THE PRICING OF DISCRETIONARY ACCRUALS
- EVIDENCE FROM PAKISTAN

Zunera Khalid*

Farah Yasser**

Muhammad Mobeen Ajmal***

Abstract

Even now with the cutting edge businesses and specialized management, a large number of the firms are owned by families in Pakistan. Agency disagreements and issues exist between the management and the owners as well as the minority shareholders and the block holders. To handle these feuds, accountants use discretionary accruals. These accruals help to manage earnings and smooth sharp trends to protect the interest of management and the owners. This study determines whether the investors manage the earnings through discretionary accruals or do they price these accruals when considering the stock price. This study finds significant evidence that the market prices discretionary accruals. We find that the firms with higher number of institutional ownership, high quality audit production and higher number of independent board have significantly higher impact of discretionary accruals on their stock returns as compared to other firms.

Key Words: Pricing, Discretionary Accruals, Earnings Management, Audit quality.

* MS Finance Scholar, School of Business and Economics, University of Management and Technology, Lahore, Pakistan
Email: zunerakhalid4@gmail.com

** Assistant Professor, School of Commerce and Accountancy, University of Management and Technology, Lahore, Pakistan
Email: farah.yasser@umt.edu.pk

*** Lecturer, Department of Finance, School of Business and Economics, University of Management and Technology, Lahore, Pakistan
Email: mobeen.ajmal@umt.edu.pk
1. Introduction

In today’s modern business, most of the firms are owned by the families. Major agency conflict and issues exist not only between the management and the owners but between the minority shareholders and the management (controlling family) as well. Trust holds a key position in today’s financial analysis procedures due to increased agency conflicts. Management is answerable to the shareholders for their each and every decision. There are many other stakeholders in the firm and everyone tries to make such decisions into his/her best interest.

Discretionary accruals or earnings management is one of the examples in which accountants try to make earnings smooth as per the will of authorities. A need has been observed which leads to the concept of emerged appropriate corporate governance. In the continuation, securities and exchange commission of Pakistan gave a code of Corporate Governance. Good governance is a sign of good corporate performance as it prevents the stampede on the rights of minority shareholders and ensures better decision making.

The main purpose of this paper is to study the impact of discretionary accruals on the stock valuation of the company. This paper further investigates whether ownership structure, firm size and corporate governance practices affect the discretionary accruals of the firm or not and do investors view discretionary accruals differently in the existence of good corporate governance practices.

Good governance means that managers or controlling shareholders contribute toward better utilization of corporate resources which lead to better performance. Lenders and investors are more willing to invest in a firm with good governance, which lowers the cost of capital as the firm is expected to invest better in the future. Not only investors and lenders but other stakeholders i.e. suppliers and employers want to work with such firms having good governance. Such relationship will be more beneficial, prosperous and long lasting as compared to the relationship with weak and less effectively governed firms.
Over the last few decades, role of corporate governance has gained prominence. Corporate governance is not only a procedure through which directors are elected and make decisions, in fact, it also provides a clear way for the accountability of the firms. One of the ways through which the accountability reached is via financial reporting. Pricing of discretionary accruals is one of the financial reporting issues.

Various studies discussed the impact of different corporate governance variables on the pricing of discretionary accruals. Gul, F. A, S. Lung, and B. Srinidhi, (2000) examined the impact of debt and investment opportunity set as a proxy for growth on the pricing of discretionary accruals. They concluded that firms with higher growth have higher prices of discretionary accruals as compared to other firms with lower growth. While the impact of debt on the relation of stock returns and discretionary accruals are not significantly strong enough. Krishnan (2003) examined the impact of audit quality of a firm on its pricing of discretionary accruals. Researcher found that firms having high standard audit firms (Big-6) have discretionary accruals priced more highly than those of other firms, which are not audited by Big-6 audit firms.

Impact of ownership structure, firm size and other corporate governance practices on the market pricing of discretionary accruals is the core theme of this paper. In case of developing economies, inadequate literature is available regarding pricing of discretionary accruals and its effects on ownership structure, especially for Pakistan. Eldomiaty (2008) mentioned that because of the insufficient information problems, the capital markets of the developing economies are not efficient enough to compare with developed market. Therefore, the outcomes of the developed countries cannot be generalized with the developing countries like Pakistan where political risk is very high. Fluctuations in rules regarding corporate governance are very frequent, family ownership structure is very common, and the corporate structure is in developing phase. So, in this developing economy, it sounds very interesting to find out the pricing of
discretionary accruals, effects of ownership structure, firm’s size and corporate governance practices in Pakistan.

The main purpose is to identify the empirical evidence related to the impact of different governance variables on pricing of discretionary accruals. For this study, we have selected a random sample of 30 firms listed in Karachi Stock Exchange for the time period 2008-2013.

The first section of this paper contains introduction, whereas, second section contains literature review, data and methodology is presented in third section, and the fourth section contains results and conclusion.

2. Literature Review

Earnings management is the basic concept of earnings quality. The reported earnings are devotedly associated with the change in net economic assets rather than transactions linked with owners (Schipper & Vincent, 2003). This concept is totally different from the earnings quality, which is based on the time series properties of earnings (i.e. persistence, predictability, and variability of earnings). These both concepts believe that discretionary accruals are used by managers to convey their private information to investors.

There are many studies that have evaluated the ability of discretionary accruals measurement models to divide the earnings into two parts, discretionary and non-discretionary components by using their time series properties. We will use the model prescribed by Dechowet. al. (1995) to measure the discretionary accruals.

Meanwhile, well-designed corporate governance structures are an effective way to mitigate expropriation problems and earnings management (La Porta et. al., 2000). There is prominent participation on corporate governance both in practice and in academic research (Blue Ribbon Committee Report 1999; Ramsay Report 2001; Sarbanes-Oxley 2002; Bebchuk & Cohen 2004). Frank (2006) suggested that there are two basic categories for governance variables.
First is the internal and other is external variables. External variables consist on the firm’s institutional ownership pattern and takeover pressure on the firm. While, internal variable set comprises of board structure with the ownership concentration.

Warfield (1995) examined the impact of accounting policies for larger firms. He found market considers that earnings of larger firms are more persistent than the earnings of smaller firms. Company size is important factor when considering the information asymmetry of a firm from the investors. Managers of small firms can hide their private information more successfully as compared to larger firms. Larger firms have more publically available information. So, market can have more information about larger firms as compared to smaller firms that will help them in the pricing of discretionary accruals.

Studies done to examine the pricing of accruals have found the association between market prices and discretionary accruals to be positive (Subramanyam, 1996; Beaver & Engel, 1996; Chung, Ho, & Kim, 2001). These studies found significant evidence about the market measuring discretionary accruals.

However, there are two types of earning management. First is efficient earnings management and the second is opportunistic earnings management. Efficient earnings management is used to improve the information content communicated to private investors. On the other hand, opportunistic earnings management is used to report earnings opportunistically to maximize utility (Scott, 2006). If market is able to differentiate between these types of earnings management then the market will positively value efficient discretionary accruals and will negatively price opportunistic discretionary accruals. Schipper and Vincent (2003) also mentioned that manipulation of earnings against the accounting standards adversely affects the shareholders and is totally different from the concept of true representation of earnings. Hamid et. al. (2014)found that all corporate administration and money related characteristics variables have a noteworthy relationship with earnings management rehearses.
Tang, Chen, and Chang (2013) researched the endogenous relationship between unusual insider exchanging and accrual mishandling, and investigated whether corporate administration influences this relationship or not. Results suggested that insiders exploit private data on abnormal accruals to time their sale of securities. More critical in this regard are those instances in which the misuse of inside data for stock trading turns out to be more genuine, and especially problematic when this controller of information is not a majority shareholder thus misaligned from income group. Therefore, higher family ownership and control, expanded administrative ownership, or a double leadership structure not only affects more private data exchange between company and shareholders but also reduces the probability of information misappropriation.

Hazarika, Karpoff, and Nahata (2012) found that the probability and speed of CEO turnover are significantly identified with an organization's earnings management. They found that the connection between earnings management and forceful CEO turnover existed in both firms with great and terrible strategy as before the accruals were used to flatten the reported earnings and in the latter to fatten the reported earnings. These results showed that boards tend to act proactively to train managers who oversee earnings, before the controls lead to immoderate outer consequences.

Hsu and Wen (2015) investigated the impact of ownership structure and board characteristics on discretionary accruals and real earnings management. The results demonstrated that establishments with high shareholding proportion or extraordinary shareholding focus give managers incentives to control discretionary accruals for short-term profitability. The more significant insider possessions can adequately regulate managers and restrict them to control real earnings and to bring about the impediment of firm value. With respect to board structure, setting up independent directors is incapable in monitoring the earnings management conduct of the managers. With the duality of the board chairman and CEO, the organization would control discretionary accruals to meet its objective
due to entrenchment impact. The bigger the board size, the more capacity for the board to monitor whether the managers conduct earnings management.

Chekili (2012) figured that vicinity of outer directors inside of the board, board size and vicinity of a CEO appear to affect earnings management while the other board characteristics are observed to be unbiased.

Firms with the higher institutional ownership need more management monitoring actions as they have larger economic interest in those firms (Financial Statement Roundtable, 1999). It is further found by many researches on the monitoring role of institutional investors. Bushee, (1998) concluded that such organizations give less incentive for management to reduce R&D expenses and target the short-term goals. This shows that institutional investors play an important role in monitoring the management actions.

Further, earlier studies also find that earnings management in business group firms is higher than other firms with no business group. In this way, firms with the family ownership and no business group have lesser opportunistic and more efficient earnings management. Market must analyze this situation and then do the price of discretionary accruals positively for the firms having family ownership and no business group as compare to other firms (Kim & Yi, 2005).

There are only few researchers in literature that have studied the relationship between institutional structure and discretionary accruals. Research conducted by Shah et al (2009) found a negative relationship between discretionary accruals and institutional ownership along with the corporate governance variables. Further, Fayoumi et al., (2010) examined that there is no universal and authentic evidence related to the impact of institutional structure on the discretionary accruals.
3. Hypothesis

In order to attain the main purpose of this study, these hypotheses have been developed to be tested:

**H1:** There is an impact of discretionary accruals on stock return.

**H2:** There is an impact of discretionary accruals on stock return for the firms with higher family ownership.

**H3:** There is a positive relationship between proportion of independent board and the effect of discretionary accruals on stock return.

4. Research Methodology

4.1 Sample Selection

Current study selected a sample of only 30 companies of sugar industry which have been listed on Karachi Stock Exchange and used data for the period of 2008-2013. The list of all selected companies has been mentioned in Appendix. The final sample of this study includes 150 Firms-year observations (30 companies time 5 years).

This study uses yearly data due to the limitations of corporate governance related data and the possibility of biasness from the different datasets that are different in observed frequencies. Therefore, to match the frequencies and investigate the impact of corporate governance quality, ownership and firm size, we use yearly data for this study of all the variables in performing analysis. This method of data matching is also used in literature (e.g., Klock et al., 2005; Jiraporn et al., 2006; Dittmar and Mahrt-Smith, 2007; Jiraporn and Gleason, 2007; Chava et al., 2009).
4.2 Research Model

This study used the following research model to test hypothesis H1:

**Model 1**

\[
RET_{it} = \alpha + \beta_1 NDAC_{it} + \beta_2 DAC_{it} + \beta_3 BOD + \beta_4 DFAM_{it} + \beta_5 INST_{it} + \beta_6 DSIZE_{it} + \beta_7 AUDIT_{it} + \beta_8 AUDCOM_{it} + \beta_9 BM_{it} + \beta_v
\]

Where:

RET = Market adjusted return for 12 months period.

BOD = Proportion of independent board.

NDAC = Non-discretionary accruals.

DAC = Discretionary accruals.

DFAM = 1 if firm have proportion of family ownership > 50%, not belonging to business groups and 0 otherwise.

INST = Proportion of institutional ownership.

DSIZE = Natural logarithm of market capitalization.

AUDIT = 1 if firm audited by category “A” auditors by SBP and 0 otherwise.

AUDCOM = 1 if firm have audit committee and 0 otherwise.

BM = Book-to-market ratio

To test hypotheses H2-H3, we use following research model:

**MODEL 2**

\[
RET_{it} = \alpha + \beta_1 NDAC_{it} + \beta_2 DAC_{it} + \beta_3 DAC_{it} \times DFAM_{it} + \beta_4 DAC_{it} \times INST_{it} + \beta_5 DAC_{it} \times BOD_{it} + \beta_6 DAC_{it} \times DSIZE_{it} + \beta_7 DAC_{it} \times AUDIT_{it} + \beta_8 DAC_{it} \times AUDCOM_{it} + \beta_9 DFAM_{it} + \beta_10 INST_{it} + \beta_11 DSIZE_{it} + \beta_12 AUDIT_{it} + \beta_13 AUDCOM_{it} + \beta_14 BOD_{it} + \beta_v
\]

The effect of discretionary accruals on stock return is moderated by DFAM, INST, DSIZE, BOD, AUDIT, and AUDCOM. Therefore, in our research model, each of these 6 variables is linked with discretionary accruals (DAC). For our study, we use such variables which have an interaction with DAC. Therefore,
coefficients of variables can easily show the incremental impact of each variable 
on the relation of discretionary accruals and stock return.

For example, if DFAM = 0, then the stock return will be affected by $\beta_2$ 
due to discretionary accruals. If DFAM=1, then the impact of discretionary 
accruals on stock return will be $\beta_2 \wedge \beta_3$. $\beta_3$ is the difference of DFAM=0 and 
DFAM=1, which acts as the coefficient of interacting variable.

### 4.3 Measurement of Variables

Stock Return: Stock return is calculated as the difference between actual 
stock return and market return as market adjusted return. For this study, return is 
calculated on yearly basis.

Discretionary Accruals: Total accruals can be defined as the difference 
between net income and cash flow from operating activities of each firm (ACCR 
= EARN – CFO). CFO is defined as the net cash flow of the firms from their 
operating activities and earnings as the net income of the firm before any 
extraordinary items.

To calculate the total accruals, we use one of the following mentioned 
models based on the highest value of adjusted $R^2$. The model that we have 
tested for highest adjusted $R^2$ are mentioned below:

**Model 3-A** (Jones, J.J. -1991)

$$ACCR_{it} = \alpha + \beta_1 \Delta REV_{it} + \beta_2 PPE_{it} + \epsilon_{it}$$

Where: ACCR = Total accruals,

$\Delta REV = $ Change in revenue from year t-1 to year t $[REV_t - REV_{t-1}]$.

PPE = Gross property, plant, and equipment in year t. All variables are scaled by 
beginning total assets.
Model 3-B (Dechow, P.M., Sloan, R.G. and Sweeney, A.P. -1995)

\[
\Delta \text{REV} = \alpha + \beta_1 \Delta \text{REC}_{it} + \beta_2 \text{PPE}_{it} + \epsilon_{it}
\]

Where: \(\Delta \text{REC} = \text{change in net accounts receivables from year t-1 to year t}\)

\(\Delta \text{REC}_{it} = \text{REC}_{t} - \text{REC}_{t-1}\). All variables are scaled by beginning total assets.

Model 3-C (Kasznik, R. 1999)

\[
\Delta \text{REV} = \alpha + \beta_1 \Delta \text{REC}_{it} + \beta_2 \text{PPE}_{it} + \beta_3 \Delta \text{CFO}_{it} + \epsilon_{it}
\]

Where: \(\Delta \text{CFO} = \text{Change in cash flows from operation from year t-1 to year t}\)

\(\Delta \text{CFO}_{it} = \text{CFO}_{t} - \text{CFO}_{t-1}\). All variables are scaled by beginning total assets.

Values get from the above suitable model will be the values of non-discretionary accruals and discretionary accruals are defined as the residuals like:

\(\text{DA} = \text{ACCR} - \text{NDA}\)

4.4 Family Ownership and Business Group

Family ownership is defined as all individuals and firms whose ownership listed, is not public, financial institutions and public (individuals whose ownership is not listed). Ownership should be listed when ownership is greater than 5% (Arifin, Z., 2003). Sample firms are classified as firms with family ownership (family ownership > 50%) and low family ownership (family ownership < 50%). Then, we make dummy variable where 1 for firms with high family ownership and with no business groups and 0 for otherwise.

4.5 Institutional Ownership
Institutional ownership can be defined as the percentage of shares or ownership held by institutions that include shares owned by social security and other funds. Insurance companies (life and non-life), mutual funds, pension funds and investment companies, and financial institutions i.e. banks are classified under the definition of institutions (Koh, 2003).

### 4.6 Firm Size

This study uses natural logarithm of total assets as a proxy for the firm size. Firm’s decisions about accruals management are influenced by the firm size as well. We supposed that large firms are more visible (Watts and Zimmerman, 1986) and can easily manage the earnings to minimize the effect of political visibility (Moses, 1987; Hsu and Koh 2005).

Nevertheless, literature also have some studies which argue that larger firms have more information that can be scrutinized by the analysts and income of larger firms smoothed by the investors add little value (Ashari et al., 1994). Accordingly they have fewer incentives to smooth the earnings of larger firms (Atik, 2008). Therefore, in literature, we do not have any specific information that can be predicted about the relationship between firm size and discretionary accruals.

### 5. Corporate Governance Practices

#### 5.1 Independent board (bod)

Proportion of independent board is calculated as the number of independent directors divided by the total board size.

#### 5.2 Auditor size (audit)

In our study, we used auditor size variable in order to measure the quality of audit as a dummy variable. We use 1, if firm is audited by category “a” auditors by sbp and 0 otherwise.
5.3 **Existence of audit committee**

In our study, we used a dummy for this variable where 1 if firm is having an audit committee and 0 otherwise.

5.4 **Book-to-market ratio**

Book to Market ratio is used as a control variable in this study to control the incentives that can influence the manager’s discretionary accounting choices. Book to market ratio is calculated as ending book value of equity divided by ending market value of equity.

6. **Results**

6.1 **Evaluation of Earnings Management Model**

We evaluate each earnings management model on the basis of their explanatory power (Adjusted $R^2$). The below mention table 1 shows the results of each model 3-A, 3-B and 3-C. As model 3-C shows the highest value of Adjusted $R^2$. Therefore, we recommend this model for our main analysis.

<table>
<thead>
<tr>
<th>Measurement Model</th>
<th>Adjusted $R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-A</td>
<td>0.219</td>
</tr>
<tr>
<td>3-B</td>
<td>0.221</td>
</tr>
<tr>
<td>3-C</td>
<td>0.223</td>
</tr>
</tbody>
</table>

6.2 **The Pricing of Discretionary Accruals**

The above mentioned table shows the summary statistics of each variable in the study. All these summary statistics values are before transformation. After this, transformed all the variables then perform regression and check the correlation between the variables as well. But, before going further, we check all the assumptions of regression analysis like test the linearity, normality for the dependent and independent variables.
<table>
<thead>
<tr>
<th></th>
<th>AUDIT</th>
<th>AUDCOM</th>
<th>DFAM</th>
<th>INST</th>
<th>RET</th>
<th>BM</th>
<th>DSIZE</th>
<th>DAC</th>
<th>NDAC</th>
<th>BOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUDIT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>-.286**</td>
<td>-0.134</td>
<td>.332**</td>
<td>0.143</td>
<td>0.09</td>
<td>0.133</td>
<td>-0.097</td>
<td>-0.155</td>
<td>-0.157</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td>0.103</td>
<td>0</td>
<td>0.081</td>
<td>0.275</td>
<td>0.105</td>
<td>0.237</td>
<td>0.059</td>
<td>0.055</td>
<td></td>
</tr>
<tr>
<td><strong>AUDCOM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-.286**</td>
<td>1</td>
<td>.267**</td>
<td>0.112</td>
<td>-0.036</td>
<td>0.117</td>
<td>0.152</td>
<td>-.165*</td>
<td>-.038</td>
<td>+0.074</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td>0.001</td>
<td>0.173</td>
<td>0.658</td>
<td>0.155</td>
<td>0.064</td>
<td>0.044</td>
<td>0.641</td>
<td>0.368</td>
<td></td>
</tr>
<tr>
<td><strong>DFAM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.134</td>
<td>.267**</td>
<td>1</td>
<td>.333**</td>
<td>0.118</td>
<td>0.143</td>
<td>-0.034</td>
<td>-0.064</td>
<td>0.144</td>
<td>.346**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.103</td>
<td>0.001</td>
<td>0</td>
<td>0.15</td>
<td>0.082</td>
<td>0.681</td>
<td>0.438</td>
<td>0.078</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>INST</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.332**</td>
<td>0.112</td>
<td>.333**</td>
<td>1</td>
<td>0.124</td>
<td>0.145</td>
<td>0.028</td>
<td>.213**</td>
<td>0.108</td>
<td>-0.104</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td>0.173</td>
<td>0</td>
<td>0.132</td>
<td>0.077</td>
<td>0.738</td>
<td>0.009</td>
<td>0.187</td>
<td>0.205</td>
<td></td>
</tr>
<tr>
<td><strong>RET</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.143</td>
<td>-0.036</td>
<td>0.118</td>
<td>0.124</td>
<td>1</td>
<td>-0.004</td>
<td>0.025</td>
<td>-0.006</td>
<td>0.035</td>
<td>-0.013</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.081</td>
<td>0.658</td>
<td>0.15</td>
<td>0.132</td>
<td>0.96</td>
<td>0.764</td>
<td>0.938</td>
<td>0.674</td>
<td>0.876</td>
<td></td>
</tr>
<tr>
<td><strong>BM</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.09</td>
<td>0.117</td>
<td>0.143</td>
<td>0.145</td>
<td>-0.004</td>
<td>1</td>
<td>-.213**</td>
<td>.254**</td>
<td>.164*</td>
<td>-0.035</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.275</td>
<td>0.155</td>
<td>0.082</td>
<td>0.077</td>
<td>0.96</td>
<td>0.009</td>
<td>0.002</td>
<td>0.045</td>
<td>0.671</td>
<td></td>
</tr>
<tr>
<td><strong>DSIZE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.133</td>
<td>0.152</td>
<td>-0.034</td>
<td>0.028</td>
<td>0.025</td>
<td>-.213**</td>
<td>1</td>
<td>-.771**</td>
<td>-.295**</td>
<td>-0.06</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.105</td>
<td>0.064</td>
<td>0.681</td>
<td>0.738</td>
<td>0.764</td>
<td>0.009</td>
<td>0</td>
<td>0</td>
<td>0.463</td>
<td></td>
</tr>
<tr>
<td><strong>DAC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.097</td>
<td>-.165*</td>
<td>-0.064</td>
<td>.213**</td>
<td>-0.006</td>
<td>.254**</td>
<td>-.771**</td>
<td>1</td>
<td>.479**</td>
<td>0.009</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.237</td>
<td>0.044</td>
<td>0.438</td>
<td>0.009</td>
<td>0.938</td>
<td>0.002</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.914</td>
</tr>
<tr>
<td><strong>NDAC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.155</td>
<td>-0.038</td>
<td>0.144</td>
<td>0.108</td>
<td>0.035</td>
<td>.164*</td>
<td>-0.295**</td>
<td>.479**</td>
<td>1</td>
<td>0.11</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.059</td>
<td>0.641</td>
<td>0.078</td>
<td>0.187</td>
<td>0.674</td>
<td>0.045</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.181</td>
</tr>
<tr>
<td><strong>BOD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>-0.157</td>
<td>+0.074</td>
<td>.346**</td>
<td>-0.104</td>
<td>-0.013</td>
<td>-0.035</td>
<td>-0.06</td>
<td>0.009</td>
<td>0.11</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.055</td>
<td>0.368</td>
<td>0</td>
<td>0.205</td>
<td>0.876</td>
<td>0.671</td>
<td>0.463</td>
<td>0.914</td>
<td>0.181</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 shows correlation matrix of each variable that has been used in this study. Correlation matrix shows positive correlation between AUDIT and DSIZE. It shows that firms larger in size tend to be audited by category “A” auditors. Positive correlation between AUDCOM and BOD clearly shows that firms with high proportion of independent directors in their board tend to have audit committee. Most of the firms among our selected sample are non DFAM firms and are audited by Category A auditors.

\[ RET_{it} = \alpha + \beta_1 NDAC_{it} + \beta_2 DAC_{it} + \beta_3 BOD_{it} + \beta_4 DFAM_{it} + \beta_5 INST_{it} + \beta_6 DSIZE_{it} + \beta_7 AUDIT_{it} + \beta_8 AUDCOM_{it} + \epsilon_{it} \]

*Dependent variable: \( RET = \) market adjusted return.

Independent variables: BOD = proportion of independent board, NDAC = non-discretionary accruals, DAC = discretionary accruals, DFAM = 1 if firms have high family ownership and not belonging to business groups and 0 otherwise, INST = institutional ownership, DSIZE = 1 if firms in the 50% highest market capitalization and 0 otherwise, AUDIT = 1 if firms audited by big 4
auditors and 0 otherwise, AUDCOM = 1 if firms have audit committee and 0 otherwise, BM = book-to-market ratio.

*** Significant at 1% ** significant at 5% * significant at 10%*

Table 3 represents the regression result for model-1. From these results, F-Value for this regression model is 1.994, which is significant (0.058<0.1) and almost 25% variance has been explained by the model, it shows that the model can be significantly used to test the impact of discretionary accruals on stock returns. As this model for adjusted market return is significant, it shows that there is a linear relationship between the variables in the model.

As DW test value is 2.052, which are between two critical values 1.5 to 2.00, it is a proof that there is not any type of first order linear auto-correlation between the data. There is no multi-co-linearity problem as it clearly shows from the values of VIF, condition index values, Tolerance and Eigen values. As all the Eigen values are greater than one, variance inflation factor (VIF) is less than 2 and condition index values are less than 15 and values in case of tolerance are greater than zero as well. All these evidences show that there is no issue of multi-co-linearity between the variables in the used regression model for the adjusted stock returns.

The above mentioned results show that DAC coefficient is positively significant which predicts that market valuation of discretionary accruals is positive. When market is efficient then this result clearly shows that the firm will not go for opportunistic earnings management. Results of this regression model clearly shows that our hypothesis H1 has been accepted, which means that discretionary accruals have significant impact on the stock return.

Table 4 shows the results for hypothesis. Value for hypothesis 2H is negative and highly insignificant which shows that family ownership does not have any impact on the relation between discretionary accruals and stock return. There may be negative impact of family ownership on the pricing of discretionary accruals. Firms with high family ownership tend to take more personal beneficial
decisions than that of other shareholders. As, market take family ownership as a negative impact on the pricing of discretionary accruals. We can take it as another perspective.

Hypothesis H3 is supported by our results which state a positive relationship between proportion of institutional ownership and the effect of discretionary accruals on stock return. As a result institutional investors are able to have any impact on management’s policy and market may not consider family ownership as an effective and significant factor in the pricing of discretionary accruals. We can take it in another way. Most of the investors tend to be interested in long-term focus and may put more pressure on management. In this way, market can consider institutional ownership as an important factor in the pricing of discretionary accruals.

\[
\text{RET}_{it} = \alpha + \beta_1 \text{NDAC}_{it} + \beta_2 \text{DAC}_{it} + \beta_3 \text{DAC}_{it} \times \text{DFAM}_{it} + \beta_4 \text{DAC}_{it} \times \text{INST}_{it} + \beta_5 \text{DAC}_{it} \times \text{BOD}_{it} + \beta_6 \text{DAC}_{it} \times \text{DSIZE}_{it}
\]

### Table 4: Statistical Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-Statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.443</td>
<td>-0.425</td>
<td>0.073</td>
</tr>
<tr>
<td>DAC</td>
<td>-0.047</td>
<td>-0.283</td>
<td>0.778</td>
</tr>
<tr>
<td>NDAC</td>
<td>0.240</td>
<td>1.728</td>
<td>0.090</td>
</tr>
<tr>
<td>DAC*INST</td>
<td>0.465</td>
<td>1.830</td>
<td>0.074</td>
</tr>
<tr>
<td>DAC*AUDIT</td>
<td>-0.281</td>
<td>0.965</td>
<td>0.033</td>
</tr>
<tr>
<td>DAC*AUDCOM</td>
<td>7.370</td>
<td>1.198</td>
<td>0.237</td>
</tr>
<tr>
<td>DAC*SIZE</td>
<td>-5.594</td>
<td>-0.976</td>
<td>0.334</td>
</tr>
<tr>
<td>DAC*DFAM</td>
<td>-0.810</td>
<td>-1.552</td>
<td>0.127</td>
</tr>
<tr>
<td>DAC*BOD</td>
<td>1.227</td>
<td>2.222</td>
<td>0.031</td>
</tr>
<tr>
<td>AUDIT</td>
<td>0.0213</td>
<td>1.001</td>
<td>0.322</td>
</tr>
<tr>
<td>AUDCOM</td>
<td>0.379</td>
<td>0.737</td>
<td>0.465</td>
</tr>
<tr>
<td>BOD</td>
<td>0.018</td>
<td>0.097</td>
<td>0.923</td>
</tr>
<tr>
<td>DFAM</td>
<td>-0.016</td>
<td>-0.067</td>
<td>0.947</td>
</tr>
<tr>
<td>INST</td>
<td>0.278</td>
<td>1.356</td>
<td>0.181</td>
</tr>
<tr>
<td>DSIZE</td>
<td>0.065</td>
<td>0.277</td>
<td>0.783</td>
</tr>
<tr>
<td>BM</td>
<td>0.015</td>
<td>0.100</td>
<td>0.920</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R square</strong></td>
<td>0.351</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F-statistics</strong></td>
<td>1.732</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DW-test</strong></td>
<td>1.939</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>p-value (F-statistics)</strong></td>
<td>0.076</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Dependent variable: RET = market adjusted return.

Independent variables: BOD = Proportion of independent board, NDAC = non-discretionary accruals, DAC = discretionary accruals, DFAM = 1 if firms have high family ownership and 0 otherwise, INST = institutional ownership, DSIZE = 1 if firms in the 50% highest market capitalization and 0 otherwise, AUDIT = 1 if firms audited by Big 4 auditors and 0 otherwise, AUDCOM = 1 if firms have audit committee and 0 otherwise, BM = book-to-market ratio.

*** Significant at 1% ** significant at 5% * significant at 10%

7. Conclusion

This study examined the pricing of discretionary accruals and investigates that whether market attaches any value on discretionary accruals. This study also investigates that whether ownership structure, firm size and corporate governance affect these pricing of discretionary accruals of Pakistani Sugar firms during the period 2008-2013. Results of all empirical models (Regression) concluded a significant relationship in the favor of positive market pricing of discretionary accruals with institutional ownership, audit quality and board independence. Other variables like family ownership structure, firm size and other governance practices found to be insignificant and did not show any impact on the significant relationship discretionary accruals and higher stock returns. It is finally concluded that firms with larger share of independent board, institutional ownership and high quality of audit will have more chances to have a strong impact on the relationship between pricing of discretionary accruals and market returns.

Like other studies, this study also has some limitations. First is related to the ability of measurement model 3-A to accurately divide the accruals into two components, discretionary and non-discretionary accruals. Question mark still exists on the efficiency of this model and misclassification of discretionary and non-discretionary accruals. Second one is about the lack of data of corporate governance index. For this study, we have used only audit quality, audit...
committee, BOD variables to measure the quality of corporate governance of the firm. There is no proper source in Pakistan from where we can easily get corporate governance index data except the code of corporate governance in Pakistan by SECP. This study use firm size, ownership structure and governance practices to test its impact on the pricing of discretionary accruals. There are many other factors that can affect the pricing of discretionary accruals in better way. Inclusion of more independent and control variables are recommended to be added to get more significant findings.
References


