Effect of Big 4 on Earning Response Coefficient: Evidence from Pakistan
Wahid Raza*, Anjum Ihsan†, and Shahid Jan‡

Abstract:
This study investigates the effect of Big 4 (Audit Expertise/Audit Quality) on Earning Response Coefficient. The sample consists of 250 firms enlisted in Pakistan Stock Exchange (Previously known as Karachi Stock Exchange) comprising 2000 firms years observations over the time span of 2008 to 2015. The study examines that after controlling the established determinants of ERC (Beta, Growth, Size and Earning Persistence), Does Big 4 (Audit Expertise/Audit Quality) can affect the Earning Response Coefficient. Secondary data was collected from state Bank of Pakistan and firms own Sites. Eview Software and STATA have been used while analyzing the data. The finding of the results shows that the Big 4 (Audit Expertise/Audit Quality) has positive and significant effect on Earning Response Coefficient. This means that the corporate governance facet (Audit Expertise/Audit Quality) can greatly influence the Earning Response Coefficient (ERC). An important contribution of this study is that the evidence comes from Pakistan which is Emerging Economy, but a lot of existence literature and evidence is available on developed countries.

Keywords: Audit Expertise and ERC relationship, ERC, Audit Quality (Big 4).

Introduction
Firms’ performance and evaluation greatly depend on Audit expertise, specially the term “audit; got significant important after the Enron and Arthur Andersen Scandals, where main causes of failure happened due to lack of audit Quality (Audit Expertise/Big 4 Auditors). Audit expertise plays a significant role in firm performance. The quality of audit expertise is measured through various factors i.e. auditors size, professionals qualifications, no of professionals employed and Big 4 Auditors (Krishnan & Schauer, 2000). Similarly, Balsam, Krishnan and Yang(2003) also argued that firms having professionals auditors, Big 4 Auditors will show better performance and higher Earning Response Coefficient (ERC) than non Big 4 and professional auditors firms.

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Emerging market has great trend of market fluctuations and earning volatility due to earning announcement (Zakaria, 2013). However in emerging markets, there is scarcity of research related to the Earning Response Coefficient (ERC) determinants (Cheng & Nasir, 2010). The ERC drivers and their influence are little known and the relevant literature is not well prominent on this subject. It is the aim of the study to fill this underlying gap specifically with reference to the Pakistan.

Investors need information for decision making. Information published as an announcement will give the signal to investors in making investment decisions. If the announcement contains positive values, then it is expected that the market will react at the time the announcement was welcomed by the market. The needed information can be viewed from the published financial reports of the company.

According to Sandi (2013), earnings response coefficient is very useful in fundamental analysis to calculate the actual stock value by using the financial data of the company, moreover its helps the investors to assess the market reactions on the basis of company profit.

Scott (2003) define earnings response coefficient as a measure of magnitude of a security’s abnormal gains in response to the unexpected profit components. The low earnings response coefficient shows that profit is less informative to investors to make economic decisions. Earnings information is marked with high-quality response of investors to the profit announcement.

The capital market researchers have consistently found the four significant determinants of Earning Response Coefficient (ERC) including beta, growth, earnings persistence and size (Bernard and Rulands, 1987; Easten and Zmejewski, 1989; Colins and Kothari, 1989; Bidle and Seaw, 1991; Choe and Jung, 1991; Dhaliwal and Reynold, 1994; Kiat, 2002; Kims, 2005; Cheng and Nasir, 2010, Zakria et al 2013). According to Bermards & Stobars (1989), the Earnings Response Coefficient (ERC) determinants can be identified and measured through the operating results and can be useful to predict the return of a security.

Earning persistence means that how long the current earning will remain sustains and will give fruitful returns to the investors. If the earning is sustainable and long term then the security is considered favorable and positive for Earning Response Coefficient (Kormandi and Lip, 1987; Colins and Kothari, 1989; Lip, 1990).

Brigham and Houston (2006) argued that firm size is measured through different criteria like total income, total capital or total assets and one can easily evaluate that how much a firm is large or small on the basis of this authentic data.
The important determinant of ERC is growth, which is measured through market to book value of ratio, and researchers can also take it as a proxy for expected growth opportunity (Colins and Kothari, 1989). Similarly beta is considered a systematic risk, and most of the researchers (Collins and Kothari, 1989) have found that the relationship between ERC and Beta is negative and significant. Similarly, Huson, Scot and Wiere (1999) further extended the work of Kothari and argued that ERC decrease as BETA increase, which means there exist reverse relation between these two variables.

**Literature Review**

**Big 4 (Audit Expertise/ Audit Quality)**

Audit quality plays a significant role to maintain the standard and performance of firms operations. The quality of Audit is measured through different factors i.e Big 4 auditors, professionals employed and size of auditors. The audit quality got importance when failure occurred in giant firms (Anron and World Com) due to lack of best audit quality facilities. Auditors are of two types, internal Auditors and External Auditors, one who maintain and keep all the financial transactions without any errors or accounting information within the organization is called internal auditors and external Auditors are those who are appointed from outside and evaluate all the financial transactions of a company is called external Auditors. According to Gallegos (2004) who argued that external auditors is responsible to issue financial reports of a firm regarding financial health and transparency which is beneficial for the well beings of shareholders interest. External auditors have important role to assess and rectify all the accounting errors of the firms.

The higher audit qualities decrease the perceived uncertainty, increase the confidence of investors and also increase the firm returns which will ultimately increase the Earning Response Coefficient. Kreshna(2003) conducted a survey from 1993 to 2003 to investigate the effect of specialist and non specialist industries auditors on firm performance and Earning Response Coefficient(ERC). The data collected from 28 different countries including 20 industries of different sectors. Finally the result showed that those industries having specialist auditors (Big4 Auditors) are higher firm performance and higher Earning Response Coefficient than those firms having no specialist auditors for firms operations. Similarly, kwon et at all (2007) also conducted same nature of study and found that clients of industries specialist auditors have low discretionary current accruals and higher Earning Response Coefficient (ERC) than clients of non specialist auditors.

Haat, Rehman and Mahenthiran (2008) undertook a study on the Malaysian Public Limited Companies (PLCs). Their findings indicated
positive association between audit quality and corporate performance. Alajmi (2009) also conducted a study based on 300 firms and finally documented that the presence of effective audit committees and Audit Expertise (Big 4) can lead to better corporate performance.

**Earning Response Coefficient and its Determinants**

**Earning Response Coefficient**

Profit is considered an important factor which determines the performance of the firms. According to Ball and Brown (1996), most of the researchers start investment decision on the basis of profit information. There exist close relationship between stock prices and earning return, because stock prices fluctuate in market on the basis of earning information. Those stocks whose earning is high, investors will invest blindly due to less chance of bankruptcy and default. So the relationship between profit and response of investors is referred to as earning response Coefficient or the relationship between changes in stock prices and earning announcement is called response Coefficient.

Earning Response Coefficient (ERC) is obtained through regression of stock price proxy and accounting earning. For this regard, Cumulative Abnormal Return (CAR) is used as a proxy for Stock price while Unexpected Earning (EU) is used as a proxy for accounting earning (Soewardjono, 2005).

A study conducted by Scott (2003) said that earnings response coefficient (ERC) is actually the quantity of abnormal stock in response to the unexpected earnings reported by those companies who are responsible to issue the stocks. Regression between proxy's of stock price and profit accounting give birth to Earnings response coefficient. Cumulative abnormal return (CAR) use as a Stock price proxy, while an unexpected earnings (EU) is the proxy of accounting profits. Earnings response coefficient will generate during regression model for each sample to be used for subsequent analysis. Soewardjono (2005) says that when particular companies announce their earning, it directly affects the stock prices and market reaction. The striking intention is somewhat huge difference between return expectations and return realization that is referred to as abnormal return.

**Earning Response Coefficient (ERC) Determinants**

The following are the determinants of Earning Response Coefficient (ERC)

**Growth**

According to Hartono (2003) growth and business are opportunities where investors invest in those areas which are profitable. The ratio analysis give information whether in stock market, stock prices traded above or below the book values of these shares is the market to book.
value. Darmadji (2006) says that the growth opportunities assess through the value of the ratio as a ratio used to assess the growth opportunities where the high the market to book value, greater the growth opportunities of the company.

**Earning Persistence**

Miller and Rock (1985) got empirical support from Kormendi and Lipe (1987) that one of the main point of earning persistence is return reaction to an earnings. Subramanyem and Wild (1996) said that earning persistence is determined when earning persist for long time and give future benefit to the firms. They assume that the revision of persistence is concerned with firms profits, as long as earning persist, firm will get more and more profit and termination of earning persistence will directly affect the earning and Earning Response Coefficient (ERC). So it’s clear that a positive link exist between Earning Persistence and Earning Response Coefficient (ERC).

**Firm Size**

Firm size is used as a proxy to measure total assets of the company. Sudarmadji and Lana (2007) argued that this is done by taking into account the relatively more stable asset value compare to the value of sales and total capital. In this research the firm size is measured by taking natural logarithm (Ln) of total assets.

According to Freeman (1987) and Colins et al. (1987) said that earning of large firms totally depend on return, as return goes up earning will automatically increase. However, some others researchers also worked on firm size and finally they concluded that firms size play a vital role in return. It means those firms whose volume is high having greater ability to earn more and more profit (Colins and Kothari, 1989).

**Beta**

The general concept about risk is that higher risk and higher expected return but here Earning Response Coefficient (ERC) goes down as risk increases. Especially, if it is said that SLM (Sharpe-Lintner-Mossin) and capital assets pricing model (CAPM) is considered to determine expected rate of return, then obviously it will show negative relationship between Earning Response Coefficient (ERC) and beta.

Different researchers like Easton and Zemijewski (1999), Colins and Kothari (1989), also found that there exists negative relation between ERC and Beta. Consequently various other studies have been conducted regarding capital market phenomena using Earning Response Coefficient (ERC) where beta is considered as control variables and found a negative relation (for example, Vafias, 2000; Shanguan, 2007; and Cheng, Crabtree and Smith, 2008).
Research Methodology
Sample Selection and Study Period:
Total non financial companies enlisted in Pakistan Stock Exchange (Previously known as Karachi Stock Exchange) from the time span of 2008 to 2015 is the study population. Data was collected from state Bank of Pakistan, companies own sites and Balance Sheet Analysis.

The study included only those firms whose data is completely available and can meet all the requirement of the study. So only 250 firms were randomly selected from different sectors on the basis of Purposive sampling technique from population.

Model Specification:

\[ UR = ERC \times (UX/P) \]

If ERC is represented through n variables i.e x1,x2……xn

Then

\[ UR = (X1, X2… Xn) \times (UX/P) \]

(3.1)

In a regression of UR, the coefficient of Xi \((UX/P)\) on \( \{Xi \} \) actually shows the effect of Xi on Earning Response Coefficient (ERC). According to the new concept, whenever significant measurement will exists in variable, reverse regression will be used instead of direct regression. However, significant measurement error exist in UR thus for estimation method the researcher have adopted reverse regression in spite of direct regression(Colins and Kothari ,1989) and other researchers have also worked on it and found the same idea e.g., Chao and Jang (1991), Dhalewal and Reynold (1994), Cready, Hurt and Seida (2000), Guny, Jacob and Jorgensan (2009). Through regression, the effect of \( \{Xi \} \) is tested which is based on the following way.

\[ UX/P = [1/(X1 , X2, … , Xn)]/UR \]

So this equation shows the regression equation

\[ UX/P = a0 + a1 UR + a2 UR \times X1 + a3UR \times X2 + … + an+1UR \times Xn + \epsilon \]  

(3.2)

After taking reverse regression, the test of coefficient is now reverse to Earning Response Coefficient (ERC) and thus it becomes (RRC) return response coefficient. It means that in such regression results the test result will be anticipated oppositely. For example, if there exists a significant and negative relationship between coefficient of Xi \((UX/P)\), so this will show that coefficient Xi is positively related to Earning Response Coefficient (ERC).

As we said that coefficient \( \{Xi \} \) show the effect of Xi on Earning Response Coefficient (ERC), so regression is run to find out that
what is the role of beta, size, earning persistence and growth with just those variables as the \( \{X_i\} \). In hypothesis testing these variables then become control variables. Hypothesis 1, is about does Big4 (Audit Expertise/Audit Quality) can impact on Earning Response Coefficient (ERC), so in this regression equation, researcher have used the corporate Governance facet the measure of Big 4(Audit Expertise/Audit Quality) to the set of \( \{X_i\} \). The following regression equation comes into play after adding measure of Big 4(Audit Expertise/Audit Quality) in a set of \( \{X_i\} \).

\[
U_{\text{XIP}} = a_0 + a_1U_{\text{R}} + a_2U_{\text{R}} \times \text{AUDEXPERT} + a_3U_{\text{R}} \times \text{BETA} + a_4U_{\text{R}} \times \text{GROWTH} + a_5U_{\text{R}} \times \text{EPERS} + a_6U_{\text{R}} \times \text{SIZE} + \varepsilon
\]

(3.3)

Thus when the value of \( \hat{a}^2 < 0 \) and also significant will show that Big 4(Audit Expertise/Audit Quality) effect the Earning Response Coefficient (ERC), while controlling all others variables i.e. beta, size, growth and earning persistence.

Measurement of Variables:

**Big 4:**

The study used dummy for Big 4, if the firm is audited by Big4 will be given value 1 and zero otherwise.

**Unexpected Earnings:**

The unexpected earning is measured through change in annual EPS i.e Current year EPS minus previous year EPS. Moreover the unexpected earning is then deflated by previous year stock prices.

**Unexpected Return:**

The unexpected return (UR) estimates the cumulative abnormal return (CAR) from annual data of the firms. The term cumulative abnormal return (CAR) actually represent the aggregate rate of return which is the result of the investor investment, it may gain or loss, but this gain or loss is excess of rate of return which is expected and cumulative over a year. We can obtain the Abnormal return by taking difference of the actual return and expected return, while estimation of expected return is gained through sharp (1963) market model. The researcher obtained monthly return by using data stream of Pakistan Stock Exchange (PSX) and monthly share price of the firms while using this formula: \( \ln(\text{month } t / \text{month } t-1) \) and for each company.

**Control Variables:**

All the determinants of Earning Response Coefficient (ERC) i.e Beat, Growth, Size and earning persistence are control variables.

**Beta:**

Beta is systematic risk. It shows the security return in response to the variation in market return. In this study beta is estimated through
slope coefficient of Market Model. Beta were estimated simultaneously as estimation of abnormal return for CAR.

**Growth:**
Growth is measured through market to book value of ratio. Prior studies have found that growth and ERC have strong relation to one another (Vafeas, 2000; Kim, 2005; Shangguan, 2007). Growth is measured through book value of its equity and market value of the firm.

**Firm Size:**
In this research the firm size is measured by taking natural logarithm (Ln) of total assets.

**Earning Persistence:**
Earning persistence is measured through forecasting Model like ARIMA model (Auto Regressive Integrated Moving Average). Earning persistence shows that how much the current earning will remain sustain in the future.

### Analysis of Results

#### Descriptive Analysis:
Table 1 present the descriptive statistic of Earning Response Coefficient (ERC) and Big4 (Audit Expertise/Audit Quality). The result shows that the mean median result of Beta is 0.5836(0.0029) which indicates that firms included in the sample size are not unusually highly geared. Similarly the result of mean median growth is 1.3595(0.6702) which is highly consistent to Beta. The overall scenario shows that the growth position in sample size is in moderate position, which is positive sign for investors.

**Table 1: Descriptive Statistic of ERC and Big 4 (Audit Expertise/Audit Quality)**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UXP</td>
<td>0.1064</td>
<td>0.0029</td>
<td>24.4554</td>
<td>-29.7455</td>
<td>2.3271</td>
</tr>
<tr>
<td>BETA</td>
<td>0.5836</td>
<td>0.4859</td>
<td>2.8186</td>
<td>-1.2904</td>
<td>0.4941</td>
</tr>
<tr>
<td>SIZE</td>
<td>15.1846</td>
<td>15.0771</td>
<td>19.8412</td>
<td>9.1500</td>
<td>1.6489</td>
</tr>
<tr>
<td>GROWTH</td>
<td>1.3595</td>
<td>0.6702</td>
<td>44.4595</td>
<td>-33.1650</td>
<td>3.2956</td>
</tr>
<tr>
<td>EARP</td>
<td>1.0041</td>
<td>3.4062</td>
<td>165.2350</td>
<td>-155.8973</td>
<td>19.9727</td>
</tr>
<tr>
<td>CAR</td>
<td>0.1008</td>
<td>-0.1309</td>
<td>8.7180</td>
<td>-1.2377</td>
<td>1.0084</td>
</tr>
<tr>
<td>AUDITEX</td>
<td>0.4170</td>
<td>0.0000</td>
<td>1.0000</td>
<td>0.0000</td>
<td>0.4932</td>
</tr>
</tbody>
</table>

Descriptive statistics of Big 4 (Audit expertise) measures through Dichotomous

**Audit Expertise**
Uxp shows change an annual EPS (Current Year EPS Minus Previous Year EPS) deflated by previous year stock prices, Size shows total assets in Million (Rupees), Growth presents the ratio of market to book value of equity, Beta is systematic risk which is derived from PSX (Pakistan Stock Exchange Index), EPERSIS (Earning Persistence) is measured through square root of the factor and Big 4, which have value of 1, if firm is audited by Big 4, otherwise zero.

The Big 4 is represented through Dichotomous variable, and the above table shows that about 44% firms are audited by Big 4 and rests of the firms are not audited by Big 4.

The following correlation matrix shows that how much independent variables are correlated with dependent variable which is UXP (Unexpected Earning). in this table different variables have various correlation but EARPER (Earning Persistence) has the highest correlation which is 27.90 but negatively, similarly, big 4 audit firms has the second highest correlation which is 2.69 and so on.

Table 2: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>UXP</th>
<th>BETA</th>
<th>CAR</th>
<th>EARPER</th>
<th>GROWTH</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>UXP</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BETA</td>
<td>0.021684</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAR</td>
<td>0.02004</td>
<td>0.02705</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EARPER</td>
<td>-0.27904</td>
<td>0.045738</td>
<td>-0.06165</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GROWTH</td>
<td>-0.0200</td>
<td>-0.05739</td>
<td>0.073492</td>
<td>-0.18789</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.02139</td>
<td>0.27785</td>
<td>-0.01405</td>
<td>-0.10028</td>
<td>0.125224</td>
<td>1</td>
</tr>
<tr>
<td>Big4(AUEXPERT)</td>
<td>-0.0267</td>
<td>0.03584</td>
<td>0.01543</td>
<td>0.04563</td>
<td>0.037253</td>
<td>-0.01453</td>
</tr>
</tbody>
</table>

Now to find out the effect of Big4 on ERC Determinants, the following two econometric models are used to show the effect of these two variables.

The two regression equations were then estimated as follows.

UXit/Pit = α0 + a1CARit + a2CAR*BETAit+ a3CAR*GROWTHit+ a4CAR*EPERSit+ a5CAR*SIZEit + Year fixed effect + εit

(1)

UXit/Pit = α0 + a1CARit+ a2CAR*Big4(AUEXPERT)it+ f (control variables) + εit

(2)

Results of the ERC determinants
UXit/Pit = α0 + a1CARit + a2CAR*BETAit+ a3CAR*GROWTHit+ a4CAR*EPERSit+ a5CAR*SIZEit + Year fixed effect + εit

(1)

In the redundant Fixed Effects Test, F statistic for period is significant, which shows that the most suitable test is fixed effect model and considered more apt than common effect model. Similarly, in Hausman test the chi-square value is also significant and hence an indication of appropriateness of fixed effect model more than random effect model. On the basis of the significance of both F statistic and chi-square value the model in our study is fixed effect model for periods.

Table 3: White period standard errors & covariance (d.f. corrected)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.071096</td>
<td>0.027324</td>
<td>2.601979</td>
<td>0.0093</td>
</tr>
<tr>
<td>CAR_?</td>
<td>1.205072</td>
<td>0.630521</td>
<td>1.911231</td>
<td>0.0561</td>
</tr>
<tr>
<td>CAR_?*BETA_?</td>
<td>0.223319</td>
<td>0.079515</td>
<td>2.808509</td>
<td>0.005</td>
</tr>
<tr>
<td>CAR_?*GOWTH_?</td>
<td>-0.004093</td>
<td>0.001939</td>
<td>-2.11022</td>
<td>0.035</td>
</tr>
<tr>
<td>CAR_?*EPER_?</td>
<td>-0.013129</td>
<td>0.004611</td>
<td>-2.84698</td>
<td>0.0045</td>
</tr>
<tr>
<td>CAR_?*SIZE_?</td>
<td>-0.079737</td>
<td>0.170509</td>
<td>-2.1384</td>
<td>0.0326</td>
</tr>
</tbody>
</table>

Fixed Effects (Period)

<table>
<thead>
<tr>
<th>Year</th>
<th>Difference</th>
<th>Actual Constant</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0.055396</td>
<td>0.126492</td>
</tr>
<tr>
<td>2009</td>
<td>-0.235987</td>
<td>-0.164891</td>
</tr>
<tr>
<td>2010</td>
<td>0.741568</td>
<td>0.812664</td>
</tr>
<tr>
<td>2011</td>
<td>-0.0202146</td>
<td>-0.13105</td>
</tr>
<tr>
<td>2012</td>
<td>-0.304557</td>
<td>-0.233461</td>
</tr>
<tr>
<td>2013</td>
<td>0.236139</td>
<td>0.307235</td>
</tr>
<tr>
<td>2014</td>
<td>-0.274537</td>
<td>-0.203441</td>
</tr>
<tr>
<td>2015</td>
<td>-0.015876</td>
<td>0.05522</td>
</tr>
</tbody>
</table>

The above table presents the relationship of CAR with Beta while using Fixed Effect Model. The result shows that there exist significant and positive relationship between interaction of CAR and coefficient of Beta, which mean that Beta is significantly and negatively related to ERC. Previous researchers also concluded the same results from their analysis (e.g., Zakaria, 2014; Dhaliwal et al., 1991; Dhaliwal and Reynolds, 1995; Billings, 1999; Shangguan, 2008). The earlier studies investigated and suggested that as Beta is a systematic risk and have negative link with Earning Response Coefficient (ERC). In above table the test result show that CAR (Cumulative Abnormal Return) has significant and negative association with growth, which means that
according to reverse regression the coefficient of the interaction of CAR with growth, is significantly and positively correlated with Earning Response Coefficient (ERC). The result and nature of this current study is similar to previous studies (Zakaria, 2014; Collins and Kothari, 1989; Martikainen, 1997; Billings, 1999; Park and Pincus, 2000; Kim, 2005; Ghosh et al., 2005; Shangguan, 2007). The result of CAR (Cumulative Abnormal Return) and Earning Persistence shows that CAR (Cumulative Abnormal Return) is negatively and significantly related to Earning Persistence, which means that earning persistence is significantly and positively linked with Earning Response Coefficient (ERC). The previous researchers also conducted the same nature of research and found the same results (Zakaria, 2014; Kormendi and Lipe, 1987, Collins and Kothari, 1989; and Dhaliwal and Reynolds, 1994). Similarly the result of the test shows that CAR (Cumulative Abnormal Return) and size are negatively and positively interlinked to one another, which means that Size of firm has positive and significant relation to Earning Response Coefficient (ERC). The result of these two variables is also consistent with others researchers (Billings, 1999) and Vafeas 2000). However, a study conducted by Martikainen (1997) who found that firm size and ERC has no relations which means that increase or decrease firm size, ERC of the firm will remain same. Walker (1995) also investigated and found that firm size is not significant determinant of Earning Response Coefficient (ERC). According to Shangguan (2007) who found that firm size is highly significant determinant of Earning Response Coefficient (ERC), which means increase of firm size will also increase the Earning Response Coefficient (ERC).

**Big4 (Audit Expertise) and its Effects on Earning Response Coefficient (ERC)**

\[
UXit/Pit = \alpha_0 + a1CARit + a2CAR*AUXPERT (Big4) it + f (control variables) + \varepsilon_it \tag{2}
\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.069863</td>
<td>0.027335</td>
<td>2.555773</td>
<td>0.0107</td>
</tr>
<tr>
<td>CAR_?</td>
<td>1.208496</td>
<td>0.637098</td>
<td>1.896875</td>
<td>0.058</td>
</tr>
<tr>
<td>CAR_?*AUXPER_?</td>
<td>-0.00228</td>
<td>0.0012</td>
<td>-1.89872</td>
<td>0.0577</td>
</tr>
<tr>
<td>CAR_?*BETA_?</td>
<td>0.22271</td>
<td>0.079662</td>
<td>2.795676</td>
<td>0.0052</td>
</tr>
<tr>
<td>CAR_?*GOWTH_?</td>
<td>-0.003061</td>
<td>0.00156</td>
<td>-1.96134</td>
<td>0.05</td>
</tr>
<tr>
<td>CAR_?*EPER_?</td>
<td>-0.013113</td>
<td>0.004621</td>
<td>-2.83778</td>
<td>0.0046</td>
</tr>
<tr>
<td>CAR_?*SIZE_?</td>
<td>-0.080087</td>
<td>0.040629</td>
<td>-1.97114</td>
<td>0.0488</td>
</tr>
</tbody>
</table>
The above table shows the regression result of CAR with Audit expertise (Big 4). From the above result, we can say that the interaction of Cumulative Abnormal Return (CAR) with Audit Expertise (AUDITEXPER) is highly significant and negative which means that the interaction of CAR and AUDITEXPER has positive and significant relationship with Earning Response Coefficient (ERC). The above result reject null hypothesis and strongly support alternative hypothesis H1: Big4 (Audit Expertise/Audit Quality) significant effect on Earning Response Coefficient (ERC). A significant relationship exists between numbers of audit expertise (Big4) and its effect on Earning Response Coefficient (ERC). It means that as the numbers of Audit Expertise (Big 4) increase, the effect on Earning Response Coefficient (ERC) also increases. In other words we can say that higher Audit Quality (Big 4 Audit Expertise) can greatly effect on Earning Response Coefficient (ERC).

Robustness of results

The results obtained through various statistical tools were examined through different tests for the authenticities of the results. These statistical tools are heteroscedasticity, Autocorrelation and multicollinearity. To check the multicollinerity problem, VIF (variance inflation factor) test was run on each variable entered in the regression process and found no multicollinearity issue. Similarly, Durbin-Watson (DW) autocorrelation coefficient is between 2.137848 and 2.336914 and hence at an acceptable level (Koksal and Kettaneh, 2011). So on the basis of following statistical result of Durbin-Watson test for each of the regression; we can say that there is no serious auto correlation problem.
Conclusion:
The statistical results shows that a positive and significant relation exist between Big4 (Audit Expertise) and Earning Response Coefficient (ERC) determinants. The evidence of the results declarers that Big4 (Audit Expertise) plays a significant role to effect Earning response Coefficient (ERC) determinates an Emerging Market.

The previous researchers, Zakaria (2013), Kwon et al (2007) and Teoh & Wong (1993) also conducted same nature of researches and found consistency in their results. but in developed countries. This research study provides fruitful ideas regarding Big4 (Audit Expertise) in capital market especially in the area of Earning Response Coefficient (ERC) and its determinants. The researchers should proceeds such comprehensive studies in emerging economies, moreover researchers should extend the variables, numbers of firms and span of time to get more authentic and comprehensive results.

References:


