated ownership lies mainly within a family, foreign investor or with the state (Shaikh et al. 2019). Therefore, we have divided concentrated ownership into these three categories and investigated their effect on conservatism in financial reporting. We are particularly interested in finding out whether or not ownership concentration, within these three categories, imposes higher agency cost on minority shareholders by associating with less conservative reporting and also find out whether audit quality mitigates the effect.

This research will be a valuable addition to the existing literature on governance, audit quality and financial reporting practices being followed in developing countries such as Pakistan. This study may assist foreign investors in understanding the ways reporting differs in developing countries, and how ownership concentration relates to the financial reporting quality. Regulators may benefit from this research by considering and implementing necessary regulatory reforms, which may promote better transparency and modify the power imbalance between management, majority and minority shareholders. Our findings may also add to the debate on the implications of ownership structures and control in firms e.g., (Porta et al., 1998).

Rest of this paper is organized as follows. The second section provides the relevant literature on concentrated ownership, audit quality and conservatism and develops our research hypothesis. The third section discusses the research methodology used in this paper. The empirical results are presented and analyzed in the fourth and fifth section. The final section of this paper closes with our findings and recommendation for future studies.

#### LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The interaction between various stakeholders and their effect on firms' value varies in developing and developed economies (Claessens, Djankov, & Lang, 2000). Fomento, (1999) point out different characteristics of Asian economies such as poor judicial settings, widespread prevalence of corruption and poor investors' and property rights, which helps in the exploitation of weaker parties by influential ones. Furthermore, Pakistan, like many developing countries, has highly concentrated ownership where the majority of stocks lie within one or more significant

shareholders, usually family members, foreign and state (Shaikh et al., 2019).

Literature has identified two likely reasons behind the presence of higher concentrated ownership in countries like Pakistan with inadequate investor protection (Porta et al., 1998). The first reason is that, substantial investment in a firm allows stock owners to monitor the management closely and secondly, weak investor protection deters small investor to invest in the firms' share and therefore, lower demand for stocks leads to the higher concentration of shares with few large shareholders.

They continue to dominate even when there is a conflict between the firms' interest and their vested interest. (Anafiah et al., 2017). After all, these dominant shareholders end up generally taking care of their interests by the manipulation of earnings information (Song, 2015). The high concentration of ownership enforces considerable costs on small investors wishing to implement their control and the rights of cash flow (Klein, 2002).

Though, in some cases, there are positive aspects of concentrated shareholding. They improve the firm's performance and might help to select accounting strategies to condense the management's opportunistic tendencies and to make optimum use of the firm's resources and play a role in the improvement of the investors' confidence (Cheung et al., 2005; Ammann et al., 2011; Lskavyan & Spatareanu, 2011).

Kwon et al. (2006) argued that either the concentration of ownership or the dispersal of the majority of the shareholders allows executives to attain their interests over the shareholders' interests. Luka et al. (2013) denote to the higher percentage of ownership dispersal ensuing in a lack of incentive for shareholders to monitor the firm's actions, and the shareholders' weak contribution in either the firm's decisions or management strategies such as accounting conservatism. Astami and Tower (2006) studied firm's ownership structures and accounting methods and their findings showed that low financial levels, low concentrations of ownership and more investment chances lead to more conservative actions in the annual reports. Apadore et al. (2013) revealed that the concentration of ownership is likely to raise the annual report processing time.

In this study, we have analyzed the relationship between accounting conservatism and concentrated ownership in Pakistan and moderating influence of audit quality because the literature on conservatism, audit quality and role of ownership concentration in Pakistani is not expansive and instead, concentrated on limited research areas such corporate governance (Saeed & Saeed, 2018), earnings management (Bhutta et al., 2016), firms' financial distress, (Hassan, Hassan, Iqbal, & Khan, 2014). Due to weak regulatory mechanisms in Pakistan, ownership concentration plays an essential part in the way financial reports are produced and presented. Controlling shareholders have different interest to pursue than minority shareholders and other stakeholders (Chau & Gray, 2002; Bebchuck, Kraakman, & Triantis, 2000).

DeAngelo (1981), states that large audit firms, by their large size, possess substantial financial independence, which allows them to restrict management in malicious accounting practices. Thus, large audit firms lead to higher audit quality as well as financial reporting quality. Moreover, many researchers have found the positive influence of audit quality on conservative financial reporting, (Hamdan et al. 2012). This reflects the essential role of audit quality on conservative reporting of financial results.

Chan, Lin, & Strong (2009) defined two types of conservatism; ex-ante and ex-post conservatism. The ex-post conservatism also called earnings conservatism, or conditional conservatism is news dependent and linked with income. It leads to the early recognition of company's losses than profits and also classified as

asymmetric loss recognition timeliness (Ball & Shivakumar, 2005; Beaver & Ryan, 2005; Pae, Thornton, & Welker, 2005). Ex-post or conditional conservatism is an essential characteristic in capitalist countries due to its role in increase relevance and faithful representation (Ball & Shivakumar, 2008). Moreover, it also improves the contracting efficiency due to conditional conservatism's role in presenting informative and useful financial reports, and that ensure effective monitoring of management performance by the stakeholders (Ball & Shivakumar, 2008).

On the other hand, ex-ante conservatism, also called balance sheet conservatism or unconditional conservatism (Beaver & Ryan, 2005; Pothof, 2011), is news independent and associated with accounting numbers. The net assets value that is increased by recognition of research and development expenses, advertising cost and decrease by the depreciation of long term assets is associated with ex-ante conservatism or unconditional conservatism.

Iyengar & Zampelli, (2010) found that in order to avoid a hazardous effect on the share price, managers may engage in earnings management to fulfil the expectation of investors. Since accounting conservatism is based on the principle that losses be recognized promptly and delays recognition of the earnings until it becomes reliably certain. It reduces the impact of the news on the share prices and thus limits the managers incentives. As managers incentives were connected to the accounting performance, the reliable financial report is generated by conservatism prevent managements' bias.

However, these findings were not supported by Penman & Zhang (2002), who suggested that the quality of the earnings is negatively affected by conservatism. They further added as conservatism increases unrecorded reserves in large firms, future income can be inflated by the release of funds in the case of low growth. Likewise, Sen (2005) found that future earnings can become unstable due to conservative accounting.

In the middle of the doubts regarding the reliability of the financial reports, devotion to the conservatism principle has become a distinctive feature for firms with regards to the transparency of their financial reports accounting conservatism requires stringent standards when proclaiming the profits (Lafond & Roychowdhury, 2008).

Claessens & Fan (2002) mentioned that the destructive behavior of a large shareholder might reduce the operating efficiency of a firm by transfer of wealth from small shareholders, and thus, harm firm value. Cullinan et al. (2012) stated that large shareholders might demand less conservative financial reports from management in order to conceal their expropriation behaviour. These behaviours would thereby result in lower levels of accounting conservatism, as stated in the first hypothesis:

H1a. Accounting conservatism is negatively associated with the concentrated ownership in Pakistan listed firms.

Previous studies by (Basu, 1997; Watts, 2003b; Ball & Shivakumar, 2008; Armstrong, Guay, & Weber, 2010) have identified two significant drivers that lead to conservatism, which are agency and litigation cost. As companies with family ownership have most to lose as a result of possible litigation and agency cost, family ownership firms may employ more conservative principles because these firms' have more significant incentives to command financial statement which are more conservative.

In contrast, family managers may apply various control-enhancing mechanism in order to maintain effective control over their acquired or founded firms, which may impair value-creation (Claessens et al., 2000; Gompers et al. 2004). Moreover, family-

owned firms may not pursue profitable investment ventures with their defensive investment approach (Morck et al. 2000). Besides,

family-run firms are not known to hire qualified people on merit to fulfil critical positions; instead, they usually hire family members who

may not be qualified to serve in these positions (Kellermanns & Eddleston, 2004; Martínez et al. 2007). Therefore, our second hypothesis is

H1(b): There is a significant negative association between the concentrated family ownership and accounting conservatism in Pakistani listed firms

Substantial investments in a firm appeal foreign shareholders to seek reliable information about firms activities and they may be connected with the low level of asymmetric information (Fan & Wong, 2002; LaFond & Watts, 2008; Lafond & Roychowdhury, 2008). Furthermore, they have considerable resources and competency to observe firms autonomously such as foreign institutional investors. Therefore, greater involvement of foreign owners encourages firms to report conservative results (Tacneng, 2015).

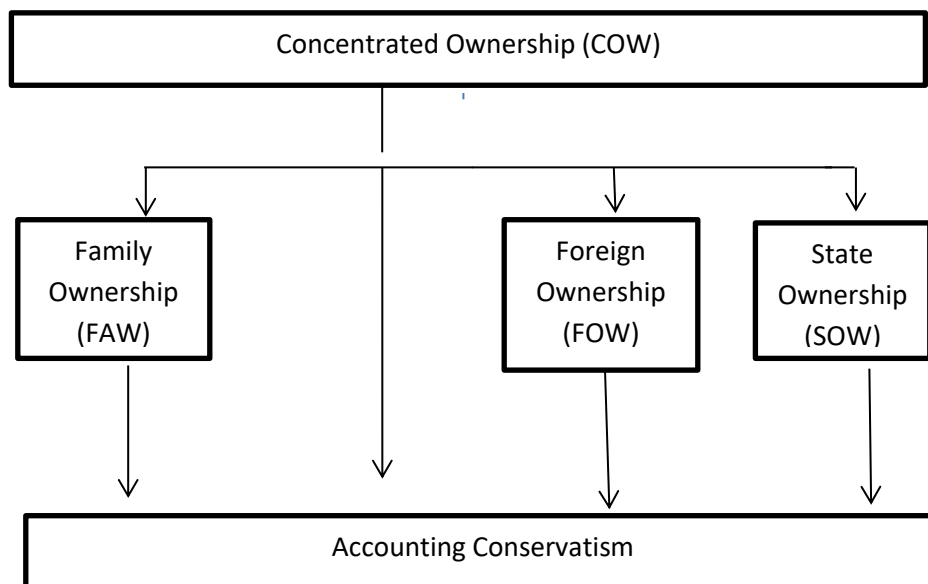
Callen et al. (2005) found a significant and positive association between foreign ownership and the earnings reaction coefficient. That is because earnings quality (measured as discretionary accruals) plays the central role in foreign shareholder's financing decisions. As application conservatism principles reduce the manipulation of financial information (Ball & Shivakumar, 2008), therefore our fourth hypothesis is

H1(c): There is a significant positive relationship between concentrated foreign ownership and accounting conservatism in Pakistani listed firms

When the state holds a percentage of ownership as well as the right to employ board of directors or the top managers, that leads to influencing of accounting outcomes even if there are robust enforcement mechanism and disclosure requirements (Baloria, 2014). State intervention for political purposes may cause ineffective firms' reporting as managers produce better results to try and polish their performance by not following conservative principles (Watts & Zimmerman, 1978). However, Mohammed et al. (2017) revealed that state ownership in Malaysia leads to more accounting conservatism due to the desire of the Malaysian Government to build the credibility of their financial markets.

Bushman and Piotroski (2006) explained that the firms, in countries with more state ownership, accelerate the appreciation of good news and delay appreciation of bad news due to probable state intervention. Durnev and Fauver (2007) found that the states use unfair policies and manipulative corporate conventions, making firms' managers less interested towards conservatism and reliability so that they can stop the state from being inquisitive with regards to the elimination of the shareholders' wealth. Also, Chen and Hsu (2009) showed that Chinese state-owned enterprises adopt less conservative accounting due to creditors being less troubled about the downside default risks of these politically essential organisations. Therefore our fourth hypothesis is

H1 (d): There is a significant negative association between concentrated state ownership and accounting conservatism in Pakistani listed firms



**Figure 1. Conceptual Framework of relationship between ownership concentration and accounting conservatism**

A moderating effect indicates if a relationship of two variables is affected by the influence of another variable. Audit firm size, as a proxy for audit quality, has been used as a moderating factor in many previous studies (Saeed & Saeed, 2018). To the best of our knowledge, no one has explored the relationship between conservatism and concentrated ownership and moderating influence that audit firm size play in that relationship in Pakistani listed companies. We are intent on filling this gap in the literature by investigating the moderating influence of audit firm size on the effect of concentrated ownership and accounting conservatism. Thus, our next sets of the hypothesis are:

H2a. Audit firm size has a positive moderating influence on the relationship between concentrated ownership and accounting conservatism in Pakistan listed firms.

H2b. Audit firm size has a positive moderating effect on the

association between concentrated family ownership and accounting conservatism in Pakistan listed firms.

H2c. Audit firm size has a positive moderating influence on the effect between concentrated foreign ownership and accounting conservatism in Pakistan listed firms.

H2d. Audit firm size has a positive moderating effect on the relationship between concentrated state ownership and accounting conservatism in Pakistan listed firms.

**RESEARCH DESIGN:**

In order to investigate the association between concentrated ownership and accounting conservatism in Pakistani listed firms, we collected a preliminary sample of all listed firms in Pakistan Stock Exchange (PSX) from the year 2006 to 2016.

Table 1 explains the classification of firms which are part of the analysis in this study.

**Table 1 - Industry Classification of Firms**

Sector	Sector Code	No. of firm Years	Percentage (%)
Automobile sector	801	4	3%
Cable & electrical goods	803	3	3%
Cement	804	6	5%
Chemical	805	10	8%
Engineering	808	5	4%
Food and Personal Care Products	810	9	8%
Leather & Tanneries	816	2	2%
Miscellaneous	818	8	7%
Oil and Gas Exploration	820	2	2%
Oil and Gas Marketing	821	4	3%
Pharmaceuticals	823	5	4%
Power Generation and Distribution	824	2	2%

Sugar & Allied Industries	826	11	9%
Synthetic and Rayon	827	4	3%
Textile Composite	829	11	9%
Textile Spinning	830	24	20%
Textile Weaving	831	5	4%
Transport	833	3	3%

We have used the following criteria to screen out the sample. Firstly, we eliminated financial firms due to accounting and regulatory standards applicable to these firms. Secondly, we removed any firm listed for less than one year and thus only include firms listed for one year or more in the sample each year. Thirdly, we eliminated any firm delisted for any part of the sample period. Fourthly, we excluded firms with missing data on ownership structure, accounting conservatism and external audit firm size. Lastly, we removed firms without concentrated ownership.

Our final sample consists of 1298 firm-year observations from 2006 to 2016. The data was collected from the State Bank of Pakistan's publication of balance sheet analysis; published annual financial reports by the listed firms were used to collect data on ownership structure.

Table 4 to 9 show results using random effect regression and generalised method of moment system regression with the firm and year-specific intercepts. We selected random effect pooled regression using the Hausman test and employed it in our study because the random effect regression is effective in controlling for unobserved heterogeneity when it is constant and not correlated with independent variables.

#### Definition and Measurement of Variables Measurement of Accounting Conservatism

In order to carry out our first set of tests, we have used three different firm-specific conservative measures at the end of each year of our sample period as a dependent variable. First one is accrual-based conservatism proxy as suggested by Givoly, Hayn, & D'sSouza (2000) and the second one is market-based conservatism proxy suggested by Beaver & Ryan (2000). Our third set of tests is based on Basu's (1997) asymmetric timeliness of earnings measure modified by Roychowdhury & Watts (2007) and Ahmed & Duellman (2007). We have explained below all three measures and their strengths and weaknesses.

Accrual-based Conservatism (ACNACC) is the sum of operational profit or income before extra items and discontinued operations and depreciation cost minus the operating cash flows and divided by the total assets at the start of the period. Then multiply the whole equation by '-1': thus greater the value of this equation shows the more accounting conservatism. It is based on belief that the use of conservative accounting would always lead to negative accruals (Givoly et al., 2000). Higher negative average accrual over the period leads to higher conservative accounting (Ahmed & Duellman, 2007). Averaging is used in order to mitigate the effects of substantial temporary accruals, as accrual reverses within one to two years period (Richardson et al. 2005). This measure does not affect economic rent or future growth opportunities but ignores the conservatism in the prior period; therefore, this measure does not reflect the cumulative conservatism.

Market-based Conservatism (ACNMKT) is a measure of the conservatism, that is based on the market value, ACNMKT is the product of book to market ratio multiplied with '-1' so positive values shows more conservatism. Understating the book value of equity relative to the market value of equity results in conservatism. Firms should have a lower book to market ratios

which are using conservative accounting. Conservatism's cumulative effect since firms' inception can be reflected through using this measure, but it also reflects economic rent expected to be generated by firms' assets-in-place as well as future growth opportunities (Lindenberg & Ross, 1981). It is essential to control for economic rent and future growth opportunities (Ahmed & Duellman, 2007). We have used sales growth instead of R&D plus advertising expenses suggested by Ahmed & Duellman (2007) because firms' in our sample spend very minimal amount on R&D and advertising and therefore, it is impossible to use that in any model.

We have used asymmetric timeliness in earnings (AT), following Basu (1997), as our third measure for conservatism. In this measure, we used the coefficient from our regression result that identifies the positive and negatives returns in earnings. This measure of accounting conservatism captures asymmetry in verification standards for recognition of good and bad news but may contain significant measurement errors depending upon the information environment (Givoly, Hayn, & Natarajan, 2007)

#### Measurement of Independent Variables Concentrated Ownership (COW)

Pakistan have concentrated ownership is very common in Pakistan as almost 40% of the firms listed in Pakistan Stock Exchange (PSX) have concentrated ownership. Concentrated ownership was measure as If the firm's shares are concentrated at the hand of one largest shareholder withholding over 5%, then the dummy variable value will be equal to 1. Otherwise, its value will be zero (Shaikh et al., 2019).

#### Family ownership (FAW)

Most firms in Pakistan are based on family ownership. Family ownership is considered as a dummy variable whose value equals to 1 if the 20 or more percentage of ownership belongs to a family, and family is the largest shareholder of the firm with a representative in the board (Bhaumik & Gregoriou, 2010; Bodnaruk, Massa, & Yadav, 2017; Shaikh et al., 2019). Only family firms where one family member holds over 5% of shares are used as concentrated family owned firms in this study

#### Foreign Ownership (FOW)

There are small numbers of foreign firms are working in Pakistan; therefore, foreign ownership is not common in Pakistan. Through holdings in different company shares, they are still part of ownership concentration in Pakistan. A dummy variable is used to measure foreign ownership where value will be equals to 1 if foreign investors or the international firms are holding ten or more percentage in the firm's shares and one foreign shareholder hold more than 5% of shares Otherwise, its value will be zero (Shaikh et al., 2019).

#### State ownership (SOW)

There are many firms in Pakistan whose shares are held by the government of Pakistan. The dummy variable value will be one if the shares of firms held by the government or any government-owned institute or agency are 20% or more with one governmental agency holding more than 5% of total shares; otherwise, the dummy variable value will be zero (Shaikh et al., 2019).

Profitability (ROA), Leverage (LEV), Market to Book value Asset (MBR), Firms size(FSE), as measured by log value of total assets, Sales growth (SLG) are the control variables of this study.

## EMPIRICAL RESULTS AND DISCUSSION

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ACNACC	1,261	-0.0181187	0.076546	-0.3043185	0.6771324
ACNMKT	1,258	-4.201257	18.2015	-139.6037	27.29201
FAW	1,298	0.7033898	0.4569392	0	1
FOW	1,298	0.2033898	0.4026752	0	1
SOW	1,298	0.059322	0.2363175	0	1
AFS	1,182	0.3976311	0.4896156	0	1
LEV	1,252	0.6568163	0.4660313	0	4.734021
ROA	1,238	0.0371747	0.1905833	-3.850269	1.904398
MBR	1,253	1.389734	2.356205	-1.421878	14.82031
FSE	1,252	14.41097	2.624111	0	20.1949
SLG	1,165	0.1839956	0.6739063	-1	7.981345

Note: This table exhibits the descriptive statistics of the variables used in the study. Std. dev is the standard deviation. Moreover, mean median, minimum, and maximum values are also reported. ACNACC = accrual-based conservatism (net income before extraordinary items plus depreciation expense fewer cash flows from operations, averaged over three years centred around year  $t$  multiplied by  $-1$ ). ACNMKT = book-to-market ratio multiplied by  $-1$ , represents market-based conservatism, R represents Stock returns, COW= Dummy equals 1 for concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family ownership; 0 otherwise, FOW= Dummy equals 1 for foreign ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets (Firm size), ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.

Table 2 reports descriptive statistics for the full sample of 1,298 firm-year observations which were used to run the accrual-based conservatism (ACNACC), the book to market ratio (ACNMKT) and asymmetric timeliness (AT) model. The mean value of the ACNACC is 0.018, which is higher than the mean value of accrual-based conservatism for US firms at 0.010, reported by both Ahmed & Duellman (2007a) and Krishnan & Visvanathan (2008). Different institutional factors might have driven this discrepancy, as Pakistani firms' have highly concentrated ownership structure in contrast to dispersed ownership in the US.

Further inspection of Table 2 shows that the mean of family ownership is 0.703, with a standard deviation of 0.457 pointing out that 70% of all concentrated firms have family ownership. The mean value of foreign ownership is 0.203, which suggest that concentrated foreign owners have incentives to control and supervise these companies and their participation in the decision-making process (Zureigat, 2011).

In the sample, the mean value for concentrated state ownership is 0.059, which suggest that the Pakistani Government may have a role in the performance of these firms as reflected in conservative financial statements. Also, the results of descriptive statistics reveal that (47%) of the companies are audited by big four audit firms, which shows excellent trust of experience and skills of big four firms by listed companies.

The average leverage or debt, the firms have is 66%, indicating a high level of leverage in the firms' with concentrated ownership. The average return on assets of the firm is 0.0371 (median is 0.190), indicating the average profitability of firms in Pakistan. About 3.85% of firms have a negative return on assets indicating the level of financial distress of firms.

Table 3 displays the matrix of Pearson correlation for the relationship between dependent and independent variables. The results below in the correlation coefficient demonstrate a positive and slightly significant correlation between accrual-based conservatism and concentrated family ownership .0102\* and foreign ownership at -0.138\*. Accrual-based conservatism is also significantly negatively correlated with audit firm size, control variables of leverage, profitability and market to book value. Besides, the correlation matrix highlights a positive and slightly significant association between market-based conservatism and state ownership (0.0632\*) and leverage (0.162) and market to book value (0.116).

As suggested by Bryman & Cramer, (1997), the Pearson's R between each pair of independent variables should not exceed 0.80; otherwise, independent variables with a coefficient above 0.80 may be suspected of exhibiting multicollinearity. The highest correlation, as disclosed in the table, is between concentrated ownership (COW) and firm size of 0.552\*, which confirms that there is no multicollinearity among our variables.

**Table 3. Pearson Correlation Matrix**

	ACNACC	ACNMKT	COW	FAW	FOW	SOW	AFS	LEV	ROA	MBR	IFSE	SLG
ACNACC	1											
ACNMKT	-0.0085	1										
COW	-0.0388	-0.0368	1									
FAW	0.1028*	-0.0144	0.2487*	1								
FOW	-0.1327*	-0.0393	0.0816*	-0.7781*	1							
SOW	-0.0076	0.0632*	0.0406	-0.3867*	-0.1269*	1						
AFS	-0.1825*	0.0406	0.029	-0.4916*	0.4494*	0.2356*	1					
LEV	0.1174*	0.1618*	0.1629*	0.2132*	-0.1576*	-0.035	-0.2022*	1				
ROA	-0.2609*	-0.0418	-0.0125	-0.1661*	0.1600*	0.0432	0.2043*	-0.2205*	1			
MBR	-0.1344*	0.1162*	0.0157	-0.1836*	0.2026*	0.029	0.2443*	-0.1719*	0.1228*	1		
FSE	-0.0181	-0.0282	0.5520*	-0.1236*	0.1494*	0.3525*	0.3483*	-0.0286	0.0922*	0.0700*	1	
SLG	-0.0341	-0.0087	-0.018	-0.0309	0.0141	0.0229	-0.0096	-0.0369	0.0404	-0.0309	-0.0062	1

Note. This table exhibits the Pearsons' correlation matrix. ACNACC = accrual-based conservatism (net income before extraordinary items plus depreciation expense fewer cash flows from operations, averaged over three years centred around year  $t$  multiplied by  $-1$ .  $ACNMKT$  = book-to-market ratio multiplied by  $-1$ , represents market-based conservatism, R represents Stock returns, COW= Dummy equals 1 for concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family

**Concentrated Ownership and Accrual-based conservatism**  
The following empirical model was employed to test the effect of ownership structure (H1a to H1d) on ACNACC. Also included were control variables which might influence conservatism practices, namely market to book value, total assets, profitability and leverage.

$$ACNACC_{it} = \beta + \beta_1 COW_{it} + \beta_2 FAW_{it} + \beta_3 FOW_{it} + \beta_4 SOW_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 MBR_{it} + \beta_8 FSE_{it} + \beta_9 SLG_{it}$$

Table 4 shows results using random effect regression and system Generalized method of moment (GMM) regression with the firm and year-specific intercepts. We chose random effect using the Hausman test and used it because the random effect is effective in controlling for unobserved heterogeneity when it is constant and not correlated with independent variables. GMM-System was used to control for endogeneity and the possible dynamic.

Table 4 shows that the coefficient on COW is negative in both random effect (-0.0297\*\*\*) and gmm (-0.0374) regression models

ownership; 0 otherwise, FOW= Dummy equals 1 for foreign ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets (Firm size),ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.

\*\*\*, \*\*, and \* shows the coefficients are significant at the 1%, 5%, and 10% level of significance, respectively.

suggesting that concentrated ownership is significantly negatively influenced conservatism. That is consistent with prior studies (Astami & Tower, 2006) and confirms our hypothesis H1a. However, a significant positive relationship was found between concentrated family ownership and accrual-based conservatism as oppose to our prediction.

It suggests that concentrated family owners do employ accrual-based conservatism in Pakistani listed firms and the reason behind may be that concentrated family ownership firms' have more to lose from litigation and agency cost as family owners have long term concentrated investment in a firm as discussed above in hypothesis development. FOW was found to have a significant negative relationship with ACNACC, as shown in table 4, which is in contrast with findings of prior studies(Fan & Wong, 2002; Khanna & Palepu, 2000; Lafond & Roychowdhury, 2008; LaFond & Watts, 2008) and our hypothesis.

**Table 4 Results of Accrual-based Conservatism**

VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
COW	-0.0297*** (3.62e-06)				-0.0374 (0.154)			
FAW		0.0142*** (0.00149)				0.0408*** (0.00275)		
FOW			-0.0195*** (0.000430)				-0.0611*** (0.000637)	
SOW				0.00360*** (0.000381)				-0.00674*** (0.00149)
FSE								
L.ACNAACC					0.553*** (0.00185)	0.531*** (0.00382)	0.526*** (0.00161)	0.552*** (0.00179)
LEV	-0.00946*** (2.21e-06)	-0.0111*** (0.000254)	-0.0114*** (2.11e-05)	-0.00950*** (7.21e-05)	-0.0128*** (0.000316)	-0.0150*** (0.000495)	-0.0141*** (0.000242)	-0.0119*** (0.000239)
ROA	-0.112*** (1.68e-06)	-0.109*** (0.000194)	-0.109*** (0.000298)	-0.111*** (0.000313)	-0.0783*** (0.00165)	-0.0758*** (0.00200)	-0.0680*** (0.000975)	-0.0781*** (0.00103)
MBR	0.00178*** (1.56e-07)	0.00154*** (4.25e-05)	0.00149*** (4.59e-05)	0.00175*** (4.95e-05)	0.00335*** (7.89e-05)	0.00233*** (9.07e-05)	0.00169*** (5.70e-05)	0.00328*** (0.000115)
SLG	0.00137*** (1.80e-06)	0.00152*** (0.000313)	0.00145*** (0.000199)	0.00148*** (0.000243)	0.00405*** (7.68e-05)	0.00429*** (8.03e-05)	0.00430*** (5.93e-05)	0.00441*** (0.000111)
Constant	0.0222*** (5.01e-06)	-0.0169*** (0.00133)	-0.00241*** (0.000307)	-0.00758*** (0.000267)	0.0424 (0.154)	-0.0244*** (0.00250)	0.0152*** (0.000423)	0.00529*** (0.000234)
R square	0.0465	0.0472	0.0473	0.0465				
Observations	1,142	1,142	1,142	1,142	1,034	1,034	1,034	1,034
Number of ID	113	113	113	113	113	113	113	113

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression). ACNACC = accrual-based conservatism (net income before extraordinary items plus depreciation expense fewer cash flows from operations, averaged over three years centred around year  $t$  multiplied by  $-1$ ). COW= Dummy equals 1 for concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family ownership; 0 otherwise, FOW= Dummy equals 1 for foreign ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets (Firm size),ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Moreover, State ownership (SOW), as table 4 show, is negatively and significantly related to ACNACC under GMM

model with coefficient of  $-0.0067$  which implies that State ownership leads to lower conservatism and cause bad governance as concluding by findings of Ben-Nasr et al. 2012; Bushman & Piotroski 2006; Kiatapiwat (2010) and opposite to findings of Mohammed et al. (2017)LEV, ROA, MBR and SLG are negatively related to ACNACC under both models.

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Table 5 Results of Market-based Conservatism								
VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
COW	-0.899*** (0.00290)				1.147 (1.336)			
FAW		-0.376*** (0.0330)				-4.814*** (0.0862)		
FOW			-0.0168 (0.0209)				2.738*** (0.0665)	
SOW				1.281*** (0.0540)				8.217*** (0.153)
L.ACNMKT					0.325*** (0.000194)	0.325*** (0.000167)	0.326*** (0.000205)	0.325*** (0.000224)
LEV	11.48*** (0.00207)	11.49*** (0.00145)	11.48*** (0.000791)	11.44*** (0.00373)	6.821*** (0.0176)	6.825*** (0.0315)	6.727*** (0.0241)	6.755*** (0.0260)
ROA	-3.010*** (0.00115)	-3.022*** (0.000360)	-3.007*** (0.00310)	-3.013*** (0.00369)	-0.991*** (0.0472)	-1.608*** (0.0283)	-1.449*** (0.0296)	-0.671*** (0.0508)
FSE	1.359*** (0.000349)	1.340*** (0.00272)	1.362*** (0.00652)	1.304*** (0.0101)	1.618*** (0.00777)	1.349*** (0.0306)	1.567*** (0.0239)	1.173*** (0.0104)
SLG	-0.613*** (0.00113)	-0.614*** (0.000911)	-0.615*** (0.00155)	-0.615*** (0.00228)	-0.783*** (0.00292)	-0.730*** (0.00281)	-0.755*** (0.00362)	-0.787*** (0.00350)
Constant	-30.84*** (0.00922)	-31.19*** (0.00662)	-31.78*** (0.0785)	-30.98*** (0.131)	-32.21*** (1.340)	-23.61*** (0.532)	-30.81*** (0.328)	-25.01*** (0.146)
R square	0.0369	0.0368	0.0369	0.0367				
Observations	1,142	1,142	1,142	1,142	1,033	1,033	1,033	1,033
Number of ID	112	112	112	112	112	112	112	112

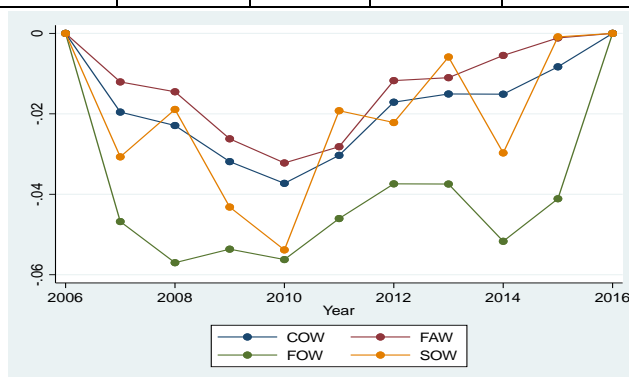


Figure 3 show changes in accrual-based conservatism over the period

**Concentrated Ownership and Market-based conservatism**

The empirical model to test the effect of ownership concentration (H1a to H1d) on ACNMKT is as below:

$$ACNMKT_{it} = \beta + \beta_1 COW_{it} + \beta_2 FAW_{it} + \beta_3 FOW_{it} + \beta_4 SOW_{it} + \beta_5 ROA_{it} + \beta_6 FSE_{it} + \beta_7 SLG_{it} + \beta_8 L.ACNMKT_{it} + \epsilon_{it}$$

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression). ACNMKT = book-to-market ratio multiplied by -1,

Table 5 presents results of market-based conservatism show that concentrated ownership (COW) had a negative effect on conservatism under random effect regression, suggesting lower concentrated ownership lead to higher conservatism Astami & Pratiwi (2016).  $\beta_1$  represents concentrated ownership,  $\beta_2$  represents family ownership,  $\beta_3$  represents market-based conservatism,  $\beta_4$  represents market-based conservatism,  $\beta_5$  represents ROA,  $\beta_6$  represents FSE,  $\beta_7$  represents SLG,  $\beta_8$  represents L.ACNMKT, and  $\epsilon_{it}$  represents error term.

represents market-based conservatism, COW= Dummy equals 1 for concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family ownership; 0 otherwise, FOW= Dummy equals 1 for

foreign ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets

GMM- System results for COW show positive but insignificant relation. Family ownership has a negative and significant influence on ACNMKT with a coefficient of -0.376 under random effect and -4.814 under GMM system model.

FOW were found to have positive effect on ACNMKT as predicted and consistent with prior studies suggesting that foreign owners with their substantial holdings play a decisive role in the governance of a firm by increasing accounting conservatism as

(Firm size),ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

found out by prior studies (Fan & Wong, 2002; Khanna & Palepu, 2000; LaFond & Watts, 2008). SOW is significantly positively related with ACNMKT with a coefficient of 1.281\*\*\* under random effect and 8.217\*\*\* under GMM system model, suggesting that concentrated state ownership leads to positive influence on market-based conservatism consistent with the study by Mohammed et al. (2017).

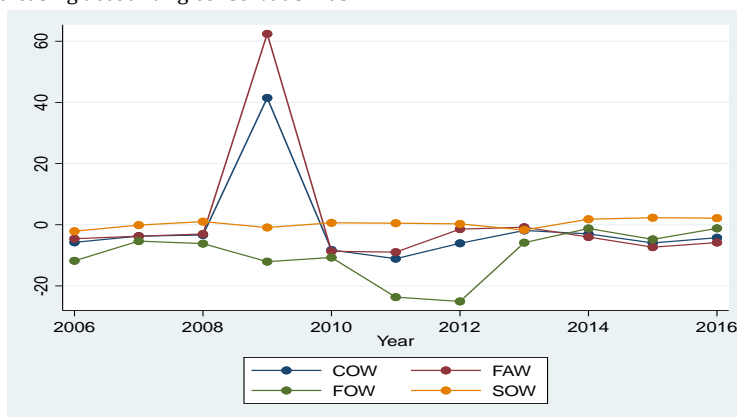


Figure 4 show changes in market-based conservatism over the period

**Concentrated ownership and the asymmetric timeliness of earnings (AT)**

$$E_{it} / P_{it} = \beta + \beta_1 R_{it} + \beta_2 D_{it} + \beta_3 R * D_{it} + \beta_4 COW_{it} + \beta_5 COW * R_{it} + \beta_6 COW * D_{it} + \beta_7 COW * R * D_{it} + \beta_8 FAW_{it} + \beta_9 FAW * R_{it} + \beta_{10} FAW * D_{it} + \beta_{11} FAW * R * D_{it} + \beta_{12} FOW_{it} + \beta_{13} FOW * R_{it} + \beta_{14} FOW * D_{it} + \beta_{15} FOW * R * D_{it} + \beta_{16} SOW_{it} + \beta_{17} SOW * R_{it} + \beta_{18} SOW * D_{it} + \beta_{19} SOW * R * D_{it}$$

The results in table 7 depict the interaction of independent variables with each item in Basu's (1997) original model. We

found that COW has a negative relationship with AT and thereby led to lower conservatism as reflected by the negative coefficient on COW (-0.0019\*\*\*), and the positive coefficient on COW\*R (0.00371\*\*\*) in random effect regression and -0.0333\*\*\* in GMM regression results.

MODERATING INFLUENCE OF AUDIT QUALITY ON THE RELATIONSHIP BETWEEN CONCENTRATED OWNERSHIP AND ACCOUNTING CONSERVATISM: IN PAKISTANI LISTED FIRMS: EMPIRICAL EVIDENCE FROM GMM TECHNIQUE

Table 6 Results of Asymmetric Timeliness

VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
R	-0.0539*** (0.00403)	-0.120*** (0.0406)	-0.113* (0.0628)	-0.157*** (0.0486)	-0.00480*** (6.78e-05)	0.0202*** (0.000157)	0.0134*** (0.000192)	0.00918*** (0.000251)
D	-19.59*** (1.817)	-5.029 (15.24)	-9.734 (21.37)	-10.73 (21.26)	-28.62*** (0.177)	-3.855** (1.780)	-4.350*** (1.543)	-18.94*** (0.649)
RD	0.0661*** (0.00363)	0.153*** (0.0405)	0.143** (0.0627)	0.173*** (0.0485)	0.0364*** (0.000364)	0.0571*** (0.00447)	0.0689*** (0.00304)	0.00948*** (0.00145)
COW	3.677*** (0.249)				11.17*** (0.0542)			
COW*R	0.00371*** (0.000641)				0.00740*** (4.10e-05)			
COW*D	-3.917*** (0.305)				-7.150*** (0.0523)			
COW*RD	-0.00192*** (0.000419)				-0.0333*** (0.000193)			
FAW		10.22*** (1.739)				5.791*** (0.110)		
FAWR		-0.0311*** (0.00279)				-0.00831*** (0.000123)		
FAWD		-10.35*** (1.738)				-2.183*** (0.211)		
FAWRD		0.0296*** (0.00279)				0.0310*** (0.000590)		
FOW			-8.543*** (0.172)				-4.490*** (0.0817)	
FOWR			0.0301*** (0.00103)				0.00399*** (6.85e-05)	
FOWD			9.025*** (0.171)				2.568*** (0.157)	
FOWRD			-0.0261*** (0.00103)				-0.0166*** (0.000234)	
SOW				-3.302 (4.733)				-2.520*** (0.664)
SOWR				-0.0119 (0.0100)				0.0677*** (0.00425)
SOWD				1.415 (4.734)				-11.88*** (1.947)
SOWRD				-0.0613*** (0.00999)				-0.962*** (0.0670)
LEV	-0.459*** (0.103)	1.878** (0.946)	3.085 (1.973)	3.889** (1.720)				
LEVR	0.00340*** (0.000317)	0.0252*** (0.00536)	0.0184* (0.0107)	0.0139 (0.00896)				
LEVD	0.294*** (0.0993)	-1.433 (0.947)	-2.601 (1.974)	-3.300* (1.721)				
LEVRD	-0.00435*** (0.000172)	-0.0230*** (0.00536)	-0.0124 (0.0107)	-0.0150* (0.00896)				
ROA	25.54*** (0.753)	73.19*** (0.337)	72.07*** (1.272)	63.87*** (1.557)				
ROAR	-0.0292*** (0.000313)	-0.0732*** (0.00482)	-0.0746*** (0.000657)	-0.00622** (0.00313)				
ROAD	-21.15*** (0.808)	-58.09*** (0.338)	-56.85*** (1.271)	-49.29*** (1.557)				
ROARD	0.0536*** (4.22e-05)	0.127*** (0.00484)	0.133*** (0.000668)	0.0498*** (0.00311)				
MBR	-0.266*** (0.0126)	-0.116*** (0.0240)	-0.123*** (0.0202)	-0.187*** (0.0193)		-0.0212*** (0.000954)	-0.0375*** (0.00145)	-0.0793*** (0.00128)
MBRR	3.80e-05*** (7.45e-06)	5.66e-05 (0.000102)	-1.90e-05 (0.000123)	0.000469** (7.48e-05)		0.000121*** (1.12e-06)	-0.000109*** (8.93e-07)	-7.01e-05*** (1.01e-06)
MBRD	0.272***	0.150***	0.149***	0.233***		0.393***	0.375***	0.338***

	(0.0133)	(0.0240)	(0.0201)	(0.0193)		(0.00555)	(0.00481)	(0.00319)
MBRRD	2.38e-05***	-1.24e-05	1.37e-05	-0.000380**		0.00113***	0.000876***	0.000554**
	(6.50e-06)	(0.000102)	(0.000123)	(7.48e-05)		(1.31e-05)	(7.01e-06)	(4.61e-06)
FSE	-1.441***	-1.120	-0.854	-0.914	-2.842***	-1.845***	-2.156***	-2.555***
	(0.0921)	(0.888)	(1.344)	(1.368)	(0.00826)	(0.0361)	(0.0460)	(0.0272)
FSER	0.00331***	0.00786***	0.00569	0.00910**	0.000629***	-0.000996***	-0.000835***	-0.000429**
	(0.000208)	(0.00230)	(0.00372)	(0.00289)	(4.20e-06)	(8.17e-06)	(1.05e-05)	(1.47e-05)
FSED	1.281***	0.780	0.519	0.696	1.864***	-0.0652	-0.163	0.895***
	(0.0986)	(0.888)	(1.344)	(1.369)	(0.0115)	(0.126)	(0.103)	(0.0444)
FSERD	-0.00437***	-0.0101***	-0.00812**	-0.0103***	-0.00454***	-0.00601***	-0.00517***	-0.000185*
	(0.000200)	(0.00230)	(0.00372)	(0.00289)	(1.73e-05)	(0.000319)	(0.000197)	(0.000104)
L.EitPit					-2.538***	-5.261***	-5.224***	-5.385***
					(0.00115)	(0.0401)	(0.0263)	(0.0468)
Constant	21.51***	9.232	13.69	12.96	39.71***	26.33***	35.75***	40.59***
	(1.665)	(15.23)	(21.37)	(21.25)	(0.120)	(0.518)	(0.721)	(0.411)
R square	0.0079	0.013	0.0128	0.0118				
Observations	993	993	993	993	867	867	867	867
Number of ID	111	111	111	111	109	109	109	109

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression). *Eit/Pit* = Net Income before extraordinary divided by market capitalization at the end of the year, *R* = stock returns, *D*= Dummy equals 1 if *R* is less 1; 0 otherwise, *COW*= Dummy equals 1 for concentrated ownership; 0 otherwise, *FAW*= Dummy equals 1 for family ownership; 0 otherwise, *FOW*= Dummy equals 1 for foreign ownership; 0 otherwise, *SOW*= Dummy equals 1 for state ownership; 0 otherwise, *FSE*= Natural logarithm of total assets (Firm size), *ROA*= Profitability, *LEV*= Leverage, *MBR*= Market to Book Ratio, *SLG* = Sales Growth. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

variables on the dependent variables changes depending on the value of the moderating variable (Jaccard & Turrisi, 2003). Since this study would like to test the effect of audit quality, measure by audit firm size, on the relationship between concentrated ownership and conservatism, hence concentrated ownership (*COW*, *FAW*, *FOW* and *SOW*) are the focal independent variables and audit quality (audit firm size) is the moderating variable. The figure 1 summarizes this moderating relationship.

1 for family ownership; 0 otherwise, *FOW*= Dummy equals 1 for foreign ownership; 0 otherwise, *SOW*= Dummy equals 1 for state ownership; 0 otherwise, *FSE*= Natural logarithm of total assets (Firm size), *ROA*= Profitability, *LEV*= Leverage, *MBR*= Market to Book Ratio, *SLG* = Sales Growth.

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#### Accrual-based Conservatism (ACNACC)

The following empirical model was employed to test the moderating effect of audit quality, measure by audit firms size (*AFS*) on the relationship between ownership concentration (*COW*, *FAW*, *FOW*, and *SOW*) and Accrual-based conservatism (*ACNACC*).

$$ACNACC_{it} = \beta_0 + \beta_1 COW_{it} + \beta_2 FAW_{it} + \beta_3 FOW_{it} + \beta_4 SOW_{it} + \beta_5 AFS_{it} + \beta_6 COW_{it} * AFS_{it} + \beta_7 FAW_{it} * AFS_{it} + \beta_8 FOW_{it} * AFS_{it} + \beta_9 SOW_{it} * AFS_{it} + CONTROLS_{it} + \epsilon_{it}$$

#### MODERATING EFFECT OF AUDIT QUALITY

Multiple regressions analysis was carried out to test the moderating effect of audit firm size on the relationship between concentrated ownership and conservatism. Moderating relationship tests the interaction effect between the independent focal variable and moderated variable; and interaction effect exists if the effect of the independent

Table 7 Moderation of AFS (Accrual-Based Conservatism)								
VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
AFS	-0.0596*** (0.00110)	-0.0303*** (0.00154)	-0.0233*** (0.00458)	-0.0325*** (0.00287)	-0.408 (0.324)	-0.156*** (0.00692)	-0.0955*** (0.00277)	-0.149*** (0.00110)
AFS*COW	0.0269*** (0.00101)				0.276 (0.324)			
COW	-0.0671*** (0.000928)				-0.233 (0.324)			
FAW		0.00233 (0.00904)				0.0360*** (0.00632)		
AFS*FAW		0.00301 (0.00244)				0.0537*** (0.00928)		
FOW			-0.00954*** (0.000700)				-0.0666*** (0.0100)	
AFS*FOW			-0.00777*** (0.00269)				-0.0357*** (0.0135)	
SOW				-0.0488*** (0.000970)				-0.244*** (0.0125)
AFS*SOW				0.0680*** (0.00472)				0.227*** (0.0117)
L.ACNAACC					0.519*** (0.00141)	0.557*** (0.00200)	0.544*** (0.00222)	0.546*** (0.00164)
LEV	-0.00876*** (3.50e-05)	-0.0123*** (0.00189)	-0.0126*** (0.00238)	-0.0128*** (0.00179)	-0.00619*** (0.000611)	-0.0133*** (0.000737)	-0.0160*** (0.000636)	-0.0179*** (0.000736)
ROA	-0.0842*** (0.000125)	-0.0845*** (0.000177)	-0.0842*** (5.62e-05)	-0.0852*** (7.68e-05)	-0.0521*** (0.00124)	-0.0495*** (0.000794)	-0.0487*** (0.000891)	-0.0536*** (0.000927)
FSE	0.00465*** (6.80e-05)	0.00230 (0.00215)	0.00221 (0.00204)	0.00181 (0.00165)	0.0205*** (0.000394)	0.0158*** (0.000519)	0.0109*** (0.000416)	0.0161*** (0.000465)
Constant	-6.98E-17 (1.06E-16)	-0.0325 (0.0406)	-0.0285 (0.0312)	-0.0227 (0.0251)	-0.0301 (0.324)	-0.203*** (0.0104)	-0.101*** (0.00622)	-0.168*** (0.00714)
R square	0.041	0.0416	0.0417	0.0416				
Observations	1,111	1,111	1,111	1,111	1,000	1,000	1,000	1,000
Number of ID	117	117	117	117	117	117	117	117

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression). ACNAACC = accrual-based conservatism (net income before extraordinary items plus depreciation expense less cash flows from operations, averaged over three years centred around year  $t$  multiplied by  $-1$ , AFS= Dummy equals 1 for big 4 audit firm, 0 otherwise, COW= Dummy equals 1 for

concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family ownership; 0 otherwise, FOW= Dummy equals 1 for foreign ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets (Firm size), ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

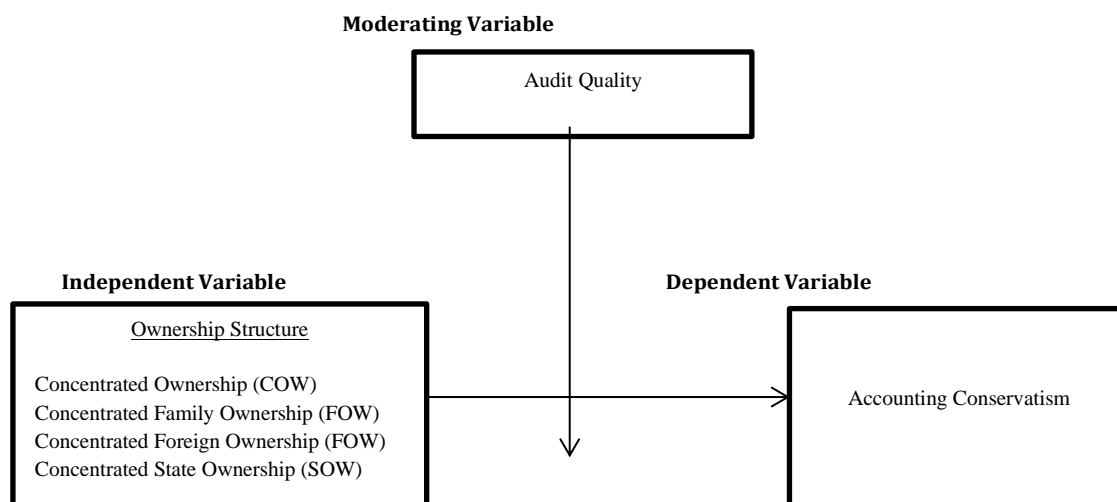


Figure 2. Moderating influence of audit quality on the relationship between ownership concentration and accounting conservatism

Results in Table 6 show the moderating influence of audit firm size on the effect of concentrated ownership and accounting conservatism. The moderation of AFS leads to a significantly positive effect on concentrated ownership and state ownership as the coefficient of interaction of AFS with COW and SOW is positive and significant (0.0269\*\*\*\*) on AFSCOW and (0.680\*\*\*\*) on AFSSOW, which implies higher accounting conservatism in these firms as result of audit by big four accounting firms.

The sign on the coefficient of AFSFOW and AFSFAW remains unchanged, and the moderation effect was minimal on concentration foreign ownership, which means that audit firm size does not lead major changes in ACNACC in these firms'.

**Market-based Conservatism (ACNMKT)**

An empirical model to test H2a to H2d on market-based conservatism (ACNMKT) is as below:

$$ACNMKT_{it} = \beta + \beta_1 COW_{it} + \beta_2 FAW_{it} + \beta_3 FOW_{it} + \beta_4 SOW_{it} + \beta_5 AFS_{it} + \beta_6 COW * AFS_{it} + \beta_7 FAW * AFS_{it} + \beta_8 FOW * AFS_{it} + \beta_9 SOW * AFS_{it} + CONTROLS + \epsilon_{it}$$

ACNMKT results highlighted in table 7 show that interaction with AFS causes positive and significant influence on the effect of FOW on ACNMKT supporting our hypothesis that audit by big four firms has positive and significant moderation effect on conservatism

**Table 8 Moderation of AFS (Market-Based Conservatism)**

VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
AFS	33.93 (20.94)	14.17*** (0.586)	-11.07*** (0.135)	-9.929*** (0.156)	40.33 (92.41)	-85.77*** (12.16)	33.76*** (0.753)	9.095*** (0.0546)
AFS*COW	-41.63* (21.50)				-22.39 (92.41)			
AFS*FAW		-31.39*** (0.390)				116.9*** (12.94)		
FAW		17.13*** (0.0571)				-81.55*** (12.28)		
COW	33.34** (14.32)				-21.58 (92.21)			
FOW			-23.56*** (0.00181)				65.72*** (12.37)	
AFS*FOW			27.68*** (0.631)				-113.5*** (12.60)	
SOW				23.95*** (0.0951)				24.80*** (4.138)
AFS*SOW				-2.527 (2.231)				9.386** (4.244)
L.ACNMKT					0.307*** (0.000193)	0.577*** (0.000159)	0.557*** (8.17e-05)	0.597*** (3.73e-05)
SLG		7.952*** (0.0222)	7.970*** (0.0230)	7.952*** (0.0270)	0.588*** (0.0142)	1.503*** (0.0299)	1.135*** (0.0301)	0.355*** (0.0118)
LEV	137.1*** (31.40)	143.0*** (0.0319)	143.2*** (0.0249)	143.0*** (0.0212)	7.804*** (0.0357)	6.691*** (0.122)	4.575*** (0.105)	2.028*** (0.0358)
ROA						6.112*** (0.212)	5.814*** (0.182)	5.555*** (0.0350)
FSE	-6.885*** (2.356)	-8.007*** (0.401)	-7.667*** (0.408)	-8.232*** (0.489)	0.543*** (0.0389)	4.116*** (0.0572)	2.238*** (0.0477)	1.300*** (0.0180)
Constant	1.91E-12 (9.46e-07)	30.36*** (5.701)	42.33*** (5.746)	48.98*** (6.936)	-4.864 (92.22)	3.718 (12.62)	-48.10*** (0.686)	-30.46*** (0.256)
R square	0.0314	0.0337	0.0337	0.0337				
Observations	1,117	1,012	1,012	1,012	1,003	901	901	901
Number of ID	115	109	109	109	114	108	108	108

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression). *ACNMKT* = book-to-market ratio multiplied by -1, represents market-based conservatism, AFS = Dummy equals to 1 for big 4 audit firm, 0 otherwise, COW= Dummy equals 1 for concentrated ownership; 0 otherwise, FAW= Dummy equals 1 for family ownership; 0 otherwise, FOW= Dummy equals 1 for foreign ownership; However, the interaction between AFS and FAW causes negative coefficient on AFSFAW, suggesting that audit quality moderation has a significant but negative effect on concentrated family firms. The effect on COW is also negative but slightly significant (-41.63\*). AFSSOW is also negative but results for SOW before interaction with AFS are not significant.

ownership; 0 otherwise, SOW= Dummy equals 1 for state ownership; 0 otherwise, FSE= Natural logarithm of total assets (Firm size),ROA= Profitability, LEV= Leverage, MBR= Market to Book Ratio, SLG = Sales Growth.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Asymmetric Timeliness (AT)**

The model for Asymmetric Timeliness (AT) is :

$$E_{it}/P_{it} = \beta + \beta_1 R_{it} + \beta_2 D_{it} + \beta_3 R^2 D_{it} + \beta_4 COW_{it} + \beta_5 COW * R_{it} + \beta_6 COW * D_{it} + \beta_7 COW * R^2 D_{it} + \beta_8 AFS_{it} + \beta_9 AFS * R_{it} + \beta_{10} AFS * D_{it} + \beta_{11} AFS * R^2 D_{it} + \beta_{12} COW * AFS_{it} + \beta_{13} COW * AFS * R_{it} + \beta_{14} COW * AFS * D_{it} + \beta_{15} COW * AFS * R^2 D_{it} + FAMILY + FOREIGN + STATE + CONTROLS + \epsilon_{it}$$

Table 8 shows that the interaction with AFS lead to the negative coefficient on AFSCOW\*RD and AFSFAW\*RD, suggesting that moderation by big four audit firms cause delayed recognition of losses in earnings and thereby, leading to lower conservatism in concentrated ownership and concentrated family ownership under both regression models. AFS moderation effect on SOW is also negative and significant, denoted by a negative coefficient (-0.218\*\*\*) on AFSSOW\*RD in GMM model, suggesting that moderation of AFS resulted in lower AT and conservatism due to delayed recognition of losses in the earnings and early recognition of gains. The Coefficient on AFSFOW\*RD is positive but insignificant in both models.

#### CONCLUSION

This study examined the relationship between concentrated ownership and accounting conservatism using three different proxies of conservatism, namely; accrual-based conservatism, market-based conservatism and asymmetric timeliness in Pakistani listed firms. We found robust evidence that concentrated ownership is negatively related to accounting conservatism in all three measures consistent with prior studies (Cullinan et al., 2012). We also found that concentrated family ownership positively influences accrual-based conservatism and asymmetric timeliness but negatively affects market-based conservatism which is consistent with Dalton & Dalton's, (2005) argument that managers sometimes have less direct control on the market measures of accounting.

Our results also show that foreign ownership has a positive effect on the market-based conservative but negative effect on accrual-based conservatism and asymmetric timeliness, which shows that concentrated foreign owners are not effective at improving governance in Pakistani listed firms as expected of them (Fan & Wong, 2002; Khanna & Palepu, 2000; LaFond & Watts, 2008). Moreover, state ownership was found to have a negative influence on asymmetric timeliness as predicted by this study and suggested by the literature, e.g. Bushman & Piotroski (2006). Concentrate state ownership also found to have a positive effect on market-based conservatism which is contrary to our predictions but in alignment with some prior studies such as Mohammed, (2011).

This study also explored the moderation effect of an audit by big four accounting firms on concentrated ownership and conservatism. We found that auditors' role is limited for concentrated ownership in all three proxies of accounting conservatism as concentrated ownership still has a negative

influence on conservatism. Similarly, concentrated family firms have a positive effect on accrual-based conservatism with or without moderation.

However, audit firm size moderation leads to positive market-based conservatism in family concentrated firms suggesting that big four firm's audit cause conservative assets valuation. Some scholars such as Mora & Walker, (2015) suggested that some firms' practice high accrual-based conservatism because it directly benefits them in tax avoidance. It may also apply to market-based conservatism as keeping the book value of asset understated may help these firms.

Moderation impact on concentrated foreign ownership is conclusive only in asymmetric timeliness measure of conservatism as the moderation of audit firm size leads to higher AT and thereby, higher conservatism in these firms. It can also be concluded that with or without audit by big four firms', concentrated foreign ownership have a negative impact on accrual-based and market-based conservatism.

Similarly, concentrated state ownership firms' had a positive relationship with all three measures of conservatism after moderation by audit firm size, suggesting the positive influence of audit firm size on conservative reporting in these firms.

Foreign and domestic investors and regulators may find our research and findings interesting. Regulators may understand how ownership concentration is affecting the production of conservative reporting in Pakistani listed firms. This study may help foreign and domestic investors in making more informed investment decisions. Policymakers in Pakistan may wish to device more robust regulatory policies to encourage investment in the country. Future research may wish to explore in-depth the existing relationships between ownership concentration, accounting conservatism with other aspects firms' governance and audit quality characteristics.

As with any other study, there are few limitations of this study. Firstly, our study and findings are limited to listed companies in Pakistan with concentrated ownership. It may not be wise to apply the same conclusions to any other jurisdiction, as each country or region has unique characteristics. Secondly, Cross-ownership may affect the will and ability of a large shareholder to demand conservative financial reports and to engage or disengage in expropriation behaviour.

**Table 9 Moderation of AFS (Asymmetric Timeliness)**

VARIABLES	Model 1				Model 2			
	COW	FAW	FOW	SOW	COW	FAW	FOW	SOW
R	-0.0142 (0.0247)	-0.0108 (0.0274)	-0.0542 (0.0562)	-0.0617*** (0.00232)	0.0179*** (0.000484)	0.0587*** (0.00479)	-0.0521*** (0.00236)	-0.0511*** (0.000230)
D	-13.08 (9.945)	-6.326 (12.23)	-7.789 (16.83)	-10.29*** (0.0936)	-21.06*** (0.238)	10.25** (4.115)	4.830 (3.183)	-111.0*** (0.553)
RD	0.00980** * (0.000681)	-0.0811** (0.0354)	0.0414 (0.0605)	0.0348*** (0.000898)	-0.0360*** (0.00132)	-0.159** (0.0750)	0.0846*** (0.0128)	0.0792*** (0.00133)
AFS	1.494*** (0.0867)	7.351*** (1.053)	-9.628*** (1.045)	-9.380*** (0.274)	6.878*** (0.0987)	2.308 (1.531)	-8.110*** (0.401)	-4.389*** (0.102)
AFS*R	0.00910** * (0.00149)	-0.0139** (0.00637)	0.0625*** (0.00454)	0.0687*** (0.00208)	-0.0366*** (0.000479)	-0.0126*** (0.00447)	0.0517*** (0.00210)	0.00328*** (0.000179)
AFS*D	-0.355*** (0.0571)	-8.144*** (1.059)	10.35*** (1.042)	10.16*** (0.280)	-1.617*** (0.0603)	-2.474 (3.581)	9.106*** (0.683)	3.617*** (0.0930)
AFSR*D	0.0238** (0.0104)	0.0224*** (0.00596)	-0.0364*** (0.00452)	-0.0457*** (0.00213)	0.0981*** (0.00139)	0.159** (0.0761)	0.0135 (0.00945)	0.0116*** (0.00125)
COW	10.67*** (1.478)				26.44*** (0.197)			
COW*R	-0.0792*** (0.0191)				-0.148*** (0.00119)			
COW*D	-10.71*** (1.371)				-18.50*** (0.161)			
COW*RD	0.0688** (0.0295)				0.222*** (0.00247)			
AFS*COW	-10.73*** (1.745)				-27.31*** (0.199)			
AFS*COW*R	0.0806*** (0.0202)				0.149*** (0.00119)			
AFS*COW*D	10.18*** (2.230)				17.06*** (0.172)			
AFS*COW*RD	-0.0702** (0.0288)				-0.220*** (0.00249)			
FAW		16.96*** (2.421)				14.54*** (1.535)		
FAW*R		-0.0855*** (0.00873)				-0.0723*** (0.00217)		
FAW*D		-17.51*** (2.421)				-10.79*** (3.699)		
FAW*RD		0.0740*** (0.00835)				0.183** (0.0786)		
AFS*FAW		-18.20*** (1.379)				-11.50*** (1.577)		
AFS*FAW*R		0.0927*** (0.00793)				0.0750*** (0.00245)		
AFS*FAW*D		21.93*** (1.533)				15.97*** (3.707)		
AFS*FAW*RD		-0.00656*** (0.00167)				-0.0991 (0.0782)		
FOW			-6.600*** (0.0737)				-1.857 (1.750)	
FOW*R			0.00227 (0.00691)				-0.0122*** (0.000492)	
FOW*D			6.691*** (0.0664)				1.595 (6.014)	
FOW*RD			-0.00455 (0.00734)				-0.0171 (0.137)	
AFS*FOW			6.217***				-0.951	



MODERATING INFLUENCE OF AUDIT QUALITY ON THE RELATIONSHIP BETWEEN CONCENTRATED OWNERSHIP AND ACCOUNTING CONSERVATISM: IN PAKISTANI LISTED FIRMS: EMPIRICAL EVIDENCE FROM GMM TECHNIQUE

			(0.369)				(1.685)	
AFS*FOW*R			-0.000684				0.0139***	
			(0.00787)				(0.000574)	
AFS*FOW*D			-6.540***				0.735	
			(0.561)				(6.142)	
AFS*FOW*R D			0.000257				0.0144	
			(0.00349)				(0.137)	
SOW								-2.491***
								(0.282)
SOW*R				0.00668***				0.000504
				(0.000345)				(0.00149)
SOW*D				-2.771***				2.317**
				(0.406)				(1.004)
SOW*RD				-0.427***				0.00949**
				(0.0443)				(0.00447)
AFS*SOW				-1.605***				21.33***
				(0.108)				(0.540)
AFS*SOW*R				0.0110***				0.0658***
				(0.000417)				(0.00500)
AFS*SOW*D				0.722**				-30.75***
				(0.353)				(1.292)
AFS*SOW*R D				0.278***				-0.218***
				(0.0445)				(0.00751)
MBR	0.0183	-0.0282***	-0.0262***	-0.0339***	0.169***	0.124***	0.0926***	0.161***
	(0.0225)	(0.00590)	(0.00823)	(0.00295)	(0.000954)	(0.00415)	(0.00465)	(0.00101)
MBR*R	-2.08e-05	3.53e-05	-2.88e-05	-1.23e-05***	0.000135**	0.000242**	-6.64e-05***	0.000143**
	(3.20e-05)	(3.63e-05)	(0.000146)	(1.81e-06)	(4.28e-07)	(4.25e-06)	(1.89e-06)	(7.17e-07)
MBR*D	-0.00860	0.112***	0.0724**	0.0896***	-0.143***	0.276***	0.243***	-0.137***
	(0.0288)	(0.00449)	(0.0341)	(0.0119)	(0.000922)	(0.00614)	(0.0101)	(0.000936)
MBRR*D	3.90e-05*	0.000330**	0.000133*	9.16e-05***	0.000199**	0.00137***	0.000806**	0.000238**
	(1.99e-05)	(5.12e-05)	(5.51e-05)	(1.24e-05)	(6.16e-07)	(2.58e-05)	(3.16e-05)	(1.53e-06)
FSE	-1.037*	-0.907	-0.0336	-0.0504*	-2.439***	-1.367***	-1.730***	-6.823***
	(0.557)	(0.691)	(1.162)	(0.0287)	(0.0105)	(0.0493)	(0.106)	(0.0312)
FSE*R	0.00143	0.00156	-0.000590	0.000421**	0.00137***	-0.00253***	0.000543**	0.00331***
	(0.00164)	(0.00130)	(0.00390)	(1.43e-05)	(5.61e-06)	(4.07e-05)	(5.81e-05)	(1.57e-05)
FSE*D	0.844	0.790	-0.241	-0.0387***	1.494***	-0.815***	-1.111***	7.031***
	(0.661)	(0.685)	(1.151)	(0.0112)	(0.0145)	(0.111)	(0.203)	(0.0343)
FSE*RD	0.00219**	0.00362*	-0.000353	0.000602**	-0.00474***	-0.00248***	0.00743***	-0.00658***
	(0.000578)	(0.00186)	(0.00419)	(8.72e-05)	(2.73e-05)	(0.000277)	(0.000540)	(6.36e-05)
L.EitPit					-2.780***	-5.976***	-6.010***	-2.721***
					(0.00560)	(0.113)	(0.135)	(0.00756)
Constant	14.75*	7.343	10.55	10.42***	29.52***	15.60***	33.86***	106.2***
	(8.281)	(12.32)	(16.98)	(0.146)	(0.203)	(1.688)	(1.699)	(0.483)
R Square	0.0057	0.0062	0.0051	0.005				
Observations	906	906	906	906	772	772	772	772
Number of ID	109	109	109	109	109	109	109	109

Note: This table exhibits the regression results of model 1 (Random effect pooled regression) and model 2 (GMM System regression).  $Eit/Pit = Net\ Income\ before\ extraordinary\ divided\ by\ market\ capitalization\ at\ the\ end\ of\ the\ year$ ,  $R = stock\ returns$ ,  $D = Dummy\ equals\ to\ 1\ if\ R\ is\ less\ than\ one ;\ 0\ otherwise$ ,  $AFS = Dummy\ equals\ to\ 1\ for\ audit\ by\ big\ 4\ firms ;\ 0\ otherwise$ ,  $COW = Dummy\ equals\ 1\ for\ concentrated\ ownership ;\ 0\ otherwise$ ,  $FAW =$

$Dummy\ equals\ 1\ for\ family\ ownership ;\ 0\ otherwise$ ,  $FOW = Dummy\ equals\ 1\ for\ foreign\ ownership ;\ 0\ otherwise$ ,  $SOW = Dummy\ equals\ 1\ for\ state\ ownership ;\ 0\ otherwise$ ,  $FSE = Natural\ logarithm\ of\ total\ assets\ (Firm\ size)$ ,  $ROA = Profitability$ ,  $LEV = Leverage$ ,  $MBR = Market\ to\ Book\ Ratio$ ,  $SLG = Sales\ Growth$ .

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Appendix A.

Table A. Summary of the Measurements of the Variables		
Variables	Acronyms	Definition
<b>DEPENDENT VARIABLES:</b>		
Accrual-based Conservatism	ACNACC	Income before extraordinary item and discontinued operations plus depreciation expenses minus operating cash flows and divided by total asset averaged over three years centred around year t multiplied by '-1' (Ahmed & Duellman, 2007)
Market-based Conservatism	ACNMKT	Product of book to market ratio multiplied by '-1' (Beaver and Ryan 2007)
Earning Price ratio	<i>Eit/Pit</i>	1) Net Income before extraordinary items divided by beginning market value of equity (Basu, 1997)
<b>INDEPENDENT VARIABLES:</b>		
Concentrated Ownership	COW	Dummy variable equals to 1 if 5% or more of total shares held by one or more shareholder; 0 otherwise (Xu & Lu, 2008)
Family Ownership	FAW	Dummy variable equal 1 if one family hold 20% or more percentage of shares in the firm, at least one family member hold more than 5% of total shares ; 0 otherwise (Bhaumik & Gregoriou, 2010; Bodnaruk et al., 2017).
Foreign Ownership	FOW	Dummy variable equal to 1 if foreign shareholders hold 10% or more equity in the firm and at least one foreign shareholder hold 5% or more equity; 0 otherwise
State Ownership	SOW	Dummy variable equals to 1 if 20% or more of total shares held by government owned agency ; 0 otherwise
<b>MODERATING VARIABLE</b>		
Audit firm Size	AFS	Dummy value equals to 1 if the audit firm among the Big four auditing firms; 0 otherwise.
<b>CONTROL VARIABLES:</b>		
Firm Size	FSE	The natural log of the total asset (Ahmed & Duellman, 2007; Givoly et al., 2007)
Financial Leverage	LEV	Total liability divided by total assets at year-end (Ahmed et al. 2002; Ahmed & Duellman, 2007b)
Profitability	ROA	The firm's net income to the total asset.
Market to Book	MBR	Market value of equity divided by book value of equity
Sales Growth	SLG	Increase/Decrease in Sales divided by previous years' sale (Ahmed et al., 2002)

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