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Impact of Capital Structure on the Performance of Textile Sector in Pakistan: Examining the Moderating Effect of Liquidity

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ABSTRACT

Purpose: The basic aim of this study is to investigate how capital structure influences the performance of firms from textile sector listed at Pakistan Stock Exchange, taking liquidity of the firms as a moderator.

Methodology: Data of 30 listed textile firms is taken from their financial statements for a period of ten years from 2007 to 2016. Analysis has been conducted using the Ordinary least square (OLS) regression. Two measures of capital structure (debt ratio and debt-to-equity ratio) have been used to find out its impact on three performance measures (return on assets, return on equity, and earnings per share).

Findings: The variable, total debt ratio does not have any significant effect on all the three firm performance measures (return on asset, return on equity and earnings per share). Debt-to-equity ratio variable also does not have a significant impact on two firm performance measures (ROA and ROE). It however has a significant, negative impact on EPS. In case of liquidity as a moderator, it is found that liquidity acts as the significant moderator between the debt ratio and return on assets whereas liquidity factor is significant in case of relation between debt-to-equity variable and two performance variables return on assets and earnings per share.

Practical implications: Practically this study is important from managerial perspective as the appropriate decision for choosing a level of capital structure vis-à-vis total assets and total equity is essential for the better performance of the firms.

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1. Introduction

1.1 Background of the study

Capital structure refers to the modes of financing through which the firm finances its operations. A firm usually adopts a mix arrangement of debt & equity in its capital structure. According to Akeem et al. (2014), capital structure can be said as an association of debt & equity and its effect on the firm’s performance seems to be very critical issue. From the tax perspective, debt seems to be less expensive when compared with the equity on the grounds that it usually provides tax relief as tax is levied on the income after interest payment. On the other hand, when a company is unable to availing the tax relief then tax is deducted before the dividend payment is made. In order to decide how a company will receive finances is managed by both the managers of the organization and fund providers. If finances are arranged by utilizing the inaccurate sequence of debt & equity then it creates a negative impact on the performance and optimal working capacity of the firm. Therefore, for enhancing the value of firm, there lies a need that managers should decide capital structure carefully. Due to fluctuations in the use of leverage from one firm to another firm it becomes complicated task to take appropriate decision. When a firm involves too much equity financing in its financing mix then there is more possibility of change in the ownership of the firm. Javed et al. (2014) express that when a firm heavily depends on the equity financing, it may damage the growth opportunities & liquidity concerns of the company. It is also essential for company managers to sustain minimum cost of capital as when cost of the capital becomes high; a company fails to take up new investment projects.

The concept of capital structure was primarily studied by the Modigliani & Miller (1958) and they stated in their study that in case of perfect competition in capital market then, under such circumstances the capital-structure decisions did not put influence on the value of the firm. Rather, they indicated that the firm’s value could be determined exclusively by its fundamental earning power.

According to Shahzad et al. (2015), Pakistan is a developing economy where majority of the organizations rely on bank credits to finance their venture’s requirements. It is a fact that the textile industry is thought to be the backbone of the Pakistani economy due to which it requires a large number of capitals for their smooth operations. This sector contributes 8.5% to the GDP of Pakistan. The textile industry is not only the biggest industrial sector of the economy, it also has fundamental linkage with its agriculture sector being bread earner of more than half of its population. This sector is also the major contributor to the exports of the country and thus our external account is very much affected by its performance. The textile sector of Pakistan is selected because it demands for the attention of textile firm’s management & the policy makers to pursue such policies that will facilitate in choosing optimal capital structure for achieving optimal allocation of resources and which will augment the performance of the firms.

This study therefore looks into the impact of capital structure on performance of textile firms of Pakistan which are listed on Pakistan stock exchange for the period of ten years i.e. 2007 to 2016. In this study, total debt to total assets (TDTA) and total debt to total equity (TDTE) are taken as proxies for capital structure as independent variables whereas return on assets (ROA), return on equity (ROE) and earnings per share (EPS) are performance measures, adopted as dependent variables. Moreover, liquidity is used as the moderator in the relation between capital structure and financial performance of the sample firms.

2. Literature Review

2.1 Capital structure and Firm Performance

According to Besley & Brigham, (2007), capital structure is the mixture of debt (long term and short term debt), equity, and the net-worth that a firm can use as mode of permanent financing. Islam & Khandaker, (2015) argued that the firms from mining sector seemed to be more conscious for their profitability whereas firms from non-mining sector had not any significant connection with profitability. They gave a view that every firm has different nature in conducting its business operations, which vary from industry to industry and for this reason the decision of how the capital structure affects the performance of a firm, rely on the industry categorization of the corporations. Kanwal et al., (2017) documented that short and long term debt adversely affects return-on-assets, return-on-equity & price-to-earnings ratio. Dependence of Pakistani firms on availing tax shield lowers down their performance because of high liquidation costs and in order to improve performance companies’ management tends to decrease their reliance on debt finance. Raghib et al., (2016) explored that a bank’s performance and its capital structure are positively and significantly related with each other. Basit & Hassan, (2017) studied capital structure taking debt-to-
equity ratio of firms from different sectors of Pakistan and verified that performance proxies i.e. earnings per share (EPS), return-on-equity (ROE), and return-on-assets (ROA) were associated significantly to the debt-to-equity ratio. Kazempour & Aghaei, (2015) carried out a research to observing the impact of debt level on the firm's Tobin's Q as a measure of performance. They argued that there occurred a significant and direct correlation between the capital structure and firm's overall performance. Tan & Hamid, (2016) investigated the impact of capital structure (short and long-term debt ratio, total debt to total asset ratio & total debt to total equity ratio) on organizational performance (ROE, ROA, GMS, PE, and EPS) and reported that capital structure is significantly important for increasing the organizational performance in Malaysia. Rouf, (2015) found a significant negative effect of capital structure of a manufacturing firm on its performance measured by ROA and ROS proxies. In Pakistan, study of Siddik et al., (2017) exposed that all the elements of capital structure i.e. total debt to total assets (TDTA), long-term debt to total assets (LTDTA), and short term debt to total assets (STDTA) adversely influence the financial performance measured by ROA, ROE & EPS. Besides, it was also perceived that growth opportunities, size and inflation associated positively whether liquidity & GDP negatively associated with the bank’s performance in the evolving economy of Bangladesh. Mahmood et al., (2017) conducted their research on 15 listed textile firms of Pakistan and suggested that the negative connection existed between debt (short-tenure & long-tenure) and firm's performance variables (ROE and ROA). Moreover, debt to equity ratio is positively associated with performance. Khodavandloo et al., (2017) worked out correlation between capital structure and performance of Malaysian firms during periods of financial crises and found that the firm’s performance indicators (ROE, ROA, & GPM, EPS & PE) had been negatively linked with capital structure. Farooq & Jibran, (2017) argued that when small firms take more debts to finance its operations its profitability is affected badly, though for larger size organizations, this negative effect is found to be minimal. Shahid et al., (2016) found a negative linkage between profitability of textile firms & their capital structure in Pakistan. Pandey & Sahu (2017) interpreted that the capital structure influenced significantly and negatively the accounting performance (return on asset & return on net-worth) of Indian manufacturing firms. It means that if these firms resort to higher leverage, their performance may decrease. Likewise, Awais et al., (2016) also showed that short-term & long-term debts caused decline in firms’ financial performance, whereas total debt ratio significantly associated with the firm performance. Ramadan & Ramadan, (2015) observed that the capital structure of Jordanian firms had significant and also negative effect on return on assets (ROA), the only measure of firms’ performance used in this study. Le & Bich, (2017) clarified that all debt ratios have altogether negatively association with the company performance. Jayiddin et al., (2017) investigated capital structure’s influence on the performance of Malaysian public listed companies which operate in the construction sector, within the time frame of 2010 to 2014. They witnessed that short-term debt ratios had significantly & negatively affected firm performance but long-term debt ratios did not.

2.2 Liquidity and Firm performance
Shaba hang (2011) defined liquidity as the ability of assets to convert into the cash. Moreover, the more the frequency of asset conversion into cash in minimum times period, highly the liquid asset. Bibi & Amjad, (2017) measured company's liquidity by utilizing cash-gap in days & current-ratio and after applying the correlation & regression analysis. Their study implied that there existed significantly negative influence of cash-gap on profitability i.e. return on asset whereas current ratio had significantly positive affiliation with the profitability. Research of Rehman et al., (2015) on the firms registered in Saudi Stock exchange explored that liquidity as the current ratio results in a beneficial outcome because it positively affects the firm’s productivity. Sheikhdon & Kavale, (2016) found that liquidity management elements positively influenced the financial performance of the commercial banks in Mogadishu Somalia. Kahyani et al., (2016) studied the affiliation between stock liquidity and the Tehran firm’s performance and depicted that the performance of the company significantly & directly influence its stock liquidity. Hakeem & Bambale, (2016) said that liquidity act as the good mediator amongst dividend payout & financial performance (return on asset, economic value added, return on equity & Tobin’s Q) of the Nigerian manufacturing companies. Banafa, (2016) anticipated that liquidity & firm’s size affects positively on the financial performance of non-financial organizations indexed at Nairobi securities exchange during 2009-2013. Odalo & Achoki, (2016) suggested that liquidity in the terms of liquidity-ratio influence positively & significantly on the financial performance (ROA and ROE) of agro-companies in Kenya. But liquidity ratio affects positively and insignificantly on the financial performance variable earnings per share. Safdar et al., (2016) argued that the liquidity was positively interrelated with the profitability (return on assets, return on capital employed and return on equity) of Pakistani sugar companies. That’s why the managers of sugar firms would increase the firm’s profitability & value of its shareholder if they invest liquid assets efficiently & effectively. Edem, (2017) exerted that there lies significant and positive connection amongst liquidity management variables i.e. (liquidity & cash
reserve ratios) and the performance variable ROE of Nigerian banks. The author said that low or high level of liquidity creates problems for the bank operations and to avoid such problems bank must implement optimal liquidity level in its organization for attaining efficiency & effectiveness. Tuffour & Boateng, (2017) implied that the profitability performance of Ghana’s manufacturing firms was positively affected by the liquidity in the context of current ratio. It means that as more as the manufacturing firm has current assets to meet its current liabilities at the time of the need, the more it can able to earn high profit. Ahmad et al., (2015) detected that textile corporations ought to diminish such assets which can effortlessly releasable for the specific purpose to enhance its performance in terms of profitability. This means that when Textile Company keeps such assets in large quantity, it affects substantially & negatively their financial performance. Vintila & Nenu, (2016) identified the correlation between liquidity & Romanian company’s financial performance before & after the financial disaster i.e. from 2005 to 2014 and elaborated that decrease in the level of liquidity is not considered as the risk factor of Romanian firms. Hence there exists negative correlation between liquidity & company’s financial performance. Marozva, (2015) recognized that there lied negative significant correlation among marginal net interest, risk and liquidity. However, net interest margin seemed to be insignificantly related with the two determinants of liquidity. Yakubu et al., (2017) examined the connection amongst capital structure & the performance of Ghana’s commercial banks in the presence of control variables like liquidity and firm’s size and concluded that liquidity effects insignificantly & negatively on the bank’s performance.

Hence, by studying all the previous literatures regarding capital structure and firm performance, it can be said that many authors found positive effect of capital structure on firm’s performance (Basit & Hassan, 2017; Kazempour & Aghaei, 2015; Tan & Hamid, 2016). While, some studies found negative relationship of capital structure & firm’s performance (Ahmad et al., 2015; Khodavandoo et al., 2017; Rouf, 2015; Siddik et al., 2017). Also, some studies provide evidence of no correlation among capital structure & firm’s performance (Al-Taani, 2013; Chaudhuri et al., 2016; Chhapra & Asim, 2012).

On the other hand, some literature regarding liquidity and firm’s performance showed their positive impact on each other (Edem, 2017; Odalo & Achoki, 2016; Sheikhdon & Kavale, 2016; Tuffour & Boateng, 2017). Whereas, some authors observed negative relation among liquidity & firm’s performance (Ahmad et al., 2015; Njimanted et al., 2017; Vintila & Nenu, 2016).

2.3 Research Gap
After reviewing literature on the relationship between capital structure and firm’s performance, it has been noted that studies like Muigai & Muriithi, (2017) and Salam et al., (2016) used firm size as a moderator to determine the performance of the firm but none of the study used liquidity as the moderator. In order to analyze the strength of relationship between capital structure and performance of textile firms in Pakistan, current study uses liquidity as a moderator. Previously, Mahmood et al., (2017) studied 15 textile firms of Faisalabad for the period of five years i.e. 2011-2015 but this study has analyzed 30 textile firms listed on the Pakistan stock exchange for the period of ten years i.e. 2007-2016.

3. Conceptual Framework
3.1 Conceptual Frame Work

Capital structure

<table>
<thead>
<tr>
<th>Total Debt to Total Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Debt to Equity</td>
</tr>
</tbody>
</table>

Liquidity

Firm performance

| ROA        |
| ROE        |
| EPS        |
Figure: 1: Conceptual Frame Work

Note: Fig 3.1 shows Capital structure variables are taken as independent variables and firm performance variables as dependent variables. Liquidity is moderator variable of the current study.

3.2 Empirical Model
Based on the previous literature we use the following empirical models:

\[ \text{ROA}_i = \alpha_0 + \beta_1 \text{TDTA}_i + \beta_2 \text{TDTE}_i + \varepsilon_i \]
\[ \text{ROA}_i = \alpha_0 + \beta_1 \text{TDTA}_i \times \text{LQDTY}_i + \beta_2 \text{TDTE}_i \times \text{LQDTY}_i + \varepsilon_i \]
\[ \text{ROA}_i = \alpha_0 + \beta_1 \text{TDTA}_i + \beta_2 \text{TDTE}_i + \varepsilon_i \]
\[ \text{ROE}_i = \alpha_0 + \beta_1 \text{TDTA}_i \times \text{LQDTY}_i + \beta_2 \text{TDTE}_i \times \text{LQDTY}_i + \varepsilon_i \]
\[ \text{EPS}_i = \alpha_0 + \beta_1 \text{TDTA}_i + \beta_2 \text{TDTE}_i + \varepsilon_i \]
\[ \text{EPS}_i = \alpha_0 + \beta_1 \text{TDTA}_i \times \text{LQDTY}_i + \beta_2 \text{TDTE}_i \times \text{LQDTY}_i + \varepsilon_i \]

Where:
TDTA = Total Debt to assets
TDTE = Total Debt to equity
LQDTY = Liquidity
ROA = Return on Assets
ROE = Return on Equity
EPS = Earnings per share
\( \beta \) = Regression coefficient of independent variables
\( \alpha_0 \) = Constant
\( \varepsilon_i \) = The error term

3.3 Hypothesis Development
H1a: total debt to total assets ratio has significant impact on return on assets (ROA).
H1b: total debt to total assets ratio has significant impact on return on equity (ROE).
H1c: total debt to total assets ratio has significant impact on earnings per share (EPS).
H1d: total debt to total equity ratio has significant impact on return on assets (ROA).
H1e: total debt to total equity ratio has significant impact on return on equity (ROE).
H1f: total debt to total equity ratio has significant impact on earnings per share (EPS).
H2a: liquidity acts as the moderator in the relationship between total debt to total assets (TDTA) ratio and return on assets (ROA).
**H2b:** liquidity acts as the moderator in the relationship between total debt total assets (TDTA) ratio and return on equity (ROE).

**H2c:** liquidity acts as the moderator in the relationship between total debt to total assets (TDTA) ratio and earnings per share (EPS).

**H2d:** liquidity acts as the moderator in the relationship between total debt to equity (TDTE) ratio and return on assets (ROA).

**H2e:** liquidity acts as the moderator in the relationship between total debt to total equity (TDTE) ratio and return on equity (ROE).

**H2f:** liquidity acts as the moderator in the relationship between total debt to total equity ratio (TDTE) and earnings per share (EPS).

### 4. Research Methodology

#### 4.1 Data Collection Method

The data used in this study is secondary type taken from the audited financial statements of 30 textile firms that are listed in Pakistan stock exchange for a period of ten years (2007-2016). The data for all the variables was organized in the panels because Baltagi et al., (2005) suggested that the panel data is suitable for longitudinal analysis as it facilitates analysis of cross-sectional data and time series data both. Moreover, this data was analyzed by applying Unit root test, Hausman test, regression analysis, multi-collinearity test and descriptive statistics through the software E-views 7.0.

#### 4.2 Measurement of the study Variables

##### 4.2.1 Dependent variable

The dependent variable of the study is the firm’s performance. In order to measure firm’s performance, three proxy variables are used ROA (return on assets), ROE (return on equity) and EPS (earnings per share) which were previously used by (Khodavandloo et al., 2017; Siddik et al., 2017).

\[
\text{Return on asset (ROA)} = \frac{\text{Net profit (before taxes)}}{\text{Total assets}}
\]

\[
\text{Return on equity (ROE)} = \frac{\text{Net profit (before taxes)}}{\text{Equity}}
\]

\[
\text{Earnings per share (EPS)} = \frac{\text{Net income}}{\text{number of outstanding shares}}
\]

##### 4.2.2 Independent Variables

Capital structure variables i.e. TDTA (total debt to total assets) and TDTE (total debt to total equity) are taken as the independent variables which were used previously by (Raghib et al., 2016; Salteh et al., 2012).

\[
\text{Total debt to assets (TDTA)} = \frac{\text{Total debt}}{\text{Total asset}}
\]

\[
\text{Total debt to equity (TDTE)} = \frac{\text{Total debt}}{\text{shareholder’s equity}}
\]

##### 4.2.3 Moderating variable

This study uses Liquidity as a moderator which is measured by using the following formula i.e. Liquidity (LQDTY) = Current asset / Current liabilities. Such measure has been used recently by Siddik et al., 2017.

### 5. Results and Discussions

#### 5.1 Descriptive statistics
Descriptive statistics make use of both numerical & graphical techniques for interpreting the data set patterns. It summarizes the information about a data set and represents this information in an easy and understanding way. This study depicts descriptive statistics of thirty textile companies in table-1 for all variables that are used in this study.

### 5.2 Correlation Matrix

#### Table 2: Correlation Coefficient Matrix

<table>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>ROE</th>
<th>EPS</th>
<th>TDTA</th>
<th>TDTE</th>
<th>LQDTY</th>
<th>TDTA*LQDTY</th>
<th>TDTE*LQTDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td>0.024</td>
<td>-0.030</td>
<td>0.008</td>
<td>-0.041</td>
<td>0.193</td>
<td>-0.116</td>
<td>0.130</td>
</tr>
<tr>
<td>ROE</td>
<td>0.024</td>
<td>1</td>
<td>0.174</td>
<td>0.039</td>
<td>0.145</td>
<td>0.093</td>
<td>-0.089</td>
<td>-0.030</td>
</tr>
<tr>
<td>EPS</td>
<td>-0.030</td>
<td>0.174</td>
<td>1</td>
<td>-0.070</td>
<td>-0.260</td>
<td>0.148</td>
<td>-0.083</td>
<td>0.181</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.008</td>
<td>0.039</td>
<td>-0.070</td>
<td>1</td>
<td>0.058</td>
<td>0.064</td>
<td>-0.565</td>
<td>-0.007</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.041</td>
<td>0.145</td>
<td>-0.260</td>
<td>0.058</td>
<td>1</td>
<td>-0.153</td>
<td>0.097</td>
<td>-0.761</td>
</tr>
<tr>
<td>LQDTY</td>
<td>0.193</td>
<td>0.093</td>
<td>0.148</td>
<td>0.064</td>
<td>-0.153</td>
<td>1</td>
<td>-0.790</td>
<td>0.509</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.116</td>
<td>-0.089</td>
<td>-0.083</td>
<td>-0.565</td>
<td>0.097</td>
<td>-0.790</td>
<td>1</td>
<td>-0.411</td>
</tr>
<tr>
<td>TDTE*LQTDY</td>
<td>0.130</td>
<td>-0.030</td>
<td>0.181</td>
<td>-0.007</td>
<td>-0.761</td>
<td>0.509</td>
<td>-0.412</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: E-views 7

Table 2 shows the matrix of correlation coefficients for all the dependent, independent & moderating variables. As per Wooldridge (2015), multi-collinearity occurs when the coefficient of correlation is higher than 0.7. Therefore, results of the above table indicate that there lies no high level of correlation among all the variables which signifies that multi-collinearity is not serious issue in the estimations of this study.

### 5.3 Test of Non-Stationarity

We perform non-stationarity test before running the ordinary least square regression. According to Muigai & Muriithi (2017) panel unit root test should be applied on all the variables for determining whether the panel data was stationary or not. Augmented Dickey-Fuller (ADF) test has also been conducted in this study in order to assess the existence of non-stationarity on all the variables including ROA, ROE, EPS, TDTA, TDTE and Liquidity. ADF
is the form of unit root test that mostly use for the larger & more complex set of time series models (Zubairi, 2010).

**Table 3: ADF unit root test**

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF (at level)</th>
<th>ADF (1st difference)</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(ROA)</td>
<td>-</td>
<td>123.752</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(TDTA)</td>
<td>-</td>
<td>105.102</td>
<td>0.0003</td>
</tr>
<tr>
<td>D(Liquidity)</td>
<td>-</td>
<td>97.9604</td>
<td>0.0014</td>
</tr>
<tr>
<td>ROE</td>
<td>98.7185</td>
<td>-</td>
<td>0.0012</td>
</tr>
<tr>
<td>EPS</td>
<td>85.1520</td>
<td>-</td>
<td>0.0181</td>
</tr>
<tr>
<td>TDTE</td>
<td>81.9762</td>
<td>-</td>
<td>0.0313</td>
</tr>
</tbody>
</table>

Hence, as per the results of unit root test variables like Earnings per share (EPS), total debt to equity (TDTE) and return on equity (ROE) becomes significant at level which means that no stationarity exists. Whereas, variables i.e. return on assets (ROA), liquidity (LQDTY) and total debt to assets (TDTA) is significant at 1st difference. So, these variables are transformed on 1st difference. After log transformation of these variables conducted in order to handle the normality issues of panel data, this transformed variable are used in further analysis.

5.4 Hausman Test

**Table 4: Results of Hausman Test (ROA as Dependent Variable)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-3.103154</td>
<td>0.294256</td>
<td>-10.54577</td>
<td>0.0000</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.018483</td>
<td>0.080463</td>
<td>0.229712</td>
<td>0.8185</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.082167</td>
<td>0.113424</td>
<td>-0.724426</td>
<td>0.4694</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.025450</td>
<td>0.019823</td>
<td>-1.283824</td>
<td>0.2002</td>
</tr>
<tr>
<td>TDTE*LQDTY</td>
<td>0.073738</td>
<td>0.047695</td>
<td>1.546033</td>
<td>0.1232</td>
</tr>
</tbody>
</table>

In order to decide that which panel effects (between fixed and random) provide better results, we carried out Hausman test for the specified panel regression model. Therefore, results of the Hausman test are as follows.

Table 4 shows that ‘p’ value for all independent variables i.e. TDTA, TDTE and the moderator variables i.e. TDTA*LQDTY and TDTE*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected, which means that random effect model is appropriate. We can say that random effects model is suitable for conducting panel regression between dependent, independent and its moderating variables.

**Table 5: Results of Hausman Test (ROE as Dependent Variable)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-1.951</td>
<td>0.209</td>
<td>-9.318</td>
<td>0.000</td>
</tr>
<tr>
<td>TDTA</td>
<td>0.057</td>
<td>0.057</td>
<td>0.991</td>
<td>0.323</td>
</tr>
<tr>
<td>TDTE</td>
<td>0.266</td>
<td>0.081</td>
<td>3.293</td>
<td>0.001</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.027</td>
<td>0.014</td>
<td>-1.900</td>
<td>0.058</td>
</tr>
<tr>
<td>TDTE*LQDTY</td>
<td>-0.065</td>
<td>0.035</td>
<td>-1.880</td>
<td>0.061</td>
</tr>
</tbody>
</table>
Source: Calculated by using E-views
Table 5 shows that ‘p’ value for independent variable TDTA and the moderator variables i.e. TDTA*LQDTY and TDTE*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected her as well. Hence, random effects model is appropriate for conducting panel regression.

Table 6: Results of Hausman Test (EPS as Dependent Variable)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.897</td>
<td>0.256</td>
<td>7.426</td>
<td>0.000</td>
</tr>
<tr>
<td>TDTA</td>
<td>-0.043</td>
<td>0.069</td>
<td>-0.615</td>
<td>0.539</td>
</tr>
<tr>
<td>TDTE</td>
<td>-0.404</td>
<td>0.099</td>
<td>-4.098</td>
<td>0.0001</td>
</tr>
<tr>
<td>TDTA*LQDTY</td>
<td>-0.002</td>
<td>0.018</td>
<td>-0.080</td>
<td>0.936</td>
</tr>
<tr>
<td>TDTE*LQDTY</td>
<td>0.098</td>
<td>0.043</td>
<td>2.307</td>
<td>0.022</td>
</tr>
</tbody>
</table>

Source: Calculated by using E-views

Table 6 shows that ‘p’ value for independent variable i.e. TDTA and its moderating variable i.e. TDTA*LQDTY came to be insignificant that is greater than 0.05 which means null hypothesis is not rejected and random effects model is appropriate.

5.5 Ordinary Least Square Regression
In order to measure the impact of capital structure on firm performance this study used ordinary panel -least-squares regression method for the analysis of panel data through E-views 7 software.

Table 7: Results of OLS Regression

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Coefficient</th>
<th>t-statistics</th>
<th>Prob.</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: TDTA ratio has significant impact on ROA.</td>
<td>0.011</td>
<td>0.141</td>
<td>0.888</td>
<td>Reject</td>
</tr>
<tr>
<td>H1b: TDTA ratio has significant impact on ROE.</td>
<td>0.058</td>
<td>0.998</td>
<td>0.319</td>
<td>Reject</td>
</tr>
<tr>
<td>H1c: TDTA ratio has significant impact on EPS.</td>
<td>-0.069</td>
<td>-0.962</td>
<td>0.337</td>
<td>Reject</td>
</tr>
<tr>
<td>H1d: TDTE ratio has significant impact on ROA.</td>
<td>-0.079</td>
<td>-0.722</td>
<td>0.471</td>
<td>Reject</td>
</tr>
<tr>
<td>H1e: TDTE ratio has significant impact on ROE.</td>
<td>0.270</td>
<td>3.352</td>
<td>0.001</td>
<td>Accept</td>
</tr>
<tr>
<td>H1f: TDTE has significant impact on EPS.</td>
<td>-0.407</td>
<td>-4.142</td>
<td>0.000</td>
<td>Accept t</td>
</tr>
<tr>
<td>H2a: Liquidity acts as the moderator in the relationship between TDTA and ROA.</td>
<td>-0.036</td>
<td>-2.015</td>
<td>0.045</td>
<td>Accept</td>
</tr>
<tr>
<td>H2b: Liquidity acts as the moderator in the relationship between TDTA and ROE.</td>
<td>-0.018</td>
<td>-1.340</td>
<td>0.181</td>
<td>Reject</td>
</tr>
<tr>
<td>H2c: Liquidity acts as the moderator in the relationship between TDTA ratio and EPS.</td>
<td>-0.019</td>
<td>-1.195</td>
<td>0.233</td>
<td>Reject</td>
</tr>
</tbody>
</table>
6. Conclusion And Recommendations

This study empirically examined the impact of capital structure’s choice on the performance of textile firms that are operating in the Pakistan moderated by liquidity. By conducting the Ordinary least square (OLS) regression, it is concluded that capital structure variables (TDTA and TDTE) have insignificant effect on return on assets (ROA), which is consistent with the Akeem et al., (2014); Nassar, (2016) and FRED, (2015). Capital structure variable TDTA has insignificant effect on ROE & EPS, which is compatible with the studies of Tan & Hamid (2016) as well as of Hassan et al., (2014). Capital structure variable TDTE has significant effect on return on equity (ROE) which is compatible with the results of Tan & Hamid (2016) and Basit & Hassan (2017). Whereas, capital structure variable TDTE has significant negative effect on earnings per share (EPS) which is in accordance with the study of Tan & Hamid, (2016).

A few previous literature on liquidity showed that as an independent variable, it had a significant and positive effect on the firm performance’s measures ROA, ROE & EPS (Banafa, 2016; Edem, 2017; Kahyani et al., 2016; Odalo & Achoki, 2016). Some studies depicted negative relationship of liquidity and firm’s performance (Ahmad et al., 2015; Njimanted et al., 2017; Vintila & Nenu, 2016). Hakeem & Bambale, (2016) used liquidity as the mediator and depicted that it acted as a mediator amongst dividend payout & financial performance of registered manufacturing companies of Nigeria. In this study, the liquidity is taken as the moderator and it is found that liquidity does not act as a moderator between capital structure variable total debt to total assets (TDTA) ratio and firm’s performance variables, return on equity (ROE) & earnings per share (EPS), while liquidity acts as a moderator between the capital structure variable total debt to assets (TDTA) ratio & firm performance variables return on assets (ROA). Moreover, liquidity acts as a moderator between the capital structure variable total debt to equity (TDTE) ratio and firm’s performance variables return on assets (ROA) & earnings per share (EPS), whereas liquidity does not act as the moderator between capital structure variable total debt to equity (TDTE) and return on equity (ROE).

This study used only textile sector of Pakistan whereas future researchers may use other sectors of economy and a larger data set with different time period in order to get further insights.

References


Shareholder Engagement and Firm Value Creating Outcomes in Kenya

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ABSTRACT

The objective of the study was to determine the firm value creating outcomes arising from institutional shareholder engagement in Kenya. The study used data from a sample of 117 institutional investors in the Nairobi Securities Exchange, Kenya, selected using stratified simple random sampling technique. The study established that the shareholder engagement outcome that significantly explains firm value creation is improvement of a firm’s system of governance, which includes boards of directors that have independent, equitable and minority representation. The study contributes to literature on shareholder engagement from a Kenyan perspective and adds an impetus to investors, management and policymakers to address issues that are impeding shareholder engagement given its effect on governance and value of the firm. The study recommends that firms invest in improvement in governance structures, and policymakers are advised to maintain an updated register of all the institutional investors, including their current contacts, and a Kenya-specific central depository of data on engagement actions and outcomes across listed companies.

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1. Introduction

Investors are interested in maximizing their wealth, through maximizing the value of the firms they invest in. Value is created when the synergy from managerial effort and utilisation of assets generates returns that are higher than the required rate of return for the investment class, over a long planning horizon (Arnold, 2013). Shareholders can take certain actions to achieve outcomes that would positively influence managerial effort and management decision making towards value adding initiatives. Misalignments have been noted on dividends, where management may prefer payments in the short term while shareholders may prefer reinvesting of the same to create long-term value (Derrien, Ambrus, & Thesmar, 2013). Similar disparities exist on views on long-term sustainability, strategy alignment, and concurrence on project selection.
Debate is divided on whether involvement of shareholders and their engagement with the management of their companies is beneficial to the firm (Gillan & Starks, 2007; Goranova & Ryan, 2014; Ho, 2010; Ingley et al., 2011). Proponents argue that engagement leads to a better understanding and cooperation, which adds to the firm’s value; it aligns the expectations of both the board and shareholders, thereby averting unnecessary unexpected consequences such as negative votes on proposals; aligns the interests of investors with bondholders by addressing management entrenchment problems; and helps management to provide detailed information on its long-term strategy to shareholders, who may be concerned with cyclic short-term performance challenges (Ho, 2010; Kim & Schloetzer, 2013; Sunder, Sunder, & Wongsunwai, 2014).

On the other hand, Kim and Schloetzer (2013) report that engagement is a complex and risky process, that is costly and time-consuming for management; is likely to send uncoordinated and inconsistent messages and signals from several distinct engagements; is unlikely to accommodate the variety of shareholder interests and expectations causing disappointments; and may face legal challenges of unfair provision of market-sensitive information to selected engagers at the expense of other market players. Goranova and Ryan (2014) also argue that shareholder engagement may just compound managerial self-interest with shareholder self-interest. As observed by Bratton and Wachter (2010), the U.S. mortgage crisis may have been fanned by shareholders who encouraged management towards managing-to-market strategies, rewarding them with generous compensation for their high-risk, high-return strategies that gave shareholders short-term wealth. Bebchuk et al. (2015) however suggest, based on their recent work, that claims of negative effects of hedge funds activism on long-term firm value are not only not supported by empirical data, but that activism actually contributes to improved performance.

Other engagement supporters have observed that shareholders are the providers of capital, the ultimate risk takers, and as the residual claimants. Therefore, they need to be involved to reduce the residual loss (Fama & Jensen, 1983). Opponents, however, counter that investors are not the owners of companies, but mere renters, with rights to claim value based on their limited liability (McNulty & Nordberg, 2016), but not to take decisions, which are best left to professional managers (Bratton & Wachter, 2010; Donald, 2005). While this may be true of short-term investors interested in trading in shares, there are those with a long-term view of the company, seeking growth and stability, who require recognition and engagement (Clark & Hebb, 2004; Donald, 2005).

Indeed, contrary to Berle and Means (1932), with a separation of ownership and control arising from shareholder power dispersal, pension funds with their wide beneficiary base are observed to play a role in aggregating dispersed owners and being active in the management of the companies they invest in. This is meant to drive firm fundamentals and secure their long-term value (Clark & Hebb, 2004). In the U.K., Becht et al. (2009) report a positive relationship between shareholder engagement and stock returns of investee companies, but also note that doubts have been expressed on the marginal value of the much-discussed engagement by the pension fund CalPERS and others within the U.S. by several scholars.

A further challenge arises with respect to measuring value created from shareholder engagement. While value of firms has been measured variously using different accounting metrics such as Tobin’s Q, Return on Assets (ROA), Return on Equity (ROE) and other such measures, scholars have however highlighted the difficulty of measuring effects of shareholder engagement on the performance of a firm, especially when part of it takes the form of behind-the-scenes negotiations, using efforts that are not publicly documented (Becht, Franks, Mayer, & Rossi, 2009; Black & Coffee Jr., 1994; Crespi & Renneboog, 2010; Goranova & Ryan, 2014; McCahery, Sautner, & Starks, 2016). It is observed, for example, that it was only in exceptional circumstances that Becht et al. (2009) studied the effects of engagement by an active fund manager with its investee companies, using its unique dataset and reported higher than market returns arising from what they described as otherwise unobservable private engagements.

This study recognises the challenge of attempting to measure value arising from such engagement, especially when studying several heterogeneous investors, with varied portfolios, and no publicly available data. Accordingly, the study attempted to find or create a measure of this influence of shareholder engagement over managerial effort, from the engagers’ experience and informed perspectives.

2. Literature Review
The study was carried out against the backdrop of the Shareholder theory of the firm which defines the motivations of shareholders as being to maximize economic value (Pfarrer, 2010), and on agency theory which highlights the asymmetric relationship between shareholders and their agents ((Fama & Jensen, 1983; Jensen & Meckling, 1976).

Scholars have identified several outcomes arising engagement actions. McCahery et al. (2016) identified the main outcomes which include improved governance, appointment of effective boards, alignment of shareholders’ and management objectives on dividends and long-term sustainability, strategy alignment, and concurrence on project selection. Other outcomes include change of ineffective management, improved corporate reputation, and adequacy of management compensation. These are expected to contribute to improved values of their portfolios, and reduction in waste (Bach & Metzger, 2015; Bebchuk, Brav, & Jiang, 2015; Brav, Jiang, & Kim, 2015; Ingle, Mueller, & Cocks, 2011; Isaksson & Çelik, 2013; McCahery et al., 2016).

One of the outcomes that has been highlighted is the appointment of boards of directors. Gillan and Starks (2007) observe that while shareholders may appoint boards of directors with a fiduciary responsibility to hire, fire, and monitor the managers, their failure triggers shareholder activism and engagement. The board represents the interface between investors and management, and is highlighted as the most important institution in corporate governance (Capital Markets Authority, 2015). Effectiveness of the boards is dependent on having optimal board sizes, independence and non-affiliation to management (Giráldez & Hurtado, 2014; Judge, Gaur, & Muller-Kahle, 2010; Pascual-Fuster & Crespi-Cladera, 2015; Schooley, Renner, & Allen, 2010).

Giráldez and Hurtado (2014) observed that boards were appointed by shareholders to provide long-term strategic direction on companies, to oversee and monitor the executive management thereby reducing opportunism, and to act as the liaison between the owners and managers, thus enhancing communication. They have the unique responsibility of setting the tone at the top (Hunton, Hoitash, & Thibodeau, 2011). If the ethical issues of monitoring and communication are done properly, as Giráldez and Hurtado (2014) observe, the result is to increase or protect the value of the firm.

Judge et al. (2010) observed that board size and independence contribute to board effectiveness in monitoring, while La Porta et al. (2000) posit that equitable investor representation is related to the value of stocks. Jensen (1993) observed that board sizes beyond seven to eight people provide an opportunity for control by management, while Ocasio (1994) argues that larger boards generate political coalitions that are able to challenge and control management (as cited in Zona, Zattoni, & Minichilli, 2013). Furthermore, Giráldez and Hurtado (2014) advocate for an optimal board size, noting that larger board sizes while bringing in variety of experience and expertise could also stifle decision making; they suggest board size can be measured using the number of directors.

Boards represent the interests of investors, while ensuring the overall goals of the firm are not compromised by the several individual and often divergent investor interests (Celik & Isaksson, 2013). La Porta et al. (2000) reports that where investor protection includes minority representation on the boards, stock values have been noted to appreciate, but the minorities could also extract private benefits and distort long-term investment strategies to the detriment of firms (Belloc, 2013). Boards must also balance between representing their appointing investors’ interests, and ensuring the overall goals of the firm are not compromised by the several individual and often divergent investor interests (Celik & Isaksson, 2013).

Literature supports the hypothesis that independence of directors is positively related to value (Giráldez & Hurtado, 2014; Judge et al., 2010; Laux & Mittendorf, 2011). In this regard, Giráldez and Hurtado (2014) report that the association between board size and firm value is improved by the moderating effect of the presence of board independence. Giráldez argued that while self-interest and a desire to demonstrate achieving shareholder expectations, and incentives for earning managerial rewards, could lead to unethical behaviour by management, this is best controlled through a combination of a limited number of independent directors in the boards and strengthening of the ethical dimensions of management.

Similarly, Judge et al. (2010) studied the antecedents of shareholder activism in target firms spread over different legal systems, and among other findings reported that prior studies had observed that independent boards that had a majority of outside directors were more effective in controlling management. This is supported by Schooley et al. (2010) on the importance of board composition, including independent directors and leadership. Hunton et al.
(2011) however argues that where chief executives have more power than board members, it can present an agency problem. Evidence also suggests that when independent board members are not appropriately qualified for the task, they have not always helped the situation (Wong, 2011).

3. Research Methodology
This adopted a descriptive correlational research design. The population of the study consisted of 166 institutional investors in listed firms at the Nairobi Securities Exchange as of September 2016, and a sample size of 117 using stratified random sampling. The study used, to the extent applicable, a modification of a recently-used questionnaire in a study involving shareholder engagement by institutional investors (McCahery et al., 2016), with the kind permission of one of the authors. The questionnaire was modified to include variables and issues not included in the McCahery et al. (2016) study. The data was then analyzed using descriptive statistics of frequency and percentage distribution, mean, mode and median and inferential data analysis methods, which included factor analysis.

4. Analysis and Findings
The firm value creating outcomes in the study were measured using four variables. The variables sought to measure the observed outcomes as a result of previous shareholder engagement, the importance of the engagement outcomes to value of the firm, board of directors as a value creating outcome, and the preferred board size. Table 1 below summarizes the outcomes that were observed as having resulted from previous shareholder engagement.

Table 1: Observed Shareholder Engagement Outcomes

<table>
<thead>
<tr>
<th>Engagement Outcomes</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointment of effective board of directors</td>
<td>58</td>
<td>74%</td>
</tr>
<tr>
<td>Change of ineffective management</td>
<td>53</td>
<td>68%</td>
</tr>
<tr>
<td>Change of company strategy</td>
<td>60</td>
<td>77%</td>
</tr>
<tr>
<td>Alignment of the shareholders’ and management objectives on dividends</td>
<td>60</td>
<td>77%</td>
</tr>
<tr>
<td>Alignment of the shareholders’ and management objectives on long-term sustainability</td>
<td>66</td>
<td>85%</td>
</tr>
<tr>
<td>Appropriate projects selection to create value</td>
<td>51</td>
<td>65%</td>
</tr>
<tr>
<td>Reduction in wasteful expenditure</td>
<td>61</td>
<td>78%</td>
</tr>
<tr>
<td>Improved governance</td>
<td>68</td>
<td>87%</td>
</tr>
<tr>
<td>Improved portfolio or firm value due to the engagement</td>
<td>50</td>
<td>64%</td>
</tr>
<tr>
<td>Improved corporate reputation</td>
<td>50</td>
<td>64%</td>
</tr>
<tr>
<td>Adequacy of management compensation</td>
<td>43</td>
<td>55%</td>
</tr>
</tbody>
</table>

The investors were asked to rank the outcomes in order of importance to the value of the firm, based on their experience and expertise. A summary of the importance of the engagement outcomes on the value of the firm was presented in Table 2. The question was measured on a scale of one to five, with one being not at all important and five being very important. The results indicated that all the outcomes had a modal score of 4 or 5, indicating that most respondents agree that they are important shareholder engagement outcomes to value of the firm. The mean scores indicated a wide statistical range among the responses received for these factors, necessitating further analysis.

Table 2: Importance of Shareholder Engagement Outcomes to Value of the Firm

<table>
<thead>
<tr>
<th>Shareholder engagement outcomes</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appointment of effective board of directors</td>
<td>4.19</td>
<td>4.00</td>
<td>4</td>
</tr>
<tr>
<td>Change of ineffective management</td>
<td>4.13</td>
<td>4.00</td>
<td>4</td>
</tr>
<tr>
<td>Change of company strategy</td>
<td>3.71</td>
<td>4.00</td>
<td>5</td>
</tr>
</tbody>
</table>
The third variable sought to measure the attitudes of the respondents towards various aspects of the board of directors as a value creating outcome on a scale of one to five, with one being strongly disagree and five being strongly agree. The results in Table 3 indicate the mean score for equitable representation of all shareholders on the board and minority shareholders who should be represented in the board was 4, which means that most of the respondents agreed with the statements with relation to the board of directors as a value creating outcome. On the others, most of the respondents neither agreed nor disagreed with the statements.

### Table 3: Board of Directors as a Value Creating Outcome

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>The size of the board of directors affects its effectiveness</td>
<td>3.16</td>
<td>3.00</td>
<td>3</td>
</tr>
<tr>
<td>Having independent (outsider) directors in the board improves decision making</td>
<td>3.51</td>
<td>4.00</td>
<td>3</td>
</tr>
<tr>
<td>Independent directors protect shareholders interests and control over management</td>
<td>3.34</td>
<td>3.00</td>
<td>3</td>
</tr>
<tr>
<td>There should be equitable representation of all shareholders on the board</td>
<td>3.58</td>
<td>4.00</td>
<td>4</td>
</tr>
<tr>
<td>Minority shareholders should be represented in the Board</td>
<td>3.56</td>
<td>4.00</td>
<td>4</td>
</tr>
</tbody>
</table>

The fourth objective sought to determine the appropriate board size as preferred by the shareholders. The summary presented in Table 4 shows that most of the respondents indicated their preferred board size would be 6 to 8 at 37.3%, while 28% of the respondents indicated a preferred board size of 8 to 10. However, 8% of the respondents noted that their preferred board size would at most be 6, while 6.7% indicated an appropriate board size of 10 to 12. Up to 20% of the respondents indicated that the board size did not matter.

### Table 4: Preferred Board Size

<table>
<thead>
<tr>
<th>Preferred Board Size</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>At most 6</td>
<td>6</td>
<td>8.0%</td>
</tr>
<tr>
<td>6 to 8</td>
<td>28</td>
<td>37.3%</td>
</tr>
<tr>
<td>8 to 10</td>
<td>21</td>
<td>28.0%</td>
</tr>
<tr>
<td>10 to 12</td>
<td>5</td>
<td>6.7%</td>
</tr>
<tr>
<td>Board size does not matter</td>
<td>15</td>
<td>20.0%</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 5 below shows the suitability of the data for carrying out factor analysis on the importance of shareholder engagement outcomes in creating firm value using the KMO test and Bartlett’s test of sphericity that tests for sampling adequacy. The KMO statistic is between 0 and 1 and the closer it is to 1, the better the data is for factor analysis. The KMO statistic of 0.88 is supported by the significant Barlett’s test statistic at 95% confidence, hence the conclusion that the data can support factor analysis.
Table 5: KMO and Bartlett’s Test of Sphericity on Value Variables

<table>
<thead>
<tr>
<th>Measure of Sampling Adequacy</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin</td>
<td>0.88</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>601.249</td>
</tr>
<tr>
<td>Df</td>
<td>45</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The dimension reduction showed that improved governance had the highest factor loading as an engagement outcome that creates value for the firm as illustrated by the component matrix Table 6. The factor loading for the appointment of an effective board of directors as a value enhancing outcome of shareholder engagement was however 0.792 and was ranked seventh in comparison to 10 shareholder engagement outcomes.

Table 6: Factor Analysis on Value Creating Outcomes

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved governance</td>
<td>.912</td>
</tr>
<tr>
<td>Appropriate projects selection to create value</td>
<td>.896</td>
</tr>
<tr>
<td>Change of company strategy</td>
<td>.896</td>
</tr>
<tr>
<td>Reduction in wasteful expenditure</td>
<td>.847</td>
</tr>
<tr>
<td>Alignment of shareholders’ and management objectives on long-term</td>
<td>.821</td>
</tr>
<tr>
<td>sustainability</td>
<td></td>
</tr>
<tr>
<td>Change of ineffective management</td>
<td>.801</td>
</tr>
<tr>
<td>Appointment of effective board of directors</td>
<td>.792</td>
</tr>
<tr>
<td>Adequacy of management compensation</td>
<td>.744</td>
</tr>
<tr>
<td>Improved corporate reputation</td>
<td>.705</td>
</tr>
<tr>
<td>Alignment of shareholders’ and management objectives on dividends</td>
<td>.426</td>
</tr>
</tbody>
</table>

Factor analysis was carried out on the board of directors as a value creating outcome of shareholder engagement to identify which factor of a board of directors was ranked highly in relation to the others. Table 7 below displays the KMO and Bartlett’s statistic indicating the suitability of the data in carrying out factor analysis. The results indicated a KMO statistic of 0.771 supported by a significant Bartlett’s test statistic at 95% confidence level.

Table 7: KMO and Bartlett’s Test of Sphericity on Directors

<table>
<thead>
<tr>
<th>Measure of Sampling Adequacy</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin</td>
<td>0.771</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>156.409</td>
</tr>
<tr>
<td>Df</td>
<td>10</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

An inspection of the component matrix in Table 8 showed that having independent (outsider) directors in the board improves decision making, ranked first with a factor loading of 0.912, while the second and third factor, independent directors protect shareholders’ interests and minority shareholders should be represented in the board, are tied with a factor loading of 0.896. Equitable representation of all shareholders on the board has a factor loading of 0.847, while the question whether the size of the board of directors affects its effectiveness trails at 0.517, indicating it was not a major contributing factor.

Table 8: Factor Analysis on Directors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having independent directors in the board improves decision making</td>
<td>.912</td>
</tr>
</tbody>
</table>
Independent directors protect shareholders interests and control over management | 896
Minority shareholders should be represented in the board | 896
There should be equitable representation of all shareholders on the board | 847
The size of the board of directors affects its effectiveness | 517

5. Discussion of Results

The study was cognisant of the difficulty of determining an appropriate measure of value of the firm that would be attributable to shareholder engagement actions, especially when studying several heterogeneous investors, with varied portfolios, and no publicly-available data. Following McCahery et al. (2016), this study therefore measured value created from the responses by investors, as to what extent they believed their actions had resulted in value creating outcomes.

The study confirmed that the respondents had engaged and observed one or more outcomes. It identifies improved corporate governance as the most important engagement outcome that leads to enhancing the value of the firm. The findings of the study concurs with the findings of McCahery et al. (2016) who found that corporate governance affects the financial performance of a firm, and that change of company strategy is among the main factors that enhance the value of a firm. It agrees with Arnold (2013) who noted that investors are interested in maximizing their wealth, through maximizing the value of the firms they invest in. The finding on alignment of shareholders’ and management objectives on long-term sustainability is also in tandem with the observation by Arnold (2013) that value is created when the synergy from managerial effort and utilisation of assets generates returns that are higher than the required rate of return for the investment class, over a long planning horizon. The study also found that respondents had observed that reduction in wasteful expenditure enhances the value of the firm, and also considered it important. The study thus agrees with the findings of Goranova and Ryan (2014), who asserted that shareholders take voice and exit actions to influence managerial effort and management decision making towards value adding initiatives.

On the matter of boards of directors, the study showed appointment of an effective board of directors was not considered a very important factor in creating value for the firm, having been ranked seventh, after improved governance. This contradicts earlier observations on the importance of the board. Giráldez and Hurtado (2014) had observed that the board represents the interface between investors and management and its members are appointed by shareholders to provide long-term strategic direction for companies, to oversee and monitor the executive management and thereby reducing opportunism, and to act as the liaison between the owners and managers and thus enhance communication. If the ethical issues of monitoring and communication are done properly, as Giráldez and Hurtado (2014) observe, the result is to increase or protect the value of the firm. Boards are also highlighted as the most important institution in corporate governance (Capital Markets Authority, 2015). The respondents chose improved governance as the most important outcome, and this may have clouded their choice on effective boards, especially given their responses on what they considered as effective boards. It appears therefore that appointment of effective boards on its own was not ranked high, but considered as an integral part of improvement in governance.

The study found having independent (outsider) directors in the board improves decision making. Other rankings included, in descending order: Independent directors protect shareholder interests, minority shareholders should be represented in the board, there is a need for equitable representation of all shareholders on the board, and lastly, the size of the board of directors affects its effectiveness. The study further reports that the appropriate board sizes are between six and 10 members. The finding of this study echoes the findings of Judge et al. (2010) who observed that the board size and its independence contribute to board effectiveness in monitoring, and with La Porta et al. (2000) who posit that equitable investor representation is related to the value of stocks. It accords with Giráldez and Hurtado (2014), who advocate for an optimal board size.
6. Conclusions
The study concludes that improvement of a firm’s system of governance, which includes boards of directors that have independent, equitable and minority representation, is the outcome that significantly explains firm value creation arising from shareholder engagement.

7. Suggestions for Improvement
The study recommends that firms invest in improvement in governance structures, which includes effective boards that have independent, equitable, and minority representation, and preferably with a size of between six and ten directors. This will ensure alignment of shareholders and management objectives on long-term sustainability, reduction in wasteful expenditure, change of company strategy, and other outcomes that drive firm value creation.

8. Suggestions for Further Research
The study initially set out to investigate the effect of shareholder engagement on the value of the firm in Kenya but was limited to assessing the effects of engagement on only value creating outcomes. This was due to the challenges of determining an appropriate measure of value of the firm that would be attributable to shareholder engagement actions, especially when studying several heterogeneous investors, with varied portfolios, and no publicly available data. It is recommended that further research be carried out on specific firms to establish relationships between documented as well as behind-the-scenes engagement actions over time and changes in value of the firms using conventional value metrics. This could be done using case study approaches or experimental methods, with the treatment being the engagement actions.

The study also found there is limited, if any, publicly-available data on engagement. This study recommends research on the development of a Kenya-specific central depository of data on engagement actions and outcomes across listed companies, borrowing from best practices in the U.S. and U.K. This will facilitate efficiency and effectiveness in future research as engagement becomes embraced in the country and the region.

Acknowledgment
The study acknowledges Prof Laura T. Starks, Associate Dean for Research, McCombs School of Business, University of Texas at Austin, for her permission to modify and use their research measurement instrument.

References


Assessment of Human Resource Management Model in Islamic Banking of Pakistan With Moderating Role of Islamic Principles

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ARTICLE DETAILS

ABSTRACT

The objective of the study is to analyze the role of human resource practices on organizational performance with the moderating effect of Islamic principle application in the Islamic banks of Pakistan. Responses from 242 employees of Islamic banks located in Karachi, Pakistan, were collected using convenience sampling technique while PLS-SEM has been employed for data analysis using Smart PLS version 3.2.8. Results showed that employee involvement, performance appraisal system, and selection and recruitment have significant positive relationship with organizational performance; whereby, compensation, and training and development have no relationship with organizational performance. Furthermore, compensation, Training & development, selection and recruitment have improved whereas performance appraisal system has reduced its relationship with organizational performance due to the moderating effect of application of Islamic principles. Employee’s involvement may have reduced, i.e., it showed insignificant impact on organizational performance due to the moderating effect of Islamic principles’ application. We suggest the managers of Islamic banks to provide greater focus on the training and development side of the organization. This is so because, when a company provides relevant training to the employees, only then they would be able to perform their job in a proper way and as per the expectations of the management. Application of Islamic principles need to be coupled with providing monetary benefits as it motivates them to perform more actively and accurately.

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1. Introduction
Scholars of management sciences have extensively supported the acceptance of highly determined human resource (HR) actions for the better execution of firms’ operations. According to current researches, such actions have contributed much towards the firms’ achievements and therefore, regarded as “high performing resources” operations (Mostafa, Gould-Williams, & Bottomley, 2015). A model of HRM-performance explores how HRM training, reward, selection, job design, involvement practices and reward lead to involvement, employee effort, discretionary behavior and co-operation which results in enhanced individual performance, better ROI and higher organizational profits (Albrecht, Bakker, Gruman, Macey, & Saks, 2015). Moreover, this model further claimed that the strategic HR operations is an interconnected system, which intensifies the performance of human capital differently as being encountered with a combination of other organizational strategies and the results are varied from firm to firm. In other words, these combinations add values to the firms in various ways, such as by means of untangling new synergies or stimulating higher cost-reduction (Darwish, Singh, & Wood, 2016).

However, without tailoring those HR practices for local environment and in terms of domestic value system and arrangements, business organization may not be able to take favorable results from HR practices, leading to downsizing, workload and lack of managerial control; ultimately, organizational performance may not be achieved ( Rana & Malik, 2016). Certainly, another aspect of these issues is basically the cultural barriers which hinders the aspirable outcomes from HR practices (Rana & Malik, 2017b). Since the idea of being human varies significantly between materialistic schools of thoughts and Islam, human resource management (HRM) in Islamic cultures would be different in Islamic nations (Fesharaki & Sehhat, 2018). Teachings the Holy Quran and Sunnah can be extremely significant in shaping an amiable work environment. Islamic countries are now embarking upon the problem by investigating the pious duties and norms in face of management solutions following by the western world. These are the challenges that are particularly obvious in human management operations. From this point, in the literature of Islamic firms, the idea of Islamic human resource management (IHRM) has been unfolded and according to it, the relationship and communication between the employees and the employer should follow the principles laid down by the Holy Quran and Sunnah (Fesharaki & Sehhat, 2018). This concept leads to the implementation of an Islamic Model while keeping in view the Islamic principles that have high regard towards Muslims and which is more efficient conflict management tool amongst a Muslim workforce.

Moreover, managers will recognize the Islamic principles in much better way and work accordingly, so that they can maximize the firm performance. The versatile nature of these principles made the Islamic model prominent and adaptable to such extent that, non-Muslims expatriates also inducing it into their environment (Abdul Cader, 2017). Therefore the objective of the study is to assess HRM model with the moderating effect of Islamic principle application in the Islamic banks of Karachi, Pakistan.

2. Literature Review
Hussain & ur Rehman (2013) examined the relationship between HRM practices and employees retention. The study concludes that, execution of HRM practices would lead towards retaining of super keepers of the organization Razimi et al. (2014) focused on the dimensions of HRM from the Islamic point of view. The study highlights the presence of Islamic framework for some of the operations of HRM. Recruitment and selection, compensation, knowledge management, leadership and employee relations were studied in the light of the Islamic perspectives. The study explains that, according to the Islamic teachings the concept of job fit is essential, the person should be hired on the basis of his capabilities i.e. concept of right person for the right job. The study highlighted the religious influences on HR. R. L. Dhar, (2015) focused on identifying the impact of IHRM practices on Islamic banks’ performance through the organizational commitment. It was identified that the Islamic practices of HR has significant effects on the organizational performance with the help of organizational commitment. The study suggests that the Islamic Banks have to work on the Islamic HR practices to maintain their performance in the organizations. This research also examined the intervening impact of the climate on the relationship between service innovation behavior and the commitment related innovation. The results showed that there is a mediating impact of organizational commitment on the relationship between service innovative behavior of employees and the HPHRP. Further the innovation climate works as a moderator in association between the service innovative behavior and the organizational commitment.

According to Darwish et al., (2016) HR practices have great impact on the subjective and objective performance. Saleem, Malik, & Khattak, (2016) conducted a research to shed light on the principles of Islam for the effective
management of human resource. The study shows that the basis of Islamic management is the mutual trust between the managers and their subordinates. Suib & Said, (2017) identified the relationship between the Islamic concept of spirituality and the Islamic work ethics. They found that the Islamic work ethics has positive impact on the workers power, service quality and customer loyalty. According to them Islamic Spirituality brings positive energy and ultimately it increases performance. Rana & Malik, (2017a) conducted a research to understand the effects of HR practices on the performance of mobile telecommunication service providers with Islamic principles as moderating variable. The study also investigated the moderating impact of Islamic principles. The results indicated that the HR practices such as employee participation, training, selection, performance appraisal and the compensation have positive and significant impact on the performance of business. Islamic principles also showed moderating and positive impact. Knies, Boselie, Gould-Williams, & Vandenabeele, (2017) did an empirical and conceptual study on the subject of strategic HRM and the performance of public sector companies. The findings revealed that the strategic HRM has significant positive impact on both the motivation of employees and the performance of organization.

Perceived organizational support (POS) has significant impact on the satisfaction of employees and it works as a mediator between the particular HR practices and the employees’ satisfaction (Bronston et al. 2017). Madison, Daspit, Turner, & Kellermanns, (2018) conducted a research to investigate the treatment with employees in family and non-family organizations and how it effects the performance of firms. Results revealed that that the HR professionalization is positively associated with the performance of family firms. Fesharaki & Sehat (2018) conducted a study on bank of tehran to present and stimulate the original idea of IHRM. They analyzed its impact on two attitudes of organizations i.e. commitment of employees and the perceived justice. It was found by them that IHRM has positive impact on the organizational justice and commitment of employees. B. K. Dhar et al., (2018) explored the effects of IHRM practices with organizational commitment on the performance of six different Islamic listed banks. The analysis showed that, with organizational commitment, the practices of Islamic HR have higher significant effect on the performance of organizations rather than the having direct impact of Islamic practices of HR on the organizational performance. The outcomes revealed that the Islamic banks must focus on the Islamic HR related practices and commitment with organizations in order to improve the overall performance of the employees as well as the company.

3. Research Methodology
Quantitative approach usually focuses on measurability, relationship assessment and quantifying the undertaken phenomenon based on numbers and statistical expressions (Cohen, Manion, & Morrison, 2013). In the current research study, measurable data and statistical techniques were used to analyze the pre-existing phenomenon and aimed to provide keen and implicative findings to contribute into literature and practice and therein, quantitative research approach has been adopted in the study. This study will fall under the category of explanatory research as it was intended to re-examine and clarifying the previously established and well-known phenomenon with some sort of changes for enriched outcomes.

3.1 Sample Size & Sampling Technique
The target population of this study is employees of Islamic banks of Karachi, Pakistan. Therefore, responses were collected from the HR professionals of Karachi-based Islamic banks of Pakistan. The study has used sample size estimation formula of N10 as recommended by Hair, Black, Babin, Anderson, and Tatham (2010) where N is the total number of variables. In this regards, the study has total 7 variables so that minimum sample required for the study was found as 70. Henceforth, the study has gathered 242 sample responses from the target population. Purposive sampling basically deals with the selection of respondents based on the expertise and knowledge of the researcher and inclusion criterion made by the researcher (Zikmund, Babin, Carr, & Griffin, 2013). Henceforth, the study has used purposive sampling technique.

3.2 Data Collection and Analysis
First-hand data was collected from primary sources such as, respondents and social actors associated with the undertaken phenomenon and horizon. So sample data was particularly taken from the HR professionals of Islamic Banks of Karachi, Pakistan. Moreover, primary data sources i.e. five-point Likert scale questionnaire was utilized as a data collection instrument, while the measures of each construct were adapted from previous published literature and empirical studies e.g. (Delaney & Huselid, 1996; Ali & Al-Owaihan, 2008; Hashim, 2009; Azmi, 2010; Moideenkutty et al. 2011; Sarwar and Abugre, 2013; Amin et al. 2014; Al-Quda et al. 2014)
The study has developed complex and multi-layered conceptual framework using comparatively smaller sample size. Hence, the study has purposefully used PLS-SEM as data analysis technique. After demographic analysis, initially reliability and validity was figured out. Secondly Path analysis was done along with testing the moderating impact of Islamic principles between HRM practices and performance of Islamic Banks.

4. Data Analysis

4.1 Demographic Statistics
The total of 242 respondent participated in this research. Descriptive statistics of these respondents are as follows.

<table>
<thead>
<tr>
<th>Experience level (years)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>151</td>
<td>62.4</td>
</tr>
<tr>
<td>5 to 10</td>
<td>70</td>
<td>28.9</td>
</tr>
<tr>
<td>11 to 15</td>
<td>14</td>
<td>5.8</td>
</tr>
<tr>
<td>More than 15</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>Less than 30</td>
<td>14</td>
<td>5.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 to 39</td>
<td>130</td>
<td>53.7</td>
</tr>
<tr>
<td>40 to 49</td>
<td>91</td>
<td>37.6</td>
</tr>
<tr>
<td>50 and above</td>
<td>7</td>
<td>2.9</td>
</tr>
<tr>
<td>Diploma</td>
<td>70</td>
<td>28.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor degree</td>
<td>42</td>
<td>17.4</td>
</tr>
<tr>
<td>Master degree</td>
<td>63</td>
<td>26.0</td>
</tr>
<tr>
<td>Others</td>
<td>67</td>
<td>27.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>119</td>
<td>49.2</td>
</tr>
<tr>
<td>Male</td>
<td>123</td>
<td>50.8</td>
</tr>
</tbody>
</table>

4.2 Outer Loadings
Construct validity is one of the most important concepts in management, social and behavioral sciences. In regards to construct validity using PLS-SEM, numerous scholars and authors have manifested that factor loadings/outer loadings of the items should be atleast 0.60 as an appropriate cutoff/threshold (Hair, Ringle, & Sarstedt, 2011; Hair, Sarstedt, Hopkins, & G. Kuppelwieser, 2014; Ringle, Sarstedt & Straub, 2012; Wong, 2013). Therefore, on the scholarly manifested discussion about threshold for construct validity; the following table III provides result of construct validity of the current research study. Hence, Table II clearly demonstrated that all the measures have factor loadings greater than 0.60. Hence, construct validity for current study has been achieved considerably.

4.3 Convergent Validity
Convergent validity measures the degree of convergence among measures of particular construct. In following Table II, results of convergent validity including composite reliability and AVE have been provided.

Table 2: Factor Loading, CR & AVE.
For satisfactory results of convergent validity, it is suggested by Hair, Black, Babin, Anderson and Tatham (2006) that average variance extracted and composite reliability for every variable must be higher than 0.50 and 0.70 accordingly. Thus, in Table II above, all the latent constructs have achieved satisfactory internal consistency and degree of convergence as per the suggested thresholds.

4.4 Discriminant Validity
The criterion proposed by Fornell and Larcker (1981) along with the method known as Heterotrait-Monotrait (HTMT) Ratio are the two constituents forming the evaluative measurements for establishing discriminant validity in the PLS structural equation modeling. It confirms validity as recommended by (Henseler, Hubeon & Ray, 2016; Henseler, Ringle, & Sartedt, 2015) particularly for structural equation modeling oriented by partial least square estimation of models.

Table 4: Fornell-Larcker Criterion

<table>
<thead>
<tr>
<th></th>
<th>AIP</th>
<th>COMP</th>
<th>EI</th>
<th>PERF</th>
<th>PAS</th>
<th>SR</th>
<th>TD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of Islamic Principles</td>
<td>0.788</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation</td>
<td>0.056</td>
<td>0.936</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee Involvement</td>
<td>0.073</td>
<td>0.601</td>
<td>0.810</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>0.164</td>
<td>0.549</td>
<td>0.813</td>
<td>0.956</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Appraisal System</td>
<td>0.001</td>
<td>0.341</td>
<td>0.605</td>
<td>0.689</td>
<td>0.757</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection and Recruitment</td>
<td>-0.060</td>
<td>0.275</td>
<td>0.112</td>
<td>0.239</td>
<td>0.085</td>
<td>0.752</td>
<td></td>
</tr>
<tr>
<td>Training and Development</td>
<td>0.033</td>
<td>0.397</td>
<td>0.498</td>
<td>0.642</td>
<td>0.772</td>
<td>0.333</td>
<td>0.772</td>
</tr>
</tbody>
</table>

According to Fornell and Larcker (1981), the AVE’s square-root for each underlying construct has to be bigger than their particular association coefficients of further elements to attain substantial distinguish validity. The table
IV shows that all underlying constructs have attained substantial unique validity and their individual participation in the current model.

Table 5: Heterotrait-Monotrait Ratio (HTMT)

<table>
<thead>
<tr>
<th>Constructs</th>
<th>AIP</th>
<th>COMP</th>
<th>EI</th>
<th>PERF</th>
<th>PAS</th>
<th>SR</th>
<th>TD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application of Islamic Principles</td>
<td>0.106</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation</td>
<td>0.095</td>
<td>0.703</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee Involvement</td>
<td>0.199</td>
<td>0.618</td>
<td>0.894</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Performance</td>
<td>0.174</td>
<td>0.395</td>
<td>0.706</td>
<td>0.767</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Appraisal System</td>
<td>0.364</td>
<td>0.652</td>
<td>0.337</td>
<td>0.521</td>
<td>0.852</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection and Recruitment</td>
<td>0.131</td>
<td>0.364</td>
<td>0.491</td>
<td>0.613</td>
<td>0.830</td>
<td>0.713</td>
<td></td>
</tr>
</tbody>
</table>

HTMT ratio offers one more narrative measure of assessing unique validity as projected by Henseler et al. (2015), which states that all HTMT ratios have to be under 0.90 for unique validity and by this means Table V illustrates that all underlying constructs had found to be distinguished apart, irrespective of other constructs as considered in the current modeling structure and consequently, HTMT ratio has been attained by using unique validity.

Figure 2: Modelling Framework

4.5 Path Analysis
Table VI showed that employee involvement (0.388, p < 0.10), performance appraisal system (0.694, p < 0.05) and selection and recruitment (0.446, p < 0.10) have significantly positive relationship with organizational performance; whereby, compensation (-0.017, p > 0.929) and training and development (0.101, p > 0.05) have no relationship with organizational performance.

Table 6: Path Coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>Estimate</th>
<th>S.D.</th>
<th>T-Stats</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation -&gt; Organizational Performance</td>
<td>-0.017</td>
<td>0.192</td>
<td>0.089</td>
<td>0.929</td>
</tr>
<tr>
<td>Employee Involvement -&gt; Organizational Performance</td>
<td>0.388</td>
<td>0.231</td>
<td>1.681</td>
<td>0.093</td>
</tr>
<tr>
<td>Performance Appraisal System -&gt; Organizational Performance</td>
<td>0.694</td>
<td>0.261</td>
<td>2.655</td>
<td>0.008</td>
</tr>
<tr>
<td>Selection and Recruitment -&gt; Organizational Performance</td>
<td>0.446</td>
<td>0.255</td>
<td>1.748</td>
<td>0.081</td>
</tr>
<tr>
<td>Training and Development -&gt; Organizational Performance</td>
<td>0.101</td>
<td>0.317</td>
<td>0.319</td>
<td>0.750</td>
</tr>
</tbody>
</table>

4.6 Moderation Analysis
Following Table VII provides moderation analysis using PLS-SEM; wherein, the analysis have undertaken the moderating effect of “application of Islamic principles” on the relationship between independent and dependent constructs.

Table 7: Moderation Analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation -&gt; Organizational Performance</td>
<td>0.074</td>
<td>0.042</td>
<td>1.777</td>
<td>0.076</td>
</tr>
<tr>
<td>Employee Involvement -&gt; Organizational Performance</td>
<td>-0.070</td>
<td>0.055</td>
<td>1.275</td>
<td>0.202</td>
</tr>
<tr>
<td>Performance Appraisal System -&gt; Organizational Performance</td>
<td>0.174</td>
<td>0.071</td>
<td>2.462</td>
<td>0.014</td>
</tr>
<tr>
<td>Selection and Recruitment -&gt; Organizational Performance</td>
<td>-0.094</td>
<td>0.045</td>
<td>2.097</td>
<td>0.036</td>
</tr>
<tr>
<td>Training and Development -&gt; Organizational Performance</td>
<td>-0.155</td>
<td>0.055</td>
<td>2.806</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Above table showed that the relationship between compensation (0.074, p < 0.10), performance appraisal system (0.174, p < 0.05), selection and recruitment (-0.094, p < 0.05), training and development (-0.155, p < 0.05) with organizational performance may be moderated by the application of Islamic principles. However, the relationship of employee involvement (-0.070, p > 0.05) with organizational performance may not be moderated by the application of Islamic principles.

4.7 R-Square
Following table VIII provides result of R-square for explaining predictive power of the outcome construct in the model. Herein, R-square and adjusted R-square have been reported using PLS algorithm technique.

Table VIII: R Square

<table>
<thead>
<tr>
<th>Organizational Performance</th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.793</td>
<td>0.783</td>
</tr>
</tbody>
</table>

Above table shows that the combine effect of training and development, compensation, selection and recruitment, employee involvement, performance appraisal system and application of Islamic principles can explain organizational performance up to 79.3 percent.

5. Discussion
The results indicate that the HR practices such as practices including, employee participation, selection and recruitment, performance appraisal have positive and significant impact (Albrecht et al; 2015; Rana & Malik, 2017a; Fesharaki & Sehhat, 2018) whereas compensation (Mbogho, 2012), training and development (0.101, p > 0.05) have no significant impact on the organizational performance. Success in training is contingent on the technique used by training and its content (Driskell 2011). According to Birdi (2005) influence of creative training could be refrained
due to lack of managerial support. Additionally, effectiveness of training is influenced by absence of proper environment.

Further Islamic principles showed mix moderating significant results (Abdul Cader, 2017) i.e. positive in case of compensation and performance appraisal (Rana & Malik, 2017) but negative in case of selection and training. The negative sign is due to the sample size as Islam stresses on competency and merit in selection of employee and it shall not biased due to race, kinship, friendship and wealth etc (Alorfi, 2012). Selecting employees according to Islamic principles improves employees’ morale and ultimately leads towards improvement of the business. In case of employee involvement the relationship becomes insignificant due to moderating effect of Islamic principles. The result is again insignificant due to the limited sample size and is not in line with researchers i.e. (Hashim, 2010; Salleh, 2012). Islam supports involvement of employees in decision making and permits productive criticism on policies of organization (Rana & Malik, 2017).

6. Recommendations and Conclusion

The objective of the study was to analyze the role of human resource practices on organizational performance with the moderating effect of Islamic principle application in the Islamic banks of Karachi, Pakistan. SEM was used to analyze the impact of recruitment and selection, training and development, compensation, performance appraisal and employee involvement on organizational performance. The outcomes of the study reveal that employee involvement is an essential indicator to improve the overall organizational performance. Moreover, the researcher found performance appraisal, selection and recruitment as important factors to enhance the organizational performance. However, due to limited sample size, compensation, training and development were not found to be beneficial to improve the organizational performance.

Importantly, the moderation analysis of Islamic principle supports to enhance the organizational performance through compensation, performance appraisal, selection and recruitment and training and development. Though, the moderation of Islamic principle between the relationship of employee involvement and organizational performance has not shown any significant consequences for the Islamic banks of Pakistan.

This study provides a model for positive association between different HRM practices and firms. With the help of this structural equation model technique, it was identified that the most of the Islamic practices of HR has significant effects on the organizational performance. Further it suggests that the Islamic Banks have to work on the Islamic HR practices to maintain their performance in the organizations (B.K. Dhar et al., 2018). Further the study suggests that the managers of organizations have to provide great focus on the training and development side of the organization keeping in view the Islamic principles as these principles improves the relationship between these variables which is evident from the results. When a company provides relevant training to the employees i.e. according to their needs, only then they would be able to perform their job in a proper way and as per the expectations of the management.

Secondly the compensation is another major factor the managers should focus on. Islamic principles need to be followed again which providing monetary benefits as it motivates them to perform more actively and accurately. Thus the managers have to concentrate on the Islamic side while offering monetary benefits as should set certain strategies in their organizations to provide proper financial support to their employees so that their organization would grow.

7. Limitations of the Research

First and the foremost limitation of the current study is that the quantification of performance and Islamic work practice of the organization is done through the perception of the employees, as it is unidirectional. Furthermore, the size of the sample is quite small due to limited number of full fledge Islamic banks in Karachi, Pakistan. Moreover, the focus of the study revolves around the perspective of Karachi, Pakistan only.

8. Future Research

Initially, the study recommends analyzing the mediation of organizational support or supervisor support between the relationships in order to curtail off the deliberate understandings for the Islamic banks of Pakistan. Secondly, the enhancement in the size of sample will surely help to generalize the findings of the study. Thirdly, if the researchers follow qualitative approach, it will provide some important and in-depth understandings about the aspects that will help to improve the organizational performance of the Islamic banking industry in Pakistan.
References
Bindabel, W., Patel, A., & Yekini, C. O. (2017). The challenges faced by integrating Islamic corporate governance in companies of Gulf countries with non-Islamic companies across border through merger and acquisition
Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. Journal of marketing research, 18(3), 382-388


# Financial Institutions’ Inter Mediation and Economic Development in Nigeria

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## ARTICLE DETAILS

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<td>Revised format: May 2019</td>
<td>Purpose: The paper examines the effect of intermediation capacity of the financial institutions on the Nigerian economic development (Real Gross Domestic Product (RGDP)). It is a causal-effect relationship study which made use of macro data obtained from Central Bank of Nigeria (CBN) Statistical Bulletin from the period 1981-2016. The result of the Johansen co-integration test and ARDL bound test evidenced that there exist a long-run relationship between financial institutions’ activities and real GDP. ARDL regression model showed financial institution activities, particularly the loans to the private sector significantly impacted on economic growth both in the short-run and long-run. The study also found that bank loans and advances, bank reserves and interest rate had insignificant negative impact on real GDP while credit to private sector significantly affected economic development of Nigeria (RGDP). Thus, economic development of Nigeria is driven by the performance of deposit money banks and concludes that the performance of deposit money banks has effect on the economic development of Nigeria. The study recommended that the banking sector should increase lending to the private sector in order to engender economic growth through the enhancement of entrepreneurial development.</td>
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<td>Available Online: June 2019</td>
<td>© 2019 The authors, under a Creative Commons Attribution-NonCommercial 4.0</td>
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## Keywords
Financial Institutions, Intermediation, Economic Development, Real Gross Domestic Product

## JEL Classification:

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</tr>
</tbody>
</table>

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1. Introduction
The Nigerian economy has since the advent of the oil and gas sector become over dependent on oil-sector of the economy resulting in loss of focus on the other sectors. No sector of the economy in the opinion of Asagunla and Agbede (2018) is positioned to perform effectively without adequate funding which, can only be achieved in an economy with strong financial system.
Financial intermediaries hold a very important role in the flow of money in the financial world. The assistance of a financial intermediary is needed by companies who want somebody to act as a middle man in raising money from the investors (Siklos, 2001). Meeting up between these two parties are often very difficult without the help of financial intermediaries. Types of financial intermediaries are banks, insurance company, non-banking finance companies, investment brokers, investment bankers and pension funds. Financial intermediation is a process of redistributing the available funds in the economy in maximizing its returns which is the principal role of financial intermediaries (Akinjare, 2016). Indeed, the intermediation role if effectively carried has been established to be a catalyst for economic development of any nation. However, this intermediation role could be plagued with problems such as lack of strong supervision of banks and publicly traded companies leading to collapse, inadequate information for proper efficiency and effectiveness in the economy, fraud and internal control, lack of corporate governance and poor risk management policies and strategy, lack of skilled personnel managerial control, political interference, corruption and nepotism (O'Sullivan & Sheffrin, 2003).

Financial institutions are responsible for sucking the surpluses in a sector for funding other sector with deficit and this is only attainable if the surplus sectors have confidence in the financial institutions on the security of their savings (Efayena, 2014). Individuals, corporate bodies and government could only entrust their surpluses in the hands of financial institutions of an economy with stable monetary policies and strong capital base.

In recent times, several reforms have been implemented in the Nigerian financial institutions especially in Deposit money banks has undergone several regulatory restructuring in order to effectively carry out their intermediating role in the economy (Paul, 2017). Bank reforms are implemented to substantially increase the capital base of the banks and strengthen the banking system, embrace globalization, improve healthy competition, ensure the safety of depositors’ money, position banks to play active developmental roles in the Nigerian economy, exploit economies of scale, adopt advanced technologies, raise efficiency and improve profitability. Ultimately, the goal is to strengthen the intermediation role of banks and to ensure that they are able to perform their developmental role of enhancing economic development, which subsequently leads to improved overall economic performance and societal welfare (O'Sullivan & Sheffrin, 2003). The 2005 recapitalization in the banking sector was done to; become major players in the sub-regional, regional and global financial markets and compete favourably with international banks (Mike, 2010; Okpara, 2012; Oputu, 2010).

Financial intermediation included the provision of loans and advances. The stringent loan conditions, short-term nature, quality, cost and availability of loanable funds have been the constraints to the expansion and development of businesses including the small and medium scale enterprises in Nigeria. This has led to high rate of unemployment, business failures and crawling growth in the economy over the decades. Nigerian banking sector is devoid of the presence of investment or merchant banks for long-term loans, venture capital for viable businesses proposals. This is may be an indication that the financial sector have not been actively performing the intermediating role, and hence the inadequate growth of the economy (Ogwumike & Salisu, 2012).

The review of literature on this subject has yielded mixed results hence the need for this paper examined the extent to which money deposit banks have effectively executed its intermediation role towards economic development.

2. Literature Review
This consists of theoretical and empirical reviews

2.1 Theoretical Review
Schumpeter (1934) in his theory of economic development emphasized the importance of credit as a catalyst and entrepreneur as the prime factor to economic development. He asserted that income distribution and formation of capital in any nation rest on its ability to expand its credit base. Credit capital is inextricably linked with entrepreneurial action. Indeed, the credit mechanisms becomes critical and relevant when its utilization is interconnected with the activity of carrying out ‘new combinations’ and of moving the production into ‘new channels’ (Schumpeter, 1934, 102). In effect, in a capitalist society the entrepreneur is the typical debtor who utilizes the capital in his capacity as an entrepreneur to control and harness concrete goods and diverts the factors of production to new uses, or new direction.
Financial institutions therefore engender the economic system by circularizing credit in such flow to attain productive advantage. This is achieved by serving as the intercessors between the surplus and deficit sectors of the economy for capital redistribution and creation for entrepreneurial process.

On the contrary, Keynes (1936) theory of economic growth expanded by Robinson (1952) and Chick (1983, 1986) criticized Schumpeter’s proposition. They opined that credit could be a constraint to economic growth in a less developed financial system but not applicable in a well-established financial economy. They affirmed that on the one hand, growth is a driver of finance in a highly developed financial system and on the other, financial development germinates as the seed of growth. In effect, there subsist a bi-directional causal relationship between financial development and growth. The intertwined philosophy of financial development and economic growth was stretched by Patrick (1966) as “demand-following” and “supply-leading” chain. While the finance follows the wave of economic growth, financial institutions accumulate the surplus in a system and inject it into viable investments for speedy economic development.

These propositions have been empirically tested in several studies (Menyah, Nazlioglu & Wolde-Rufael, 2014; Okpara, Onoh, Ogbonna, & Iheanacho, 2018; Ogwumike & Salisu, 2012) but with mixed findings. However, the basic proposition of Schumpeter (1936) of the role of credit in entrepreneurial activities as propellant of economic growth remains germane. This is the theory on which this study is predicated. In effect, this study seeks to further investigate the impact of the intermediation role of the banking sector as the major financial institution on the growth of the Nigerian economy.

2.2 Empirical Review

Okpara et al., (2018) conducted a co-integrating and VECM analyses to examine the relationship between financial development and economic growth in Nigeria between 1981 and 2014, it was concluded that there is an existence of long run relationship between financial development and economic growth. The study also reported causal-effect relationship exists between capital market and economic growth but no bi-directional association between broad money supply, financing system rating, market capitalization and economic growth.

The Vector Auto-regressive and Granger-causality models deployed by Paul (2017) in examined the effect of financial development and growth of Nigeria economy using asset base, liquid obligations and credit to private sector as measures of financial development. It reported that asset base, liquid obligations and government expenditure negatively impacted on the GDP while credit granted to private sector has significant positive effect on GDP. The result of the bi-directional causal-effect analysis revealed the existence of long run causal-effect relationship between GDP, credit to private sector and government expenditure.

In the same vein, the report of the research carried out by Ndako (2017) using 55 year’s data from 1960 to 2014 and the method came to similar conclusions. Similar result was obtained by Shittu (2012) using the same vector error correction model on 41 years data (1970-2010). Shittu concluded that financial intermediation substantially impacted the Nigeria economic growth; while broad money supply exerted significant positive impact on the economy, credit to private sector positively but insignificantly influence GDP in Nigeria. A contrary result was recorded by Adediran (2017) who obtained a negative relationship between loan-deposit ratio and GDP while confirming the existence of a long run relationship exist between financial intermediation and economic growth in Nigeria.

Similar long run investigation was conducted by Biplob and Halder (2018) between financial developments measured as credit to private sector and broad money supply, and economic growth of Bangladesh. The result of the VECM analysis provided evidence of the existence of bilateral granger causality relationship between money supply and GDP. The domestic credit to private sector was however, found to have no influence on the economic growth.

Conversely, the report of Qamruzzaman and Jianguo (2017) on Bangladesh economy proved the existence of both short run and long run bi-directional causal-effect relationship between financial development and economic growth. The finding of Shahbaz, Rehman and Muzaffar (2015) corroborated this report. It discovered that capitalization altered the bidirectional relationship between financial development and economic growth. An Indian investigation carried out by Kaushal and Pathak (2015) provided evidence that financial development did not
granger-cause economic growth. The reverse is however not the case. Ono (2017) investigated the existence of both the short run and long run relationship between financial innovation and economic growth of Russia using Granger-causality test. The result showed reported that economic growth quickened financial development in the short run. However, in the long run, only bank lending has causal effect on economic growth.

Similar study was conducted by Jalil and Ma (2008) on Pakistan and China economy. It reported significant positive influence of financial development measured as loan-deposit ratio and credit to private sector on the economy development of Pakistan. Similar result was obtained in by the study of Oluitan (2012) on thirty-one African Nations for a time frame of 35years (1970 – 2005). It revealed that credit to private sector had significant effect on economic growth of the countries under consideration. In the same vein, the result of the study of Puatwoe and Piabuo (2017) on the Camerounian economy revealed a significant positive relationship between financial development and economic growth.

In the case of China, Jalil and Ma (2008) found that CPS??? had insignificant impact on economic development. Likewise in Zimbabwe; Ndlovu (2013) concluded that financial development has not contributed meaningfully to its economic development. Furthermore, in the Nigerian context, the result of the investigation carried out by Ihuanacho (2016) using ARDL model showed that financial institution intermediation exerted insignificant impact on economic growth.

On the reverse, Adu Marbuah and Mensah (2013) concluded that GDP of Ghana is positively impacted by CPS while broad money supply negatively affected the GDP. Likewise, the result of the ARDL and causal-effect analysis carried out by Ofori-Abebrese, Pickson and Diabah (2017) on Ghana economy using 44 years macro data from 1970 to 2013 confirmed this finding.

The investigation on non-oil sector of Saudi Arabian economy reported that the sector was strongly influenced by financial development positively (Samargandi, Fidrmuc and Ghosh, 2013). The correlational analysis on Jordan economy by Al-Qudah (2017) using 84 quarterly data from first quarter of 1993 to second quarter of 2014 concluded that there exists a causal-effect relationship between financial development and GDP on the Jordanian economy. The co-integrating and causal-effect analyses conducted on Indonesian economy by Hafnida (2018) revealed the existence of co-integration between financial development, expenditure by the government, trade openness and economic growth. Indeed, GDP granger caused financial development and trade openness. The conflicting results obtained from the literature further confirm the need for this study in Nigeria.

3. Materials and Methods

3.1 Research Design and Data Sources

This is an ex-post causal-effect relationship research, as it considered the past phenomenon. It examined the effect of Deposit Money Banks intermediation on the economy using past occurrences in the current time, and to predict the projected relationship using an established regression model. Macro data obtained from Central Bank of Nigeria (CBN) Statistical Bulletin, 2016 covering a period of 36 years (1981 – 2016) was used. The data is adjudged valid because it was a publication of the CBN and verified by the ruling regulatory bodies. The period of study was chosen conveniently based on availability of information required for the study.

3.2 Model Specification

The indicators for measuring the performance of Deposit money banks include commercial bank loans and advances, interest rate, bank reserves and credit to private. The economic growth in Nigeria indicator is the Real GDP. The relationship between the deposit banks and economic development in Nigeria can be represented as such in equation (1):

$$\text{RGDP} = \alpha_0 + \beta_1\text{BLA}t + \beta_2\text{IR}t + \beta_3\text{BR}t + \beta_4\text{CPS}t + \mu$$  \hspace{1cm} (1)

Where:

RGDP = Real Gross Domestic Product

BLA = Bank Loans and Advances
IR= Interest Rate  
BR= Bank Reserves  
CPS= Credit to Private Sector  
t= Time  
α0= Intercept while β1-4= Coefficient of BLA, IR, BR CPS; and  
µ= Error Term  

3.3 Estimation Technique  
The preliminary step analysis was conducted to test for the features and stationary of the series. Given that some variables were stationary at level while others were stationary at the first difference, the Auto-Regressive Distributed Lag Models (ARDL) was utilised for the analysis (Cromwell, Labys, Hannan & Terraza, 1994). ARDL bounds test was also carried out to establish the presence of either co-integration or long run form relationship or both between the Deposit Money banks intermediation and economic growth (RGDP). Prior to the utilization of the ARDL technique, the selection of optimal lag length using Schwarz Bayesian Criterion is also conducted. The Johansen cointegration test is also deployed as preliminary test to determine whether there is even a relationship between the variables at all.  

To ensure the exhaustiveness and appropriateness of the model, diagnostic tests were conducted testing the five assumptions underlying the usage of ARDL for the analysis. These are the normality test to check for the stability and consistency of the predictive model using Ramsey Reset Test; the heteroskedasticity, checking for the correlation among the stochastic errors of the model.  

4. Results and Discussion  
4.1 Descriptive Analysis  
The main features of the series in the distribution are presented in Table 1.  

<table>
<thead>
<tr>
<th></th>
<th>RGDP</th>
<th>BLA</th>
<th>BR</th>
<th>CPS</th>
<th>IR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>13.82</td>
<td>12.76</td>
<td>11.22</td>
<td>6.02</td>
<td>2.83</td>
</tr>
<tr>
<td>Median</td>
<td>12.88</td>
<td>12.77</td>
<td>11.38</td>
<td>5.97</td>
<td>2.86</td>
</tr>
<tr>
<td>Maximum</td>
<td>18.05</td>
<td>16.45</td>
<td>15.38</td>
<td>10.07</td>
<td>3.39</td>
</tr>
<tr>
<td>Minimum</td>
<td>12.33</td>
<td>9.06</td>
<td>6.69</td>
<td>2.15</td>
<td>2.05</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>2.08</td>
<td>2.61</td>
<td>2.79</td>
<td>2.62</td>
<td>0.29</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.47</td>
<td>1</td>
<td>-0.24</td>
<td>0.05</td>
<td>-0.76</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.28</td>
<td>1.51</td>
<td>1.77</td>
<td>1.65</td>
<td>3.61</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>13.07</td>
<td>3.32</td>
<td>2.61</td>
<td>2.74</td>
<td>3.99</td>
</tr>
<tr>
<td>Probability</td>
<td>0.001</td>
<td>0.19</td>
<td>0.27</td>
<td>0.25</td>
<td>0.14</td>
</tr>
<tr>
<td>Observations</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computations using E-views 9.0 (2019)  

Information in Table 1 showed that except for RGDP, the means and median of the variables are approximately equal which, is indicative of a normal distribution. This is corroborated by the insignificant variations in the data trend as manifested in the small differences between the minimum and maximum values and the standard variation values.  

The series were positively skewed except bank reserves and interest rate. The real GDP and interest rates were leptokurtic because all the Kurtosis values were higher than 3 indicating a higher than normal distribution. The
Jacque-Bera statistics is a goodness of normal distribution fit sign-posted the normality of all the variables except RGDP because their Probability of Jacque-Bera statistics were greater than 0.05 significant levels.

4.2 Unit Root Test Results
To ensure that the series are stable over time and deem fit for the regression estimation, unit root tests were conducted at 5% significance level using Augmented Dickey-Fuller and Phillips-Perron methods and presented in Table 2.

Table 2: Result of Unit root test (ADF and Phillips-Perron Analysis)

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF at level (Prob)</th>
<th>ADF at 1st difference (Prob)</th>
<th>PP at level (Prob)</th>
<th>PP at 1st difference (Prob)</th>
<th>Order of Integration</th>
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<tbody>
<tr>
<td>BLA</td>
<td>-1.95</td>
<td>1.21 (0.94)</td>
<td>-2.79</td>
<td>-1.95</td>
<td>3.39 (1.00)</td>
</tr>
<tr>
<td>BR</td>
<td>-1.95</td>
<td>0.96 (0.91)</td>
<td>-2.60</td>
<td>-1.95</td>
<td>3.31 (1.00)</td>
</tr>
<tr>
<td>CPS</td>
<td>-1.95</td>
<td>7.58 (1.00)</td>
<td>-3.79</td>
<td>-1.95</td>
<td>8.66 (1.00)</td>
</tr>
<tr>
<td>IR</td>
<td>-3.57</td>
<td>-4.80</td>
<td>-5.86 (0.00)</td>
<td>-2.95</td>
<td>-3.39</td>
</tr>
<tr>
<td>RGDP</td>
<td>-1.95</td>
<td>0.59 (0.84)</td>
<td>-5.38</td>
<td>-1.95</td>
<td>0.54 (0.83)</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computation using Eviews 9.0 (2019)

The result of the unit root tests revealed that the series are stable at different order of integration (while interest rate (IR) is stable at level, other variables (BLA, BR, RGDP, CPS) become stable at first difference at 5 percent significant level). This implies that IR is predictable at level while others are predictable at first difference.

4.3 Co-Integration Test

4.3.1 Johansen co-integration test
Two types of test were considered under the Johansen test which is Trace test and Max-Eigen statistics. This is presented in Table 3.

Table 3: Result of the Johansen Co-integration Test - Trace and Max-Eigen Statistics

<table>
<thead>
<tr>
<th>Hypothesized No. of CE (s)</th>
<th>Eigenvalue</th>
<th>Trace Statistics</th>
<th>0.05 Critical Value</th>
<th>Prob. **</th>
<th>Max-Eigen Statistics</th>
<th>0.05 Critical Value</th>
<th>Prob. **</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.43</td>
<td>18.46</td>
<td>4.13</td>
<td>0.00</td>
<td>18.46</td>
<td>4.13</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Researchers Computation using Eviews 9.0 (2019) **Significant @ 5%

The result of the co-integration test with the Trace statistics and maximum Eigen statistics being greater than the critical value at 0.05 levels implies that there is co-integration. The series would converge with time (in the long run), even if there are shocks in the short run that would probably affect movement in the individual series.

4.3.2 Optimal Lag Length Selection:
The result of the VAR Lag Order Selection Criteria is shown in Table 4

Table 4: Optimal Lag Length Selection

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-354.9914</td>
<td>NA*</td>
<td>92*</td>
<td>21.18*</td>
<td>21.40*</td>
<td>21.25*</td>
</tr>
<tr>
<td>1</td>
<td>-354.6024</td>
<td>0.64</td>
<td>96</td>
<td>21.21</td>
<td>21.48</td>
<td>21.30</td>
</tr>
</tbody>
</table>

Source: Researchers Computation using Eviews 9.0 (2018)

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level of significance)
The result shows that all the criteria suggest the adoption of the zero lag length which means that the impact of the effect of the independent variables could be felt immediately on the dependent variable (Liew, 2004).

### 4.3.3 Auto Regressive Distributed Lag Bounds (ARDL) Test

ARDL bound test was carried out to ascertain the existence of long-run relationship between the independent variables (BLA, BR, CPS, RGDP) and the dependent variable RGDP. Prior to this, the ARDL equation is presented as:

\[
\text{RGDP} = \alpha_0 + \sum_{i=1}^{m} \beta_1^i \Delta \text{BLA}_{t-1} + \sum_{i=1}^{m} \beta_2^i \Delta \text{IR}_{t-1} + \sum_{i=1}^{m} \beta_3^i \Delta \text{BR}_{t-1} + \sum_{i=1}^{m} \beta_4^i \Delta \text{CPS}_{t-1} + \beta_5 \text{BLA}_t + \beta_6 \text{IR}_t + \beta_7 \text{BR}_t + \beta_8 \text{CPS}_t + \mu
\]

The result of the ARDL bound test is presented in Table 5.

<table>
<thead>
<tr>
<th>F-Stat = 9.17 @ Df = 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Value Bounds</td>
</tr>
<tr>
<td>@ 10%</td>
</tr>
<tr>
<td>2.45</td>
</tr>
<tr>
<td>@ 5%</td>
</tr>
<tr>
<td>2.86</td>
</tr>
<tr>
<td>I0 Bound</td>
</tr>
<tr>
<td>3.52</td>
</tr>
<tr>
<td>I1 Bound</td>
</tr>
<tr>
<td>4.01</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computation using E-views 9.0 (2019)

The value of F-Stat at 4 degree of freedom is 9.17 which is greater than the critical values bound at upper bound (11) of 4.01 at 5% and 3.52 at 10%; indicates the existence of long run relationship between the dependent variable and independent variables. Therefore, the long run estimate is examined alongside with the diagnostic tests and the result shown in Table 6.

### Table 6: Results of the Long Run Regression Models

<table>
<thead>
<tr>
<th>Short-Run Form</th>
<th>Long-Run Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Variables</td>
<td>Variable</td>
</tr>
<tr>
<td>D(BLA)</td>
<td>BLA</td>
</tr>
<tr>
<td>D(BR)</td>
<td>BR</td>
</tr>
<tr>
<td>D(CPS)</td>
<td>CPS</td>
</tr>
<tr>
<td>D(INTR)</td>
<td>INTR</td>
</tr>
<tr>
<td>CointEq(-)</td>
<td>C</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F-statistic = 9.17; Prob(F-statistic) 0.00*</th>
</tr>
</thead>
</table>

Source: Researchers’ Computation using E-views 9.0 (2019)

The results of the ARDL short-run and long run presented revealed that both in the short run and long run, bank loans and advances (DBLA), bank reserve (DBR), and real interest rate (INTR) negatively but insignificantly affect the real gross domestic product (DRGDP). The credit to private sector (DCPS) has significant positive effect on real gross domestic product. DCPS with \( \beta = 4.07 \) in the short run implies that a unit change in DCPS would lead to 4.07\% increase in RGDP, while in the long run the \( \beta = 9.46 \) indicated that a unit change in CPD would resulted to 9.46\% in RGDP.

The probability of F-statistics both in the short run and long run of 0.00 showed that financial institutions intermediation significantly impacted economic development in Nigeria. The coefficient of multiple determination
of 0.55 is an indication that 55% variation in RGDP is caused by the combined variation in DBLA, DBR and INTR in the short run while in the long run the value of adjusted R2 of 0.91 implies that the joint changes in the explanatory variables (BLA, BR and INTR) would lead to 91% variation in RGDP. Therefore, the study concluded that there exist a long-run relationship between financial institutions intermediation and economic growth, particularly the credit to private sector.

4.4 Post Estimation Tests Results
The results of four of the post-estimation tests are presented in Table 7.

Table 7: Post-estimation Test Results

<table>
<thead>
<tr>
<th>Test</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity Test</td>
<td>Ramsey RESET Test: F-statistic = 0.198; Prob. F(1, 29) = 0.172</td>
</tr>
<tr>
<td>Heteroskedasticity Test</td>
<td>Breusch-Pagan/Cook-Weisberg Test</td>
</tr>
<tr>
<td></td>
<td>ARCH: F-statistic = 2.59; Prob. F(1, 32) = 0.12</td>
</tr>
<tr>
<td>Serial Correlation Test</td>
<td>Breusch-Godfrey Serial Correlation LM Test:</td>
</tr>
<tr>
<td></td>
<td>F-statistic = 2.34; Prob. F(1, 28) = 0.14</td>
</tr>
<tr>
<td>Auto-Correlation Test</td>
<td>Durbin-Watson: 2.44 (short run) 2.21 (long run)</td>
</tr>
</tbody>
</table>

Source: Researchers’ Computation using E-views 9.0 (2019)

4.4.1 The Linearity Test
The linearity assumption of ARDL test was estimated using Ramsey Reset test. The ρ-value of the F-stat of 0.17 being greater than the 0.05 significance chosen level implies that the model is correctly specified since the p-value is more than 0.05. In effect, there exists a linear relationship between the dependent variables and independent variable.

4.4.2 The Heteroskedasticity Test
Breusch-Pagan/Cook-Weisberg test was conducted for testing for the consistency of the variations in the residuals of the model over the period “t”. The result with the ρ-value of 0.12 being greater than the 0.05 significance chosen level is an reflection of consistencies in the differences of the residuals of the model across the period “t”. The residuals of the model were stable over time and it is appropriate for estimating the model.

4.4.3 Serial Correlation Test
The Breusch-Godfrey Serial Correlation LM Test was carried out to determine the existence of associations among the coefficients of the model and its residuals. Unhealthy association result to the error terms was observed to be smaller than expected and the co-efficient of determination. The statistics derived with ρ-value = 0.14 supports the null hypothesis which states that there was no serial correlation among the coefficients of the model and its residuals up to the specified lag order at 5% significant level.

4.4.4 Auto-Correlation Test
The Durbin Watson test was used to detect the presence of autocorrelation at lag 1 in the residuals from a regression analysis. It depicted whether the residuals in the regression analysis model were uncorrelated. The threshold of this test is 2. The result of 2.21 and 2.42 in the short and long run respectively implies that there was no problem of autocorrelation among the residuals of the regression analysis model.

4.4.5 Histogram Normality Test
This test was carried out to check if the model series are normally distributed is presented in Figure 1.
The probability value of the Jarque-Bera test (0.23) which is higher than the critical value of 0.05 (5%) showed that the series in the model are normally distributed. The results of the skewness and the kurtosis also confirmed the normality of the model.

4.4.6 Stability Test (CUSUM and CUSUM of Squares Residual Test)

The results of the stability tests of the model are depicted in Figure 2 and Figure 3.
The CUSUM and CUSUM of Squares test for stability was meant to determine the appropriateness and the stability of the model and therefore suitable for making long-run decision. The figure above plotted within the 5 per cent critical bound (with the lines not crossing one another) implies that the parameters of the model do not suffer from any structural instability over the period of study. The reading of Figures 2 and 3 showed that the model is stable.

4.5 Discussion of Findings

This study upholds the proposition of Schumpeter (1936) on which this study is predicated. Credit to the private sector as part of the intermediary functions of the banking is positive and significant in promoting Nigerian economic growth. However, bank loans and advances, bank reserve and interest rate have negative and insignificant impact on the economic growth. The result of both the short-run and long-run regression analyses revealed that financial institutions activities as intermediaries significantly influenced the economic growth of Nigeria.

The result is consistent with those of Adediran (2017), Paul (2017), Puatwoe and Piabuo (2017), Ndako (2017) who also reported that financial development significantly impacted on economic growth and that credit to private sector has material impact on economic growth. Indeed, it upholds the findings of Jalil & Ma, (2008) that financial development measured as loan-deposit ratio and credit to private sector have significant positive influence the economy development of Pakistan.

This research is contrary to the report of Rehman et al., (2015) on the Bahraini economy which witnessed the absence of relationship between financial development and its economy. It also agreed that financial intermediation substantially impacted the Nigeria economic growth. It however contrasted with Shittu’s (2012) work that credit to private sector positively is insignificant in influencing GDP in Nigeria.

The lack of significance of bank loans and advances, bank reserve and interest rate on the economic growth can be ascribed to the constraint bedeviling the banks in its intermediation role with respect to direct intervention funding in the industrial and other sectors. In addition to the consequences of a maturity mismatch, the near-absence of long-term deposits has continued to constrain the ability of banks to create long-tenured risk assets which are necessary for economic development.

Another limitation is the rising interest rate which has the potential for impairing borrowers’ ability to service loans, leading to increased non-performing loans (NPL) and higher loan-loss provisions. Rather than increasing proportionately with the volume of loans from the commercial banks, the growth rate has been at a declining rate. This is consistent with the result of the regression analysis of this study which revealed that bank loans and advances as well as interest negatively influence the real Gross Domestic Product in Nigeria.

Recapitalization of firms in the financial system has been ongoing. The financial systems reforms of 1986 to 1993 led to deregulation of the banking industry; increasing the capitalization level from 5 to 500 million Naira between 1993 and 1998. Between 2000 and 2001, the Central Bank of Nigeria (CBN) raised the capital base of merchant and commercial banks to a uniform level of N1 billion and N2 billion respectively. These, as reported by Bakari (2011) were discovered to be inadequate and led hike to minimum of ₦25 billion Central Bank of Nigeria (CBN) by December 31, 2005. The resultant consequence was the consolidation of the banking sector in the form of mergers, acquisitions and reduction of eighty nine banks to 22. Despite these series of reforms implemented in terms of increasing the capital and reserve base of the banks to ensure investors security in case of winding up, the result of this study showed that bank reserve was both negative and insignificant in affecting the economic output in Nigeria.

Several other regulatory reforms were initiated by the Central Bank of Nigeria including, new levels of Cash Reserve Requirement (CRR), Monetary Policy Rate (MPR) and the Liquidity Ratio (LR) (CBN, Annual Report, 2012) obviously had no impact according to this study on the intermediating responsibilities of the banking sector.

In all, it is important to emphasize here that the role of credit in Nigerian economic development cannot be over emphasized. The banks have performed creditably well in deposit mobilization, as well as in granting loan and advances, despite various socio-cultural and institutional problems inhibiting financial sector development in Nigeria. This is reflected in the significant positive effect of credit to private sector on the economic growth in Nigeria.
5. Conclusion
This study examined the effect of performance deposit money banks on economic development in Nigeria. The only significant independent variable is the credit to private sector (CPS) which has significant positive impact on real gross domestic product. The result showed that in the short and long run, bank loans and advances (DBLA), bank reserve (DBR), and real interest rate (INTR) negatively but insignificantly affect the real gross domestic product (DRGDP). Given the probability of F-statistics values in both the short run and long run, the study confirmed existence of long-run relationship between financial institutions intermediation and economic growth, particularly the credit to private sector.

This study concluded that commercial bank loans and advances, interest rate, bank reserves and credit to private sector have joint statistical significant effect on real GDP. The Central Bank of Nigeria should deploy monetary policies capable of enhancing the lending abilities of the banks. Monetary policy should, therefore, emphasize mandatory sectorial allocation of bank credit with appropriate incentives to boost the flow of credit to the economic and manufacturing sectors. The financial sector must equally seek ways of making credit available to the productive sector of the economy.

The government should put in place a revolving intervention fund to meet the long-term funding needs of the manufacturing sector which Deposit Money Banks (DMBs) are unwilling and unable to provide. The funding of specialize financial institutions including the Bank of Industry and Bank of Agriculture for the provision of government-subsidized facilities to the real sector should enhanced. Government fiscal policies should encourage formation of farmer’s cooperative societies and micro financing opportunities.

References


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Investor Sentiments and Trading Volume’s Asymmetric Response: A Non-linear ARDL Approach Tested in PSX

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ARTICLE DETAILS

ABSTRACT

The research paper entitled “Investor sentiments and trading volume’s asymmetric response: A non-linear ARDL approach tested in PSX” is an attempt to investigate the dynamic linkages between trading volume and investor sentiments for Pakistan Stock Exchange (PSX) 100 index. Two sentiments indicators have been used to enlighten the linkages. These indicators are overconfidence and net optimism and pessimism. Trading volume has been used as a proxy for the measurement of market liquidity. Non-Linear Asymmetric Autoregressive Distributed Lag (NARDL) as well as Dynamic Conditional Correlation (DCC) GARCH have been used to explain the dynamic linkages between trading volume and investor sentiments. Empirical findings suggested an asymmetric long-term market liquidity reaction to investor sentiment as well as upcoming three-year correlation have been forecasted between the trading volume and investor sentiments. In the short term, stock market liquidity reacts rapidly and asymmetrically to changes in overconfidence sentiment while the net optimism and pessimism sentiment have insignificant short-term impact on trading volume.

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1. Introduction

Naturally, when the investor is in the phase of optimism, he thinks that the investment in the stocks will give him the gains he required while the negative sentiment or the influence of negativity on the trading volume will have a huge impact on trading as investors avoid to invest in the stock exchange. They are demonstrated by their wants when the phase of optimism is heavier as compared to pessimistic phase. The reaction of the investors is also very strong in the market in this phase while on the other hand, when there is no advancement in the returns then they
avoid doing the trading. In each scenario, the trading volume is the best indicator used for the investor sentiments as it can easily tell us whether the investors are optimistic or pessimistic as a whole in the market.

Investors control their craving as demonstrated by the availability of new information and this strategy influences on the trading volume of the stock exchange. To check the proportion of the data, two concepts are very important in reference with the investor sentiment as the following two concepts are of pivotal importance in the association of investor sentiment and the asymmetric response of trading volume. These are; (i) Returns (ii) Trading volume. These two domains are seen differently in standard finance and behavioral finance.

Where Standard Finance accepts people as completely educated, mindful and judicious, Behavioral Finance displays the people as ordinary individuals that are not constantly reasonable and are affected by feelings, patterns, observations, heuristics and predispositions (Statman, 1999). In this way, it becomes very difficult to see the patterns of the returns and trading volume without having a grip on the investor sentiment. In this case, over reaction as well as under reaction of the investors should be observed in order to see the impact of investor sentiment on the trading volume. Overreaction and under reaction are the wonders which make a contrast between Traditional Finance and Behavioral Finance. Market productivity has been acknowledged by previous researchers and experts regarding "beat the market" (Jo and Kim, 2008). Surveying financial specialist's psychological perceived research, two noteworthy responses of market to a great extent revealed in writing are over reaction and under reaction of investors. Financial specialist acknowledged as silly in choices, either under reaction or over reaction to each occasion or new information. Under reaction here allude to the reaction of financial specialists to a news landed in advertisements not as much as what is normal for them. At the point when the market responds to some news quickly after its release and keeps on responding even in consequent period, the response is named as under reaction (Prast, 2004). Correspondingly response of financial specialists to a progression of news more noteworthy than what is normal is called over reaction. An instance of overreaction is unique in relation to that of under reaction, i.e. Reaction of market to progressing news is adjusted by modification in an opposite course in resulting periods.

Over reaction gave rise to momentum and inversion. In 1998, Nicholas, Shliefer and Vishny recognized two types of organizations. One is the mean returning administration and the other is the slope administration in which organizational benefits run. It is more plausible that mean returning wage will stay in present administration thus money related authorities revive their feeling about which state they are in, with every loud and clear news. The under reaction of the investors based on the momentum are of the view that investors will tend to under react where the signs of trading will be negative so that they might also ignore the positive signs in the market just because of under reaction stage (Spellman, 2009).

Many of the studies have focused that stock returns are linked with the short term lag and its adjustment with price. Now the studies have their focus on the market, how the existence of a long term return with the fluctuation in the prices of the stocks react. Long term over reaction to the information or under response, can recognize inefficiency, only in a long term investigation (Fama, 1998). Cognitive psychology related review provides an effective and strong base to interpret investor's behavior and any abnormalities in the stock exchange market. For instance, with the proof of over reaction of investor it is trusted that, by and large, speculators may have a tendency to blow up to new information by overlooking base rates. Irrelevant points of reference derive the decisions of the investors. Under and over reaction of financial specialists encourages the examiners to conjecture the future stock returns by showing the regime setting, i.e. a positive information, for example, acquiring declaration would be trailed by the eruption of financial specialists and a progression of positive returns (Michael, 1993).

Reversion is the upward or descending change in accordance with the early expected prices. After a progression of negative revisions, the likelihood of an upward update is around one out of four notwithstanding, after the principal upward correction likelihood winds up one in two. After two upward revisions (after a progression of negative corrections) likelihood of next positive revision is sure turned out to be seven in ten (Goldstein, 1998). Financial specialists stay their future choices with the past occasion, i.e. earlier reversion. Since financial specialists are the most important part of the market, they may over react for the same information under various market situations, at various levels.
After utilizing month to month securities exchange information of PSX 100 index over the period from January 1, 2000 to September 29, 2017, the results confirm that there exists an asymmetric relationship between the market
liquidity and overconfidence and optimism as well as pessimism perception of the investors. Over and under confidence of investors are based on the overreaction as well as under reaction of stocks market.

2. Literature Review

Behavioral finance has a wide scope to explain the investor sentiment as we are very well aware that the theory has explained the investor sentiment with full knowledge and different biases of the investor sentiment. It assumes that people are normal not rational all the time and investor sentiments has impact on its decision.

Ongoing discoveries showed that this isn't a normal phenomenon. Similarly researchers inclined to predispositions as the population everywhere, except in a few circumstances they might be much more inclined to show overconfidence and herding behavior and also investment (Thaler, 2005). In any situation, financial specialists with problematic investments are not totally wiped out from the market. As such, there are points of confinement to arbitrage, and behavioral finance formalizes and set ways; this may occur. One-way behavioral finance formalizes the likelihood of restricted arbitrage is through the noise trader model, which is seemingly a standout amongst the most cited options in contrast to the Efficient Markets worldview. As investors are risk averse and have short term plans; as claimed by the model, while arbitrageurs don’t want to expose themselves to non-diversifiable risk, should be observed by the real life arbitrage (DeLong, Shleifer, Summers & Waldmann, 1990).

In spite of the fact that noise traders have no entrance to insider data, they exchange on noisy sentiment as though it was important data that would give them an edge on the exchange floor (Black, 1986). Noise traders are very touchy to the variances in the sentiments and also they overestimate the expected returns in some of the periods. Changes in the stocks return similar developments can be due to changes in the essential need or the rebate rate. We can say that the linkage of noise traders and arbitrageurs can be controlled with the help of the stock prices while there will be no standing position of the macroeconomic factors or the risk factors. To further clarify the phenomenon, we assumed the investor sentiment as a means with the help of classical finance theory so that the concept be further clarified.

Investor sentiment is of pivotal importance in this research paper as the asymmetric behavior of the trading volume has been observed in reference with the investor sentiment. Yet in the previous literature, investor sentiment is based on the different actions or performances of the investor like the over confidence, under confidence and optimism as well as the pessimistic behavior of the investors in the financial market. The term investor sentiment in itself is a liability of the huge range of cartels and is utilized in various researches by the scholars, financial experts (Barberis & Vishny, 1998). More correctly, we characterize the investor sentiment as the two potential outcomes for why mistaken beliefs happen, people effectively utilize wrong information, or that they wrongly utilize or amend the information. At the end of the day, sentimental investors may refresh their convictions through news about essentials notwithstanding loud signals random to basics, and may do as such in a way that is measurably inaccurate. Sentiment can be used as part of the assumptions linked with the stock returns.

3. Methodology

Information is collected over the monthly time period in order to estimate the influence of the investor sentiment on the trading volume. The data related to the trading volume and investor sentiment is collected from Pakistan stock exchange. Both types of financial and nonfinancial sectors have been discussed in the data. Monthly data set has been taken for the trading volume which is used as, “the proxy for the stock market liquidity”. Investor sentiment data has been calculated by regressing the macroeconomic indicators against trading volume and then taking value of residuals as investor sentiments. The macroeconomic variables are Producer Price Index, Consumer Price Index, Industrial Production, Money Supply, Capacity Utilization Rate, Long Term Government Yield and GDP per capita.

The sample period is taken from January 2000 to December 2017. Previously no study has been done on the asymmetric response of trading volume and investor sentiment. Trading volume has been calculated monthly while the investor sentiments data has also been calculated on the monthly basis. Main motivation of this study is that no one has previously done any work on the trading volume and investors sentiments. Investor sentiments has its partial sums which are positive and negative and this series will be used in order to obtain results regarding the asymmetric response of trading volume due to investor sentiments in the Pakistan stock exchange.
In order to estimate association between investor sentiments and trading volume, data is of the PSX 100 index monthly from 31 January 2000 to 29 December 2017. Data of trading volume is available in PSX 100 index website while investor sentiment has been calculated by regressing the macroeconomic indicators. In this research, we have used trading volume as proxy for liquidity of stock market. Natural logarithm of transaction volume has been taken. Grossman and Miller (1988) also measured stock market liquidity by estimating the trading volume. While calculating investor sentiment, regressing the macroeconomic indicators and taking only the residual will allow us to supervise optimism as well as pessimism condition of the investors. If there is an increase in the indicator then it is considered as the positive or optimistic perception of the investor while on the other hand if there is a decrease in the indicator shows that the perception of the investor is pessimistic for future stock market reaction. Over and under confidence is also dependent on the investor’s positive and negative sentiments which is linked with the overreaction and under reaction of stocks in the stock exchange market. Linear models which are assumed in symmetric relationships dominate the existing literature on the stock price and trading volume. Many researchers have focused on the asymmetry relationship while few have focused nature of equilibrium over time and co integration models which allow short term and long term relationship. NARDL has its own way of estimating the variables which is different from the conventional models of co integration.

3.1 Dynamic Conditional Correlation (DCC) GARCH
There was an evolution of multivariate GARCH which was introduced in 1990 by Bollerslev. It is used for the purpose of checking the dynamic linkages between the variables. In this research, we have applied this dynamic conditional correlation between the trading volume and investor sentiment and turnover ratio and investor sentiment so that we are able to understand the linkages between these variables and will know the behavior of these variables.

It is the advanced technique used for the purpose of more explanation and clarification of the correlation between the variables. We calculate DCC GARCH by using R-Programing language and displayed multiple graphs for forecasting.

3.2 Bound Tests for Non-Linear Co integration
When series are integrated at different orders then there is need to perform a co integration test to confirm the long-term association between the variables. Here Johansen co integration test cannot be applied as it is not valid one for the estimation of long-term relationship. In 2001, Pesaran, Shin and Smith proposed a new technique of co integration estimation which is known to be the Bounds test of co integration. The null hypothesis of bounds test is that there is no co integration between the variables. We have applied this test in order to check the existence of co integration of variables. In this test, if the value of F-stats is greater than the critical value then there exists co-integration between the variables while on the other hand if the F-stats value is less than the critical values then there is no existence of co integration between the variables. We have applied this test in this paper to check the linkage between trading volume and investor sentiments in order to investigate either they are co-integrated or not. If the F-stats value is between the critical upper and lower values, then it means that there is no use of bound test or it is of no use to check the inter linkages between the variables.

3.3 Non-Linear Auto Regressive Distributed Lag Model
In order to test the asymmetric response of trading volume and investor sentiment, we have applied non-linear auto regressive distributed lag (NARDL) model for the variables. Unit root tests have been applied to check the integrated level of data; whether the data is integrated at zero level or first difference or the second difference. Error correction model (ECM) is used under NARDL method in order to estimate the long run and short run relationships of the variables i.e. trading volume and investor sentiment.

4. Results & Discussion
4.1 Conditional Correlation and Forecast Graph
To check the inter linkage between trading volume and investor sentiment, we have applied dynamic conditional correlation (DCC), a technique used for the estimation of correlation. Following is the graph between trading volume and investor sentiment which is showing a decrease in correlation between these two variables with the
passage of time. From 2000 to 2017, there is a symmetric pattern of correlation between these two variables while in the upcoming years, this trend is going to be weak.

![Conditional Correlation and forecasts](image)

4.2 Estimation of Probabilities
In the following table 1, it can be seen that the mean of the two variables, trading volume and investor sentiment, is zero which fulfills the assumption of the correlation model (Engle, 2000). This model, introduced by Box and Jenkins, is considered to be the best model used for forecasting and is based on the past values as well as the errors relating to past values. GARCH is appropriate because alpha 1 in both scenarios, trading volume and investor sentiment, is less than 0.05. Dynamic conditional correlation (DCC) is significant as the value of dcca1 is significant.

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Trading.Value].mu (u)</td>
<td>11.20346***</td>
</tr>
<tr>
<td>[Trading.Value].omega</td>
<td>0.127277*</td>
</tr>
<tr>
<td>[Trading.Value].alpha1</td>
<td>0.670161***</td>
</tr>
<tr>
<td>[Trading.Value].beta1</td>
<td>0.328839**</td>
</tr>
<tr>
<td>[sentiments].mu</td>
<td>1.85E-05</td>
</tr>
<tr>
<td>[sentiments].omega</td>
<td>0.123422</td>
</tr>
<tr>
<td>[sentiments].alpha1</td>
<td>0.593981**</td>
</tr>
<tr>
<td>[sentiments].beta1</td>
<td>0.320863</td>
</tr>
<tr>
<td>[Joint.dcca1]</td>
<td>0.4166***</td>
</tr>
<tr>
<td>[Joint.dcccb1]</td>
<td>0.383315</td>
</tr>
</tbody>
</table>

4.3 Forecasting Outcomes
In table 2, we can see a decreasing pattern in the forecasted values between trading volume and investor sentiment. 3 year's forecasts has been calculated for trading volume and investor sentiment which shows that the correlation between these two variables is higher in 2018 as compared to 2019 and 2020. The value in January 2018 is the highest one among all values forecasted for these two variables. Table 2 highlighted that in upcoming 8 months of 2018, values are decreasing with a fast pace while from October 2018 to December 2020, the rate of decrease in the value is not very significant. This exhibits the existence of correlation between these two variables in the upcoming years and there is stream lined pace of values in the coming period.
5. Descriptive Statistics
In table 3, the descriptive statistics of independent and dependent variable is shown. Mean, median, maximum and minimum values can be seen as well as standard deviations and skewness of variables. Kurtosis that measures the flatness of the distribution of the series is also provided. In the following descriptive statistical analysis, we can see that with respect to trading volume, kurtosis value is 11.07 which is greater than 3 means trading volume data has a long right-tail or it is leptokurtic. In case of turnover ratio, kurtosis is again greater than 3 which means data is positively skewed. In investor sentiments, value of kurtosis is again very high meaning that the data is leptokurtic. Jarque bera test tells the difference between skewness and kurtosis and in this case, the probability in all 3 cases is < 0.05 so we are able now to reject the null hypothesis of a normal distribution. Probability values are highly statistically significant in all these cases.

Table 2

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.607119</td>
<td>0.536809</td>
<td>0.531983</td>
<td>0.592014</td>
<td>0.535772</td>
<td>0.531912</td>
<td>0.579932</td>
<td>0.534943</td>
<td>0.531855</td>
<td>0.570267</td>
<td>0.534279</td>
<td>0.53181</td>
<td>0.562536</td>
<td>0.533749</td>
<td>0.531773</td>
<td>0.556351</td>
<td>0.533324</td>
<td>0.531744</td>
<td>0.551404</td>
<td>0.532985</td>
<td>0.531721</td>
<td>0.547447</td>
<td>0.532713</td>
<td>0.531702</td>
<td>0.544282</td>
<td>0.532496</td>
<td>0.531687</td>
<td>0.54175</td>
<td>0.532322</td>
<td>0.531675</td>
<td>0.539725</td>
<td>0.532183</td>
<td>0.531666</td>
<td>0.538105</td>
<td>0.532072</td>
<td>0.531658</td>
<td></td>
</tr>
</tbody>
</table>

5.1 Unit Root Tests
Before the inspection of the dynamic relationship between trading volume and investor sentiment, we have to test the stationarity in the data. For this purpose, we have to first check the integration level of variables. Kwiatkowski Phillips Schmidt Shin (KPSS), Phillips Perron (PP) and Augmented dickey fuller test (ADF) test have been applied in order to check the unit root. All the variables are integrated at 0 levels and 1(1) while no variable has been integrated at level 2, as given in table 4. Therefore, NARDL model can be applied for the estimation of long term as well as short term.
Table 4

<table>
<thead>
<tr>
<th></th>
<th>ADF</th>
<th>PP</th>
<th>KPSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Level</td>
<td>Level ADF test statistics</td>
<td>Level PP</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>-5.56074***</td>
<td>-5.440897***</td>
<td>0.298134***</td>
</tr>
<tr>
<td>Sent</td>
<td>-8.365074***</td>
<td>-8.920060***</td>
<td>0.037436***</td>
</tr>
<tr>
<td>TR</td>
<td>-4.581513***</td>
<td>-4.319988***</td>
<td>1.571874</td>
</tr>
<tr>
<td>In Difference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>-13.30390</td>
<td>-25.84360</td>
<td>0.104773</td>
</tr>
<tr>
<td>Sent</td>
<td>-11.39569</td>
<td>-77.55767</td>
<td>0.171487</td>
</tr>
<tr>
<td>TR</td>
<td>-10.61581</td>
<td>-34.98368</td>
<td>0.382828</td>
</tr>
</tbody>
</table>

5.2 Bounds Test for Non Linear Co integration

When the series is integrated at different orders, then there is need to perform a cointegration test to confirm the long term association between the variables. Here, Johansen cointegration test cannot be applied as it is not valid one for the estimation of long term relationship. In 2001, Pesaran, Shin and Smith proposed a new technique of cointegration estimation known as Bounds test of cointegration. The null hypothesis of bounds test is that there is no cointegration between the variables. As given in table 5, the value of F stats explains that the investor sentiment and trading volume move in the same direction for a longer period. In the following scenario, value 4.736488 of F stats exceeds the critical lower bound and upper bound at 10% significance level and 5% significance level respectively. Based on the following result of F-Statistics, we can say that there exists a long term association between trading volume and investor sentiment.

Table 5

<table>
<thead>
<tr>
<th>F-Stats</th>
<th>Lower Critical Value</th>
<th>Upper Critical Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.736488</td>
<td>3.17</td>
<td>3.79</td>
<td>Co integration</td>
</tr>
</tbody>
</table>

5.3 Non-Linear Auto Regressive Distributed Lag Model

As in this case, we need to check the relationship between trading volume and investor sentiments and assess the impact of investor sentiments’ positive and negative change in the trading volume. In the above applied tests unit root of the investor sentiments and trading volume is clear and data is stationary at zero integrated level. In order to verify the following equation, we applied non linear auto regressive distributed lag.

\[ TV_t = C + Sent_t + \mu_t \]

In the above equation, tv is the trading volume while sent has been used as investor sentiment. We created the partial sum of positive and negative change in the investor sentiments. Sent_p and Sent_n are the positive investor sentiment and negative investor sentiments respectively, which are drawn from the investor sentiment. Error correction model has been run under nonlinear autoregressive distributed lag.

Following are the results of NARDL which explain the impact of investor sentiments on the trading volume, but in order to interpret the results, we calculated the long run coefficients as Eviews removed some of the lags while running the model. In case of positive sentiment, the value is 0.056060 and in negative sentiment, it is 0.057733. Both values have been divided by the trading volume value -0.093054 in order to attain the long run coefficients. Both the coefficients are positive; the values of positive sentiment and negative sentiment are 0.60244 and 0.62042 respectively. Thus, the equation is written as;

\[ TV = 0.60244 \text{sent}_p + 0.62042 \text{sent}_n + \mu \]
It shows that the 1% increase in positive sentiment will lead to 0.60244 percent increase in the trading volume at the stock exchange while on the other hand, 1% decrease in negative sentiment of the investor leads to 0.62042 percent decrease in the trading volume.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.266446**</td>
<td>0.530180</td>
</tr>
<tr>
<td>TV(-1)</td>
<td>-0.093054**</td>
<td>0.039428</td>
</tr>
<tr>
<td>SENT_P(-1)</td>
<td>0.056060</td>
<td>0.056810</td>
</tr>
<tr>
<td>SENT_N(-1)</td>
<td>0.057733</td>
<td>0.057040</td>
</tr>
<tr>
<td>DSENT_N</td>
<td>0.933133***</td>
<td>0.058542</td>
</tr>
<tr>
<td>DSENT_P</td>
<td>0.658079***</td>
<td>0.050664</td>
</tr>
<tr>
<td>DSENT_N(-1)</td>
<td>0.510285***</td>
<td>0.097016</td>
</tr>
<tr>
<td>DTV(-1)</td>
<td>-0.431887***</td>
<td>0.072499</td>
</tr>
<tr>
<td>DTV(-3)</td>
<td>-0.124985**</td>
<td>0.060201</td>
</tr>
<tr>
<td>DSENT_P(-3)</td>
<td>0.175339***</td>
<td>0.054608</td>
</tr>
<tr>
<td>DSENT_P(-2)</td>
<td>0.207596***</td>
<td>0.052937</td>
</tr>
<tr>
<td>DTV(-2)</td>
<td>-0.268550***</td>
<td>0.061559</td>
</tr>
<tr>
<td>DSENT_P(-1)</td>
<td>0.207160***</td>
<td>0.053694</td>
</tr>
</tbody>
</table>

R-squared = 0.834585
Adjusted R-squared = 0.824611
Prob (F-statistic) = 0.000000

6. Conclusion

The paper examines the dynamic association between the trading volume and the investor sentiment of Pakistan stock exchange. The main contribution of this research paper is that it provided a deep rooted analysis for the short term as well as long term change in the trading volume with respect to the investor sentiment. In this study, DCC Garch has been used for the purpose of estimating a correlation between the trading volume and the investor sentiment. By the help of R-language, we provided forecasted values for the upcoming three years, that can be utilized in the future studies. Nonlinear cointegration approach termed as Asymmetric Autoregressive Distributed Lag (NARDL) has been employed to provide estimation of the short term as well as long term asymmetry between the trading volume and investor sentiment. The research is performed on the monthly data from 1st January 2000 to 31st December 2017. The results confirmed that there exists a long-term asymmetry between trading volume and investor sentiment. Results also highlighted that the positive investor sentiment causes an increase in the trading volume as the investors are considered to be in over confidence phase while on the other hand the negative investor sentiment causes a decrease in the trading volume as the investors are in the phase of pessimism.

These results are consistent with the over confidence bias of behavioral finance which proposes that over confidence of investor causes an increase in the extreme trading while under confidence of investors slackens trading in the stock exchange. When the investors are in bad phase or in the condition of under confidence, they should not avoid trading so that they will be able to overcome the impact of under confidence and ultimately perceptions will be changed to optimism. This will help investors to streamline their portfolios by making good investment or decision making regarding the future stocks returns.

References
ARCH model. The review of economics and statistics, 498-505.
Does Mandatory IFRS adoption and Macroeconomic Factors Affect Cost of Equity Capital? Empirical Evidence from South African Listed Firms

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ARTICLE DETAILS

Purpose: This paper investigates the collaboration of International Financial Reporting Standards (IFRS) adopted and macroeconomic variables interaction with information asymmetry, analysts following and managerial opportunism affecting the cost of equity capital, and also influence investor’s decision taking on companies in South Africa.

Design/Approach: A sample of 49 listed Johannesburg mining and manufacturing firms was extracted from archival database of INET BFA/IRESS SA, Morningstar, and Anupedia. A leverage fixed effects panel data set of firms from 2001 to 2014 was examined, which shows that Breusch-Lagrange Multiplier tests and the test of over-identifying restrictions used, form the basis of the content analysis of the most recent IFRS effect after mandatory adoption. We used a hand-collected dataset between 2000 and 2015.

Findings: Our findings suggest that a significant association is found between IFRS and its interactions with managerial opportunism and integrity but with a reasonable statistical effect. However, the IFRS adoption effect on the cost of equity capital of South African firms’ has no significant effect.

Practical implications: This study reveals that most firms report more, the credibility of annual financial statements which may not be sufficient because of the qualitative data for an assessment of managerial opportunism, information asymmetry and analysts following. Of such myopia of company managers, their reputation causes agency problems and as a result, shareholders interest is mainly focused on improving reporting standards.

Originality: The research considers dual harmonizing facets: first, that the interaction with IFRS adoption and economic factors impact on the cost of equity capital may be so pathetic and obvious; and second, that IFRS moderation impacts on the cost of equity capital in Sub-Saharan African. This finding should be meaningful to managers, analysts, policymakers, and supervisory bodies in nations with similar capital structure decisions and socioeconomic systems.

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Keywords: IFRS Adoption, Cost Of Equity Capital; Macroeconomic Factors; Fixed Effects; South Africa

JEL Classification: G3, G30, G32

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DOI: 10.26710/jafee.v5i1.725

1. Introduction

Globalization has resulted in many countries devising means of becoming very competitive to avoid being left out. Therefore, one means used by countries is the improvement of the financial reporting standards. Thus, several nations have adopted IFRS, which is established by the International Accounting Standards Board (IASB). The intended aim of IFRS is a mechanism that should give way to a greater demand for the firm value required by investors and other stakeholders in their quest for financial reporting quality (Jonas &amp; Blanchet, 2000). Prior extant literature links cost of equity capital of IFRS adoption, which obliges listed companies in South Africa to prepare annual reports in conformity to IFRS since 2005.

IFRS is to strengthen corporate reporting and its relation to firms cost of equity capital, which has become a phenomenon of interest (Madhani 2008). Thus, IFRS adoption will increase the credibility of financial reporting and create investment opportunities which would reduce the costs of equity capital and improve the return on investment. The implication to adopt IFRS on stock market aspects of cost of equity capital boils down to the essence of financial information to the users and stock market development (Francis et al., 2006). It, therefore, follows that IFRS should reduce the cost of equity capital because it reduces managerial opportunism and information asymmetry whiles it increases analyst following of adopted firms. So there is a growing debate on whether IFRS adoption and the cost of equity capital are either complementary or substitutes the approaches to value creation. Therefore, this study emphasis on how the cost of equity capital of listed manufacturing and mining firms in South Africa has changed after IFRS adoption.

South Africa was the first African countries to adopt IFRS, therefore studies of this nature attract several researchers’ attention and also being the most important economy in Africa for investment opportunities, hence the reason for its selection. Despite, after a decade of IFRS adoption in South Africa, there is scanty information about capital structure decisions. This paper examines IFRS adoption and macroeconomic factors impact on the cost of equity capital of South Africa listed manufacturing and mining companies.

The argument on whether companies attribute to the cost of equity capital reduction in information quality is an important and contentious problem for corporate managers, capital market players, and information quality standard setters to establish.

Our estimation is the financial statement data covering the period 2001 to 2014 of 49 South Africa listed manufacturing and mining firms. We estimated the panel data regression method applied to estimate the effect of IFRS adoption on the cost of equity capital and also use control variables as a technique to make it possible for unobserved heterogeneity that correlates with explanatory variables.

Our study reveals that IFRS and its interactions with other variables had no significant effect on the firms’ cost of equity capital. We interpret this negative relation because firms find it expensive to implement new efficiency standards. However, managerial opportunism, integrity, and the exchange rate have an inverse relationship with firms’ cost of equity capital. This paper, therefore concludes, that IFRS adoption had no meaningful impact on the selected listed firms’ cost of equity capital in South Africa.

This paper draws on recent advances in IFRS adoption literature and firm’s cost of equity capital in relation to financial reporting quality and economic factors. Our findings give an insight of IFRS adoption influences on the agent-principal relationship of resource accountability between the owners of the business and those accused of governance. Failed IFRS implementation undermines quality financial reporting and therefore appears to result in unfortunate shareholders indifference.

Therefore, this study contributes to a growing finance and accounting literature on IFRS adoption and firms’ cost of equity capital in the following ways. First, most research on IFRS adoption and firms’ cost of equity capital was focused on European data. This study uses manufacturing and mining industries of South Africa that is sensitive and therefore offers a better understanding of this relationship. Second, this study recognizes managerial
opportunism, analyst following, and information asymmetry as the moderation role of IFRS adoption and firms’ cost of equity in the South African context. Third, this paper utilizes both firm-level and macroeconomic factors as controlling variables from a broader perspective to explain the firms’ cost of equity capital as against prior studies. Fourth, this study is first of its kind to allow for longer transition periods (early post-adoPTION 2006-2009 and late post-adoPTION 2011- 2014) in IFRS adoption effect on the cost of equity capital, as against previous studies (Houque et al. (2015); Gatsios et al. (2016); Patro and Gupta (2014); Castillo-Merino et al., 2014; and Daske (2014)).

Besides the introduction, the rest of the paper is structured as follows. Section two reviews relevant literature on IFRS adoption and firms cost of equity capital and the development of research hypotheses. Section three presents the specified method. Section four discusses the empirical results and conclusion, while proposals for future research form the fifth section.

2. Theoretical Underpinnings and Hypotheses Development

2.1 Accounting Standard- Settings in South Africa
South Africa is at the same time a code and a common-law nation where investor protection and insider/market positioning opened. The Accounting Standards Board (ASB) is prepared by a legislative instrument, whose main aim is to set standards for all spheres of government, accompany by directives and guidelines. Minister of Finance, in collaboration with the Auditor-General, seek to implement the new standards and ensure complete compliance with the standards. The South African Institute of Chartered Accountants (SAICA) is responsible for managing all accounting setting processes. Because ASB is consider best accounting practices that have the quality to enhance capital markets for foreign investment (Liner, 1995), the International Financial Reporting Standards (IFRS) is approved in 2005. Under this, listed firms prepare financial statements in complying with IFRS. The new standards are to be of quality; therefore it is an opportunity to examine the effect of the cost of equity capital and the adoption.

2.2 Conceptual Backgrounds
IFRS adoption dwells on two theories, the bonding theory of adoption explains the increasing trend of individual firm’s fame associated with the financial markets (Coffee, 2002), while the signaling theory stipulates that firm’s commitment to quality financial reporting is built on a signal for IFRS adoption (Tarca, 2002). International Accounting Standards Board (IASB) develops IFRS to be acceptable in the world for developing accounting activities, thus promoting accounting rules harmonization. There is an extensive relationship between the quality of IFRS adoption on financial accounting information of listed South African manufacturing and mining companies and to reduce the cost of equity capital and improved investment returns (Tweedie 2006, and Barth et al. 2008). Large numbers of accounting quality indicators associated with IFRS adoption by European countries have enhanced the reporting credibility (Chen et al., 2010; Barth et al., 2008). Paramount to corporate decisions is an entity’s cost of equity capital. From defining the target rate for investment plans to influence corporate capital structure decisions, the cost of equity capital effects on firm’s operations and its subsequent cost-effectiveness.

Given this importance, it is not surprising that a wide range of policy recommendations has been an innovation to help businesses reduce this cost (Easley and O'hara, 2004).

The cost of equity capital is expected to decrease in two ways. First, international comparability of financial statements ought to improve in relation to IFRS adoption of a general accounting ‘language’. This entices equity from foreign investors and therefore reduces the barriers to cross-border equity flows. Second, the corporate disclosure must improve when better-quality accounting standards are adopted to the local GAAP which is of lower quality. This enables outside investors to monitor investment returns when information asymmetry is being reduced and improved accounting standards should reduce the costs of equity capital (Core et al. 2011). According to Levitt (1998), the veracity is that high-quality standards would lower the cost of capital.

2.3 Hypotheses Developments
Cost of equity capital: According to Daske et al. (2008), the benefits of capital markets are achieved when firms present credible annual reports. Most specifically, comparability benefits among investors is a question of considerable interest and significance to the financial reporting community. However, the association between accounting information quality and the cost of equity capital is not well addressed and has proved difficult to conclude. It is a fact that most of the benefits following IFRS adoption are linked with Europe. It is not appropriate to accept that the results can be generalized to apply to African situations.
2.3.1 Cost of Equity Capital and IFRS Interaction With Information Asymmetry
Signaling theory identifies problems relating to information asymmetry in capital markets and also illustrates how it causes alarm to investors (Morris, 1987). Akerlof (1970) shows that, in the existence of unaware buyers, value prices are based on perceptions about products but not on their quality.

Agency theory heightens information asymmetry between those charged with governance and the owners of the business. Information asymmetry focuses on the disclosure of inside information to benefit managers at the expense of shareholders. IFRS mandatory enjoins the management to disclose all material items as part of the financial statements to avoid distortion of information for decision making. An incentive to shift to IFRS may suggest better economic performance and firm value, under reduced information asymmetry. This sort is to reconcile diverse / contradictory findings on information asymmetry impact on the cost of equity in conjecture market situations wherein imperfect markets information asymmetry cause risk factors (Armstrong, et al. 2011). In an international research, Hail and Leuz (2006) concludes that nations with a better information environment have a lower cost of equity capital. IFRS adoption of listed manufacturing and mining firms in South Africa increases information asymmetry which decreases inherent conflict of interest, reducing the cost of equity capital. Hence, we have a positive relationship between the cost of equity capital and IFRS interaction with information asymmetry and hypothesize that:

Hypothesis 1: Combined effect of IFRS-adopted firms and information asymmetry pertains to reducing the cost of equity capital than firms under a pre-adoption period.

2.3.2 Cost of Equity Capital and IFRS Interaction With Analysts Following
Both public and private sources of information needed by investors are supplied by financial analysts. This information is important in order to aid in capital market development (Healy and Palepu, 2001). Therefore, financial analysts are used as an intermediary between investors and firms (Schipper, 1991). Investors rely on financial analysts to find out more about a firm and to make investment portfolio decisions. IFRS adoption improves public disclosure and reduces the costs of getting information which tends to increase the analysts following firms. Analyst following is invoked as a proxy for the richness of a firm’s information environment (Lys and Soo, 1995; Bae et al. 2008; Brown and Higgins, 2002). In a more concentrated study, a reduced cost of equity capital is a combined function of analyst following forecast properties and IFRS. In summary, higher combine effect of analyst following and IFRS adoption enables the environment to improve capital structure decisions. The hypothesis is:

Hypothesis 2: Combined effect of IFRS-adopted firms and analyst following is positively associated with the decreased cost of equity capital than firms under the pre-adoption period.

2.3.3 The Cost of Equity Capital and IFRS Adoption Interaction With Managerial Opportunism
Williamson (1985) noted that opportunism is “self-interest seeking with guile”. Managerial opportunism is an inevitable consequence of costly information. In the world of no transaction cost, including the cost of determining behavior and actions of stewards (managers), there would be no opportunism. In another direction, the study examines whether the shift to IFRS reduces managerial opportunism. Quality of financial reporting expects under IFRS as the different standards heighten informative disclosure and promote investor protection mechanisms. We posit that IFRS adoption would lead to lowering managerial opportunism (Luez, 2003; Latridis and Rouvolis, 2010). We anticipated an adverse relationship with the cost of capital of firms and their interaction with IFRS adoption and managerial opportunism. The hypothesis tested is:

Hypothesis 3: Interaction effect of IFRS-adopted firms and managerial opportunism are negatively associated with lower cost of equity capital than firms under the pre-adoption period.

2.3.4 Macroeconomic Factors and IFRS Adoption
Quality of macroeconomic factors under the IFRS adoption has a negative impact and reduces the effect on firm’s cost of equity capital (Wang and Welker, 2011). This underlines the score that macroeconomic factors are high and that accounting systems would develop so as to motivate investors based on firms’ performance, all things being equal (Li, 2010 and Castillo-Merino et al., 2014). Despite that from all the studies above, none of them was done in
Africa. We expect macroeconomic factors under IFRS adoption to increase shareholders’ value in the country. Based on this argument, we hypothesize that:

Hypothesis 4: Quality macroeconomic factors decrease the cost of equity capital under IFRS adoption.

3. Research Design

3.1 Sample and Dataset Selection

The population for this study is mining and manufacturing firms listed on the JSE. The characteristics of the listed firms enhance the research since they report in a similar format for the study periods. However, sample companies must meet the conditions below:

- The companies that have been consistently listed on the JSE for fifteen years prior to the research.
- Firms that have consistently published annual reports within the study period.

Applying these standards resulted in a sample of 49 companies (refer to table 1). The empirical analysis was based on data retrieved from the annual financial statements of 49 listed companies on the JSE during a fourteen-year periods, 2001-2014. Fourteen years were selected because these were apt to test before and after adoption. In all, 686 firm-years reports of listed manufacturing and mining companies for the period 2001-2014 were utilized. The sample companies are those firms that have consistently published annual reports and showed existing information before and after the adoption periods.

The companies’ annual financial data were downloaded from archival databases of INET BFA/IRESS SA, Morningstar, and Anupedia. Table 1 shows that sampled firms represent 75.39% of the total population.

Table 1: sample selection process

<table>
<thead>
<tr>
<th>Firm/Year obs.</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial sample of observations: Manufacturing Mining</td>
<td>38 27 65 100</td>
</tr>
<tr>
<td>Firms with insufficient observations: Manufacturing Mining</td>
<td>(12) (4) -18.46 -6.15</td>
</tr>
<tr>
<td>Final sample</td>
<td>49 75.39</td>
</tr>
</tbody>
</table>

We used firm’s specific control variables as IFRS adoption in South Africa is mandatory for all listed reporting entities. There are no other firms that use alternative accounting standards after the obligatory adoption period for comparison. Therefore, the 49 listed firms in a standardized firm-year observation was used to explain pre-adoption and the post-adoption periods. It is very likely that the change observed on firms’ cost of equity capital was linked to IFRS adoption. Firm-specific factors are controlled by having the same requirements.

Four separate periods of data were employed in the study; the pooled (2001-2014), a pre-adoption (2001-2004), the early post-adoption (2006-2009), and the late post-adoption period of 2011-2014. These approaches ensure that data covering the four reporting periods under IFRS for all firms have an equal number of observations for pre-IFRS and post-adoption periods (Chua et al., 2012), except for the pooled regression model which uses 2001 to 2014 years excluding 2005 period. The exclusion of 2005 as the adoption of transitional year is consistent with Chua et al. (2012) and Zeghal et al. (2012).

Table 2: Description of Variables and Sources

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description/ measurement</th>
<th>Source (s)</th>
</tr>
</thead>
</table>
Control Variables

In accordance with previous literature, we applied three control variables with the aim of avoiding bias results. The control variables used includes; leverage, liquidity, and tangibility. The inclusion of control variables is expected to correlate with cost of equity capital estimation as their exclusion from the tests may bias the coefficients estimated.

3.2.1 Leverage (Lev)

Important governance mechanism includes management of debt (Shleifer and Vishny, 1997). Due to the interest and principal payments on debts, managers are liable to generate cash flow to meet them. It, therefore, ensures credible financial reporting standard to manage liability arrangements. To meet such commitments, managers make an incentive programme to increase earnings. We made use of the ratio of total debt divided by total assets (Zamri et al., 2013) to calculate leverage (LEV) (Mahoney et al., 2008). Lower leverage level expects under IFRS adoption as full disclosure of information is obligatory, therefore corporate value would be higher (Tu, 2012; Daske et al., 2008).

3.2.2 Liquidity (LQ)

It shows how companies could meet their financial obligations in the short-term when they fall due (Fabozzi et al., 2010-RRB). Liquidity heightens if there are fewer costs to convert company’s assets into cash. Higher firm value is reached under IFRS adoption, when the adoption limits managerial accounting manipulations, but can maintain cash flow for satisfying short-term commitments (Gitman, 2004).

3.2.3 Asset Tangibility (TANG)
Akintoye (2009) stipulates that, keeping large investments tangible assets of firms associates with smaller costs of financial distress, will impact the optimum performance. This enhances and generates more revenue from sales. We measured Tangibility as the Net Property, Plant, and Equipment divided by Total Assets and in percentage form. IFRS adoption shows a positive relationship with asset tangibility and firms’ cost of equity capital.

3.3 Model Specifications And Analysis Techniques
Since the data were a panel, the pooled ordinary least square regression (POLS), a random effects (RE) and a fixed effects (FE) estimation were used depending on which is the best. This is tantamount to select the best econometric model that can lead to correct inferences arising from coefficient estimates (Onali et al., 2017). Therefore, the Breusch and Pagan Lagrangian multiplier test are used to select between the RE and the POLS regression, and if the RE is the better option. To assess the validity of usable instruments, the Sargan test of over-identifying restrictions (Sargent-Hansen statistic) chooses between the RE and the FE. The test of over-identifying restrictions is used for the study controlled for heteroskedasticity by using robust standard errors and hence the Hausman test would not have been appropriate. However, if the POLS are ahead of the RE, the F-test chooses between the POLS and the FE. In comparing the POLS to FE, the FE is run without a robust standard error option to display the F-test result. Therefore, if the test chose the FE model ahead of the POLS, the FE is re-run with the robust standard error option.

The meanings of all the notations were set out, and it must be emphasized that all the variables were used in their natural logarithm forms (LN) except IFRS and its interactions with other variables. Furthermore, all analyses in this study needed to be done using STATA 11.2 and 14 versions.

4. Empirical Results and Discussion
This section covered analysis and discussion on correlation analysis, as well as regression results.

4.1 Descriptive Statistics And Correlation Analysis
This section covered descriptive variables and correlation analysis of the study, i.e. the standard deviation, mean, minimum and maximum values of variables employed in the study as well as the strength of association between the variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>Observ.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coec overall</td>
<td>.0048928</td>
<td>.0339538</td>
<td>2.34e-08</td>
<td>.445382</td>
<td>N = 637</td>
</tr>
<tr>
<td>Between</td>
<td>.0278361</td>
<td>1.50e-07</td>
<td>.1924169</td>
<td>.901558</td>
<td>n = 49</td>
</tr>
<tr>
<td>Within</td>
<td>.019815</td>
<td>-0.720877</td>
<td>.416017</td>
<td></td>
<td>T = 13</td>
</tr>
<tr>
<td>Tang overall</td>
<td>.4233627</td>
<td>.2217169</td>
<td>-.9939135</td>
<td>1.485497</td>
<td>N = 637</td>
</tr>
<tr>
<td>Between</td>
<td>.1573793</td>
<td>.1578005</td>
<td>.901558</td>
<td></td>
<td>n = 49</td>
</tr>
</tbody>
</table>
From Table 3, cost of equity capital had an overall mean value 0.0048982. Also, it can be seen that the overall mean values of the variables as showed in parenthesis were liquidity (1.656138), tangibility (0.4233627), leverage (0.3536813), analyst following (4.954474), information asymmetry (0.3356972), integrity (3.966154), managerial opportunism (0.0023402), exchange rate (8.230195), interest rate (7.885777), government borrowing (2.22e+07) and bankruptcy (116.4615). Thus, bankruptcy had the highest overall mean value. In addition, results in the minimum and maximum values, number of observation and standard deviation of all variables can further be seen in Table 3. Also, the IFRS dummy had both maximum and minimum values at 1 and 0 representing IFRS adoption periods (1) and no IFRS adoption periods (0).
The correlation analysis as shown in Table 4 was conducted to investigate the direction and strength of relationship among the variables used in the study. Therefore, a negative sign implies that the variables move in opposite directions (negatively correlated) and a positive sign means the variables move in the same direction (positively correlated). In addition, the closer the correlation coefficient is tantamount to 1, the greater the strength of association and the farther the correlation coefficient is to 1, the weaker the strength of association. Therefore, the same variables would be perfectly correlated with a coefficient of 1 as seen in the results. Regarding the correlation between different variables, only the correlation between exchange rate and integrity (-0.6653), and the correlation between bankruptcy and interest rate (0.8358) was relatively stronger; negatively and positively respectively. However, the strength of the association between the remaining variables was weak generally.

### Table 5: The Effect of IFRS on Cost of Equity Capital of Listed Firms in South Africa

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LNcoec</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNtang</td>
<td>0.0806</td>
<td>0.237</td>
<td>0.0608</td>
<td>-0.281*</td>
</tr>
<tr>
<td></td>
<td>(0.139)</td>
<td>(0.232)</td>
<td>(0.260)</td>
<td>(0.159)</td>
</tr>
<tr>
<td>LNLQ</td>
<td>0.362</td>
<td>1.897***</td>
<td>0.138</td>
<td>0.0990</td>
</tr>
<tr>
<td></td>
<td>(0.275)</td>
<td>(0.682)</td>
<td>(0.137)</td>
<td>(0.175)</td>
</tr>
<tr>
<td>LNlev</td>
<td>-0.0298</td>
<td>-0.0629</td>
<td>-0.298**</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td>(0.0930)</td>
<td>(0.168)</td>
<td>(0.141)</td>
<td>(0.0802)</td>
</tr>
<tr>
<td>LNIA</td>
<td>0.0716</td>
<td>0.320*</td>
<td>-0.177***</td>
<td>0.0323</td>
</tr>
<tr>
<td></td>
<td>(0.106)</td>
<td>(0.172)</td>
<td>(0.0545)</td>
<td>(0.0691)</td>
</tr>
<tr>
<td>LNAF</td>
<td>0.145</td>
<td>0.135</td>
<td>-0.0793</td>
<td>0.0511</td>
</tr>
<tr>
<td></td>
<td>(0.188)</td>
<td>(0.165)</td>
<td>(0.0899)</td>
<td>(0.0918)</td>
</tr>
<tr>
<td>LNMO</td>
<td>-0.0833***</td>
<td>-0.0153</td>
<td>-0.00418</td>
<td>-0.0856*</td>
</tr>
<tr>
<td></td>
<td>(0.0304)</td>
<td>(0.0767)</td>
<td>(0.0215)</td>
<td>(0.0433)</td>
</tr>
<tr>
<td>IFRSIA</td>
<td>-0.283</td>
<td>-1.866</td>
<td>0.378</td>
<td>0.986</td>
</tr>
<tr>
<td></td>
<td>(0.382)</td>
<td>(1.484)</td>
<td>(0.282)</td>
<td>(1.698)</td>
</tr>
<tr>
<td>IFRSAF</td>
<td>-0.00883</td>
<td>0.0895</td>
<td>-1.692**</td>
<td>-2.107</td>
</tr>
<tr>
<td></td>
<td>(0.0453)</td>
<td>(1.058)</td>
<td>(0.730)</td>
<td>(1.470)</td>
</tr>
<tr>
<td>IFRSMO</td>
<td>-0.0296</td>
<td>-0.678</td>
<td>-2.426**</td>
<td>1.367</td>
</tr>
<tr>
<td></td>
<td>(0.141)</td>
<td>(1.857)</td>
<td>(0.985)</td>
<td>(1.811)</td>
</tr>
<tr>
<td>LNINTG</td>
<td>-2.269***</td>
<td>-1.586</td>
<td>-0.413</td>
<td>0.0424</td>
</tr>
<tr>
<td></td>
<td>(0.754)</td>
<td>(1.924)</td>
<td>(0.510)</td>
<td>(0.0368)</td>
</tr>
<tr>
<td>LNIR</td>
<td>0.404</td>
<td>1.106</td>
<td>_cons</td>
<td>-0.410</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LNBR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.974</td>
</tr>
</tbody>
</table>
Regression Results
This section tackled analysis and discussion of the regression models used in attaining the objectives of the study noted in Table 5. Of all the periods/models considered, the tests (Breusch and Pagan Lagrangian multiplier test, the test of over identifying restrictions (Sargan-Hansen statistic) and an F-test) chose the fixed effect model to be the best. Therefore, the results revealed that in the 2001-2014 model, excluding 2005, managerial opportunism (LNMO) had a 1% significant coefficient of -0.0833 and hence the cost of equity capital decreased by 0.0833% when there is a 1% increase in managerial opportunism. Furthermore, the coefficient of integrity (LNINTG) was -2.269, which was significant at 1% and hence a 1% rise in integrity led to a 2.269% decrease in firms’ cost of equity capital. Also, a coefficient (-1.828) of the exchange rate that was significant at 1% implies that, when exchange rate rose by 1%, the cost of equity capital fell by 1.828%. Thus, managerial opportunism, integrity, and the exchange rate had decreased the effects on IFRS.

However, it was disclosed that IFRS as a variable and also as its interactions with other variables have no significant impact on firms’ cost of equity capital and hence the null hypothesis could not be rejected. Our result agrees with the findings of Gatsios et al. (2016) which revealed that IFRS adoption does not decrease firms’ cost of equity capital in Brazil. Daske (2014) who didn’t find lower anticipated cost of equity capital for IAS/IFRS adopters as well as the result of Patro and Gupta (2014) who found IFRS to have no significant influence on the cost of equity capital of Chinese and Israeli firms. Never the less, the results contradict those of Houque et al. (2015) who found IFRS adoption to have a negative impact on the cost of equity capital as well as those of Castillo-Merino et al. (2014) who revealed a negative significant impact with IFRS adoption and the cost of equity capital of Spanish listed firms.

With regard to the Pre-IFRS adoption period (2001-2004), only information asymmetry (LNIA) and liquidity (LNLQ) were significant at 10% and 1% respectively. Therefore, given their respective coefficients of 0.320 and 1.897 implied that a 1% increase in information asymmetry and liquidity led to a 0.320% and 1.897% increase in the firms’ cost of equity capital (coec) respectively. Information asymmetry and liquidity had positive impacts on the cost of equity capital. Regarding an early IFRS adoption period (2006-2009), leverage (LNlev) was found to have a 5% significant coefficient of -0.298 and hence cost of equity capital fell by 0.298% when leverage increased by 1%. Moreover, a 1% rise in information asymmetry was found to decrease the cost of equity capital by 0.177% bestowed its 1% significant coefficient of -0.177. Also, it was revealed that an increase in the exchange rate would cause the cost of equity capital of firms’ to decrease. Thus, a 1% rise in the exchange rate was found to reduce firms’ cost of equity capital by 1.692% since the exchange rate had a 5% significant coefficient of -1.692. In
addition, government borrowing had a decreasing impact on the cost of equity capital given its 5% significant coefficient of -2.426. Thus, a 1% increase in government borrowing would reduce firms’ cost of equity capital by 2.426%.

Last but not the least, in the late IFRS adoption period (2011-2014), tangibility and managerial opportunism had 10% significant coefficients of -0.281 and -0.0856 respectively. Thus 1% increases tangibility and managerial opportunism led to 0.281% and 0.0856% decrease in cost of equity capital respectively.

6. Conclusion
From the findings, it can be said that, even though managerial opportunism, integrity, and the exchange rate have negative effects on the firms’ cost of equity capital, IFRS adoption with its interaction with other variables had no significant impacts on the cost of equity capital among listed firms in South Africa. This requests that the need to realign the adoption to suit African economies in order to reap its numerous anticipated benefits, which include a reduced cost of equity capital. It further sends signals to other African economies on the need to tread cautiously in embarking on mandatory adoption of IFRS.

Conflict of Interest
The authors declare no competing interest.

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Socio-Economic Determinants of Employment: A Case study of Pakistan

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ARTICLE DETAILS

ABSTRACT

This research is the foremost determination to investigate the long and short run affiliation amongst the variables of employment. For this purpose we use ARDL bound tests. The data from the period of 1972 to 2016 has been used in this research. These results indicate that employment has statistically significant and positive relationship between the variables of employment. Orders of integration of variables used in this analysis are I (0) and I (1). The results of this study show that per capita of GDP and expenditures of government have significant positive relationship with the employment in both time periods, the short and long run. Thenoteworthyempirical relationship is found in long run between GFCF, while in short period of time it shows destructive relation with employment. While FDI shows a high level of significant and positive relation both in long run and short run. Secondary school enrolment has significant and positive relation with employment in both time periods the long and short run time period. The relationship of money supply with employment in long run is positive while in short run it shows significant but negative relation with employment. Trade and political stability both are the main factors to estimate the strength of an economy. According to this study trade and political stability shows significant and positive relation with employment in long run while in short run both shows negative relationship with employment.

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1. Introduction

Over the last 20 decades there are tremendous researches on the economic growth. Pakistan is in the list of fast growing eleventh developing country which has high potential to get his name in the world’s large economy
countries in 21st century in term of purchasing power parity (PPP). Pakistan is the 25th largest economy in the world. The economy of Pakistan is affected greatly with internal political disputes and rapidly growing population.

Barker defined the unemployment is the condition of no work, while the person who is not in working condition is considered as the unemployed person, currently present for work and is looking for the work. (1999: 165). The rate of unemployment is defined as the amount of person that are unemployed or not in working condition from overall population and then taken the rate in percentage. According to the Human Science Research Council (1985) the unemployment is the situation of no work in which a person wants to do job or work, but he has no work to do will considered as the unemployed person and consists in unemployment. While there is another type of unemployment is hidden unemployment. In this situation, the person wants to do some constructive work but have threat of his ongoing age and keep themselves hide just because how much chance he has or not, or think rather he gets the chance of work or not, is also considered in unemployment.

Unemployment rate in the world is 6.0 percent, instead of fast economic growth of 5.1 percent in 2010 and 4 percent in 2011. According to the ILO, for further four years, global unemployment will remain high with more than 197 million unemployed people around the world. Unemployment has witnessed two folds between 2007 and 2009 in countries such as USA, Ireland and Spain. However, there are some countries like Germany, where unemployment has gone up at constant level in 2008 and 2009. In European Union (EU) and Developed Economies regions, during 2007 1nd 2011, unemployment has distressed the economic conditions. In numerous developing countries such as Sri Lanka, Thailand, Brazil and Uruguay, the rate of unemployment has been fallen during these years. Furthermore, a well performed economy sometimes has to face the dilemma of unemployment. According to Grantas and Koller (2005), this may be the outcome of the challenges of matching those who are looking for job and what is available in the labor market or as a result of mismatching of job training, education level and experience.

Socio-economic is the branch of economics which deals with the study of social behaviors, norms, ethics and social values that influence the economy as a whole. It also analyzes the reasons behind this progress and hinders of the social growth. Social economics refers to the relationship of public and fiscal factors within the society that influence the action of particular group or socioeconomic class. A socioeconomic class is a group of people that have same social and economic status, level of education, profession, and different facilities etc. Socio-economic development is evaluated by factors such as GDP, education, life expectancy, job opportunities, new technologies, law and order, changes in physical environment. The impacts of less effecting factors are also considered, such as personal safety, freedom of association, personal dignity.

2. Literature Review
Gilbert et al. (2003) investigated that the increase in crime rate is the main reason of unemployment in our country. The researchers has collected the data from 1978-2008. The researcher applied the test of stationarity in form of unit root ADF test and Granger Causality test. They concluded that the unemployment is the main problem of increasing the crime rate in the country. Government can utilizes more effective methods to crab the occurrence of violent crime.

Wamuthenya et al. (2010) investigated that the elements of employment in ceremonial and informal sector of African country named Kenya. The author castoff the secondary data from 1989 to 2001 and applying the empirical MNL model. They found that the education has the strongest impact on the employment. They also illustrated that the sex, marital status, education and household responsibilities are the major determinants that effects employment in urban areas of Kenya and vary by age and gender.

Choi et al. (2008) determined through their study whether there is presence of an environmental connection between job pull and general psychological disorders at the job-related plane and whether the associations is a perplexing effect of socioeconomic condition. To find the results, this study is based on the analysis to measure the relationship as correlations and some regression and graphical analyses to measure the efficiency of model. The findings have proved that the socio and economic conditions are related to the stress of job.

Akinpelu et al. (2013) said the socio-economic determinants of corruption are found in Nigeria. They used the data in the form of time series of variables from time period 1980 to 2011. The researchers used Corruption as an
independent variable which is measured in Perception Index and formulated through the TI which is considered as Transparency International. The researchers revealed that unemployment is one of the major factors that cause corruption in Nigeria. The empirical findings of this concerned research has proved the significant association of corruption, GDP and unemployment in long period of time.

Kassa (2011) analyzed the effect of determinants of unemployment at individual and household welfare. The researcher collected the data of 1500 households from 4 major cities of Ethiopia for the period 1994 and 2004. He found from his study that the chances of unemployment increased with age. As the problem of unemployment reduced it would enhance the welfare of the households.

Mahmood et al. (2013) investigated the link between major factors that hurdles the progress of Pakistan. To discover out the long run connection between variables, the researchers applied some techniques like used the methodology of Johansen’s test of cointegration and VECM. They also concluded from their study that in Pakistan, interest rate and inflation do not influence significantly the unemployment rate. The rate of unemployment is affected by other factors like education level, peace and economic growth.

Aurangzeb et al. (2013) examined the employment level in China, India and Pakistan by following the elements of macroeconomic. The data has been used over the time in years 1980 to 2010. In Pakistan, foreign investment, poverty and unemployment rates have the noteworthy and constructive association with GDP of Pakistan. Moreover, the findings related to granger causality test proved that the two way causation is not exists among the concerned variables of this study.

Mahmood et al. (2014) elaborated that the Pakistan’ economy in terms to the association among the growths of Pakistan economy and unemployment in Pakistan. This research has followed the data of concerned variables over the time in years of 1990 to 2010. The result of research study shows that unemployment have significant association with selected independent variables like foreign investment, while GDP, inflation, population growth, budget deficit, literacy rate and labor force which are included as explanatory variables.

Tahir et al. (2012) discussed how formal sectors wages affects informal employment and growth. The data was collected from five towns of Lahore from 2001-2010. The results showed that in informal industrial sectors, there is positive effect of population growth on employment. While, in informal sectors GDP growth rate has negative effect on employment.

Aqil et al. (2004) investigated the most important issue of macroeconomics and among them unemployment is most important issue. The data from year 1980 to 2010 has been used in this study. Their result showed that the significance is found of foreign investment and growths of population in terms to unemployment. While this significance is found destructive in terms to unemployment. On the other hand the growth of GDP has no effect on unemployment which is also evidenced among inflation and unemployment.

3. Data and Methodology
In this study, secondary data have been used. The source of collecting the data is World Bank and Pakistan Economic Survey. Our research covers the annual data over the period of 1972 to 2015.

3.1 Concept of Variables used in the Study
Different variables are used to measure the socio-economic determents of employment in developing economy Pakistan. Following are the main variables and their explanation.

3.1.1 Employment (EMP) (Dependent Variable)
Employment is the economic situation in which the whole population that is active is taken under consideration and included the employed person and unemployed too. Its size differs as rendering to the definitions of unemployment used. The officially used rate of employment is computed in proportion. Employment rate is the amount of employed people from total population and taken in percentage. The consequences of unemployment are quite deadly. Due to unemployment not only the individual suffers but his social life has to suffer.
3.1.2 Secondary School Enrolment (SSE) (Independent Variable)
A recent socio-economic survey of landscape of Pakistan exposes many deficiencies in our education system. The gross enrolment is less than 25% in elementary education, 36% of population live in poverty and labor force is 35% of the population. The literacy rate for the population recorded at 58% during 2011-12, according to the Pakistan Social and Living Standard Measurement Survey (PSLM) 2011-2012. (Highlights of Economic Survey 2011-2012). The main goals of National Education Policy are to focus the issues of access of education, quality and equity at all levels.

3.1.3 Foreign Direct Investment (FDI) (Independent Variable)
One of the main advantage of the FDI is it enhance growth and technology is traded in the form of new ideas and techniques. DFI is carried out through MNCs and they are the key source of technology diffusion. According to the Economic Survey 2012-2013 the FDI in Pakistan recorded at $ 853.5 million during July-April 2012-2013. It records an increase of 29.7% as compared to the last year where it stood at $ 658.2 million.

3.1.4 Trade (Shape of Imports plus Exports) (Independent Variable)
International trade is beneficial for both importing and exporting countries. The economic growth of the country increases as its trade increases. The researchers originate a positive and weighty association between openness of trade and growth of Pakistan’s economy. Moreover, the open economy index is indicated by the ratio of exports to GDP, it is calculated that a higher ratio shows a higher open economy while a lower ratio depicts to a close economy and limited trade policies.

3.1.5 Political Stability (POL) (Independent Variable)
The two main components of the government’s strategy are to increase the demand for labor by enhancing output and labor absorption ability by promoting special employment programmers; such as technological change, product innovation, promoting jobs programmers, expanding the investment environment, involvement in specified areaslike agriculture, infrastructure and mining.

3.1.6 Gross Domestic Product per Capita (GDPPC) (Independent Variable)
GDP is measured in terms to per capita, per capita of GDP is the final amount of produced goods and services which are produced by per person. Per capita of GDP indicates the per person income which is related to the growth in economy. GDP in terms to per capita is generated when the total income is divided by the total population of the economy.

3.1.7 Gross Fixed Capital Formation (GFCF) (Independent Variable)
Gross fixed capital formation (GFCF) indicates the enhancement of physical assets. GFCF is fixed rate of increase in the assets that are in physical form. While this increment in physical assets is related to the increment in future investment or increment in capital stock. According to the economic survey of Pakistan, the capital formation is found 1647268 Million Rupees in fiscal year 2016 which was recorded 1558295 Million rupees in fiscal year 2015.

3.1.8 Money Supply (M2) (Independent Variable)
The supply of money is related to the circulation of liquidity money in the country. The currency stock, and instruments of liquidity of money are considered as the money supply. According to the reference of stock of money, the coins, cash, saving accounts, business accounts and individual accounts for investment and payments in short period of time are also considered as the supply of money.

3.1.9 Government Expenditure (GE) (Independent Variable)
Government expenditures are the expenses of government in the form of consumption, investment, as well as transfer payments are also include in government expenditures. The government collect taxes for the expenditures and government expenses. Government mostly use their expenditures on capital stock and for the formation of capital stock. Moreover, the government expenditures are in the shape of infrastructure development. The government use their capital stock and other expenditures form for the development.

3.2 Model Specification
This is a very important step to measure the bond of employment which is dependent variable with economic growth and its indicators as independent variables. Different variables are used to get out the relationship between employment (dependent variable) and the other independents variable in Pakistan.

Following are the main equation

\[ EMP = f(GDPPC, SSE, FDI, GFCF, M2, GE, TRADE, POL) \]

where

- \( EMP \) = Employment Rate (Dependent Variable)
- \( GDPPC \) = Per Capita of Gross Domestic Product
- \( SSE \) = Enrollment in Secondary School (Annual Percentage)
- \( TRADE \) = Trade (Share of Import Plus Export as Percentage of GDP)
- \( FDI \) = Foreign Direct Investment (Percentage of GDP)
- \( POL \) = Political Stability (Index Annual Percentage)
- \( GFCF \) = Gross Fixed Capital Formation
- \( M2 \) = Money Supply
- \( GE \) = Government Expenditure

Now this study can develop the econometric model from the above mathematical model.

\[ EMP = \gamma_0 + \gamma_1 GDPPC + \gamma_2 GFCF + \gamma_3 FDI + \gamma_4 SSE + \gamma_5 M2 + \gamma_6 GE + \gamma_7 TRADE + \gamma_8 POL + \epsilon \]

Where \( \epsilon \) = error term.

### 4. Result and Discussion

This is the very important segment of the research. This section is based on the statistical well-being of empirical model. The empirical model is measured in statistical term and describes as the strength of model in statistical form. This analysis tells about the data, their quantities importance and empirical estimation of the data. Following are the table which tells us about the descriptive statistic of all the variables used in our research.

#### Table 1 Descriptive Statistics of Different variables used in the research

<table>
<thead>
<tr>
<th></th>
<th>EMP</th>
<th>GDPPC</th>
<th>GFCF</th>
<th>FDI</th>
<th>SSE</th>
<th>M2</th>
<th>GE</th>
<th>TRADE</th>
<th>POL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>33.57</td>
<td>2.43</td>
<td>16.12</td>
<td>0.74</td>
<td>67.76</td>
<td>42.23</td>
<td>106.67</td>
<td>33.80</td>
<td>0.64</td>
</tr>
<tr>
<td>Median</td>
<td>28.62</td>
<td>2.14</td>
<td>16.90</td>
<td>0.55</td>
<td>61.29</td>
<td>41.43</td>
<td>107.59</td>
<td>33.57</td>
<td>0.67</td>
</tr>
<tr>
<td>Maximum</td>
<td>44.89</td>
<td>6.60</td>
<td>19.24</td>
<td>3.67</td>
<td>94.81</td>
<td>49.19</td>
<td>112.39</td>
<td>38.91</td>
<td>0.78</td>
</tr>
<tr>
<td>Minimum</td>
<td>25.98</td>
<td>-1.64</td>
<td>11.58</td>
<td>-1.18</td>
<td>47.89</td>
<td>36.71</td>
<td>98.97</td>
<td>27.72</td>
<td>0.07</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>7.41</td>
<td>1.99</td>
<td>1.95</td>
<td>0.94</td>
<td>16.07</td>
<td>3.47</td>
<td>4.07</td>
<td>2.71</td>
<td>0.13</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.38</td>
<td>0.15</td>
<td>-0.88</td>
<td>1.29</td>
<td>0.43</td>
<td>0.32</td>
<td>-0.31</td>
<td>-0.26</td>
<td>-2.40</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.34</td>
<td>2.31</td>
<td>2.86</td>
<td>5.51</td>
<td>1.63</td>
<td>1.97</td>
<td>1.84</td>
<td>2.91</td>
<td>10.02</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>5.59</td>
<td>0.95</td>
<td>5.14</td>
<td>21.69</td>
<td>4.40</td>
<td>2.46</td>
<td>2.91</td>
<td>0.48</td>
<td>120.39</td>
</tr>
<tr>
<td>Probability</td>
<td>0.06</td>
<td>0.62</td>
<td>0.08</td>
<td>0.00</td>
<td>0.11</td>
<td>0.29</td>
<td>0.23</td>
<td>0.79</td>
<td>0.00</td>
</tr>
<tr>
<td>Sum</td>
<td>1342.87</td>
<td>97.02</td>
<td>644.64</td>
<td>29.62</td>
<td>2710.56</td>
<td>1689.09</td>
<td>4266.64</td>
<td>1352.13</td>
<td>25.54</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>2141.28</td>
<td>154.60</td>
<td>147.83</td>
<td>34.81</td>
<td>10070.20</td>
<td>468.67</td>
<td>646.68</td>
<td>286.91</td>
<td>0.69</td>
</tr>
<tr>
<td>Observations</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
</tr>
</tbody>
</table>

The descriptive analysis tells us about the mean, median min, max, std. dev, and the total number of observation in the research. The above findings of table of descriptive summary given the average value of employment about 33.57 and its std. dev is 7.41. The mean value of FDI is 0.71, median is 0.55 and std. dev is 0.94. The mean value of trade is 33.80, median is 33.57 and std. dev is 2.71. The mean value of M2 is 42.23, median is 41.43 and std. dev is 3.47. The total number of observation is 40 in this research.
Table 2 is used to check the problem of multicollinearity estimated the correlation matrix. This table shows the correlation coefficient among variables.

<table>
<thead>
<tr>
<th></th>
<th>EMP</th>
<th>GDPPC</th>
<th>GFCF</th>
<th>FDI</th>
<th>SSE</th>
<th>M2</th>
<th>GE</th>
<th>TRADE</th>
<th>POL</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMP</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDPPC</td>
<td>0.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GFCF</td>
<td>0.48</td>
<td>-0.09</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>0.40</td>
<td>-0.19</td>
<td>0.40</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSE</td>
<td>0.87</td>
<td>-0.01</td>
<td>-0.66</td>
<td>0.24</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td>0.01</td>
<td>-0.11</td>
<td>0.40</td>
<td>0.59</td>
<td>-0.10</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GE</td>
<td>0.27</td>
<td>0.22</td>
<td>0.03</td>
<td>-0.28</td>
<td>-0.17</td>
<td>-0.43</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRADE</td>
<td>0.40</td>
<td>-0.04</td>
<td>0.38</td>
<td>0.22</td>
<td>-0.23</td>
<td>0.29</td>
<td>0.08</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>POL</td>
<td>0.31</td>
<td>-0.03</td>
<td>-0.26</td>
<td>0.16</td>
<td>0.44</td>
<td>-0.13</td>
<td>-0.22</td>
<td>0.12</td>
<td>1.00</td>
</tr>
</tbody>
</table>

The above table shows the explanation of multicollinearity. The correlation between GDP Per Capita with other explanatory variables is weak. The correlation of GDPPC with employment is weakly positive with a value of 0.01 i.e. it indicates weak relationship with employment. There exists negative and weak linear correlation between FDI and GDPPC. Here exists a strong optimistic linear connection among secondary school enrolment and employment with a value of 0.87. It means that as the secondary school enrolment increases the employment level also increases. The association between money supply, government expenditure and political satisfaction with other explanatory variables is also weak. The value of correlation of money supply with FDI shows positive and moderate linear relationship. The above table indicates that present exists weak linear correlation among the all variables of employment.

ARDL Test:

Table 3 the F-test for Co-integration

<table>
<thead>
<tr>
<th>Significance Level</th>
<th>1%</th>
<th>2.5%</th>
<th>5%</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-Statistics</td>
<td>I(0)</td>
<td>I(1)</td>
<td>I(0)</td>
<td>I(1)</td>
</tr>
<tr>
<td>5.917085</td>
<td>2.79</td>
<td>4.1</td>
<td>2.48</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>2.22</td>
<td>3.39</td>
<td>1.95</td>
<td>3.06</td>
</tr>
</tbody>
</table>

(Source: Authors’ calculation)

The table 3 interprets the measurement of acceptance of our null hypothesis. The null hypothesis is “there exist no long run relationship between the variables of employment”. It is obvious from the table the value of F-Statistics is greater than the upper bounds I(1), it means that there exist long run co integration between the variables at different levels of significance. The probability value of upper bound at 10% significance level is 3.06 i.e. less than the value of F-Statistics, so it indicates the long run cointegration exists between the variables. While at the 5% level of significance the value of probability of upper bound is 3.39 it is also lower than the calculated value of F-Statistics.

4.1 Long Run Estimating Results:

Now we find out the long run coefficients of ARDL model. The outcome of the estimated long run coefficients are given in the following Table.

Table shows the long run coefficients, Standard error, t-statistics and probabilities of explanatory variables. We estimated the eight variables in which the employment is depending on the elements of economic growth like
money supply, GDP per capita, secondary school of enrollment, trade (share of import plus export), and foreign
direct investment % of GDP, political satiability index annual percentage, government expenditure and gross fixed
capital formation.

Table 4 Long RunCo integrating Coefficients

<table>
<thead>
<tr>
<th>Dependent variable Employment (EMP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>GDPPC</td>
</tr>
<tr>
<td>FDI</td>
</tr>
<tr>
<td>SSE</td>
</tr>
<tr>
<td>M2</td>
</tr>
<tr>
<td>GE</td>
</tr>
<tr>
<td>TRADE</td>
</tr>
<tr>
<td>POL</td>
</tr>
<tr>
<td>GFCF</td>
</tr>
<tr>
<td>C</td>
</tr>
</tbody>
</table>

*, ** and *** show significance at 1%, 5% and 10% level.

The empirical findings of GDP per capita is estimated as constructive and noteworthy. Which shown in the above
Table. The value of GDP per capita coefficient is 0.2696at 5 % level of significance, which means that 1% increase in
GDPPC would result in 0.2percent increase in employment. Savings of the individual increases it will impact on
personal and public investments, as the investment increases it will influence the per capita income of the
economy. As a result with the increase in the employment opportunity the gross domestic product increases. The
government of the country has to change the policies to reduce the unemployment. The Okun’s law describe the
association among the losses in production and unemployment. The Okun’s law suggests the positive impact of
gross domestic production employment. The empirical studies by Aqil et al. (2014) evidenced the same findings
among gross domestic product and unemployment. Auranzegb et al. (2013) found that the ineffective use of foreign
direct investment and poverty is related to the economic growth, as well as the unemployment is also affected by
the GDP of Pakistan. While, all these indicators are also affected the GDP.

Foreign direct investment shows statistically significant relation with employment at 5% level of significance. It is
clear from the table that 1 percent increase in FDI will direct to raise in employment by 7.7 %.It’s indication sis that
there is a strong affilition of foreign investment with employment. In any economy, FDI plays a vital role. In the
suitable and peaceful economy, the foreign investors are more interested to invest resulting in increment in
aggregate demand, so labor demand also increases. As a result the employment level increases. The empirical
studies by Bhaumik et al. (2004) is also evidenced the same findings. Ledyaye et al. (2008), Aqil at el. (2014),
Ristanovic (2010), J. Tolo Dec (2011), Distsakis et al. (2002) found the optimistic association between foreign direct
investment and employment.

Education plays a role of a backbone for any economy. From the table 6.4, it is clear that 1 percent increase in SSE
will result in 1.3 percent increase in employment. If an economy pays serious attention towards the establishment of
educational sectors and the secondary school enrollment its growth level automatically enhanced. Because more
educated and skillful persons leads the economy on the path of growth. As a result employment opportunities level
increases. Enrollment management theory supports the relationship of education with employment. Enrollment
Management theory is used frequently in higher education to describe well-planned strategies and tactics to shape
the enrollment of an institution and meet established goals. The empirical studies by Barro J.R (2001) Ristanovic
enrollment and employment.
The value of Money supply coefficient is 1.3144. Money supply is statistically significant at 10% level of significance. From the table, it is concluded that 1 percent increase in money supply would result in 1.3% increase in employment level. As the supply of money in Pakistan’s economy upsurges, it will increase the level of consumption at individual level so aggregate supply increases. By the tax cut and less government spending, the economy tends to contract in to the recession so increases the money supply. The investment level increases. It will result in increases the employment level in the economy. Expansionary fiscal and monetary policies are used to tradeoff between reducing unemployment and increase the price level. It will result in the attainment of level of full employment. The relationship of employment and money supply is explained in Quantity Theory of Money (QTM).

Government expenditures show significant relationship with employment at 5% of significant level, means that 5% increase in government expenditures would increase in employment by 2.3%. As the government increases its expenditure level on the betterment of the economy, so aggregate demand will boost, it will automatically open the path of employment. The relationship between employment and government expenditures is supported by The Theory of Public expenditure. In the 20th century, John Maynard Keynes argued the role of public expenditure in determining levels of income and distribution in the economy. The empirical studies by Nabila et al. (2011), Barroo (2003) showed positive relationship between the government expenditures and employment.

Increment in trade by 10% would results an increase of 0.9 percent in employment. The level of significance is 10%. It is clear from the table that the existence of relationship between trade and employment is found in long time period. If the government of the economy reduces the trade barriers, the opportunity of exports of goods increases. It results in the enhancement of the investment and production. With the increase in the production, output increases and as a result the employment level also increases. It will automatically cast positive impact on the growth of the economy. This concept is supported by Classical Trade Theory. The empirical studies by Cheema et al. (2014), Dewan et al. (2011), Muhammad Shahbaz et al. (2008) found positive relationship between trade and employment.

The value of political satiability coefficient is 0.2866 which indicates that 1% increase in political stability would results in increase in employment by 0.2 percent. It is shown in the table that there exists significant long run association between POL and employment at 10% level of significance. Political stability of the country is a parameter of growth. If a country’s environment is more peaceful it will open the ways for public and local as well as foreign investors to invest in that economy. People feel more secure to invest in. As a result the employment level increases and the growth of the economy also increases. This concept goes with the Political Stability Index Theory. Political stability refers to stability where politics was extremely predictable. This result is consistent with those of Cheema et al. (2014) empirical studies by Frankle et al. (1997) found the positive relationship between political satiability and employment.

The value of gross fixed capital formation coefficient is 0.8104. It is statistically significant at 1% level of significance. The value of slope is 81%. It is obvious from the table that 1% increase in GFCF would result in 0.8 percent increase in employment level. Capital formation for a country is considered as a measurement of the progress of its economy. With the boost of capital formation the real GDP increases, in return the value of national output increases, the investment also increases, different firms employ more workers so creating more employment opportunities. It will directly influence the employment in long run. So it shows a constructive increment in employment because of capital formation in fixed term in long run. The empirical studies by Distsakis et al. (2002) K.H. Ndambiri (2005) found the positive relationship between gross fixed capital formation and employment.

4.2 Short Run Co-integrating Coefficients:
4.2.1 Error Correction Results:
In this step of empirical estimation of model by using error correction unrestricted technique, the dependent variable is employmentD (EMP). “D” represents the first difference of the variable. The change in gross fixed capital formation has negative impact on employment. The change in foreign direct investment has negative effects on employment. The change in secondary school of enrollment is negatively related with employment. The change in money supply has negative association with employment. The change in trade value added has negative impact on employment. The change in political satiability value added has negative impact on employment. The change in
Table 5: Empirical Outcome of Unrestricted ECM
Dependent variable: EMP
ARDL(1, 0, 1, 2, 0, 2, 0, 0)

<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>D(GDPPC)</td>
<td>0.2056</td>
<td>0.1473</td>
<td>1.3953</td>
<td>0.1747</td>
</tr>
<tr>
<td>D(GFCF)</td>
<td>-0.4273</td>
<td>0.3295</td>
<td>-1.2969</td>
<td>0.2060</td>
</tr>
<tr>
<td>D(FDI)</td>
<td>0.2998</td>
<td>0.6994</td>
<td>0.4287</td>
<td>0.6717</td>
</tr>
<tr>
<td>D(FDI(-1))</td>
<td>-1.7664</td>
<td>0.8343</td>
<td>-2.1171</td>
<td>0.0440</td>
</tr>
<tr>
<td>D(SSE)</td>
<td>0.2429</td>
<td>0.1538</td>
<td>1.5796</td>
<td>0.1263</td>
</tr>
<tr>
<td>D(SSE(-1))</td>
<td>-0.2866</td>
<td>0.1326</td>
<td>-2.1613</td>
<td>0.0401</td>
</tr>
<tr>
<td>D(M2)</td>
<td>-0.2492</td>
<td>0.1236</td>
<td>-2.0154</td>
<td>0.0543</td>
</tr>
<tr>
<td>D(GE)</td>
<td>0.2696</td>
<td>0.1296</td>
<td>2.0795</td>
<td>0.0476</td>
</tr>
<tr>
<td>D(GE(-1))</td>
<td>0.2950</td>
<td>0.1269</td>
<td>2.3242</td>
<td>0.0282</td>
</tr>
<tr>
<td>D(TRADE)</td>
<td>-0.1723</td>
<td>0.1074</td>
<td>-1.6041</td>
<td>0.1208</td>
</tr>
<tr>
<td>D(POL)</td>
<td>-6.2065</td>
<td>2.7413</td>
<td>-2.2640</td>
<td>0.0321</td>
</tr>
<tr>
<td>CointEq(-1)</td>
<td>-0.1895</td>
<td>0.0899</td>
<td>-2.1071</td>
<td>0.0449</td>
</tr>
</tbody>
</table>

Table shows that the convergence and the divergence of variables around the dependent variable. The convergence means movement towards the equilibrium and divergence means away from the equilibrium. The ECM model consists of speed of adjustment tools to restore the equilibrium. The convergence and the divergence interpreted by the sign of coefficient of co-integration equation. If the sign is negative, it means the variables are convergence. If the sign is positive, it means the variables are divergence. The value of parameter of co-integration equation is -0.1895. The value -0.1895 shows that the adjustment of error is moderate which is done by ECM tools of adjustment. The value of ECM significance level is measured in 5 percent. Which is showing that the error is stabled in each year. The value of ECM is -0.18 which is negative and significant and showing that the 18 percent of error is stabled in each year by measuring it significantly. This significance and productive reduction in error has provide the stability in long period of time which was arrived by short period. The findings are evidenced by Khan and Hye (2010) and Cheema et al. (2014). While results of short run coefficient show that change in gross domestic product per capita (GDPPC), foreign direct investment (FDI), secondary school enrollment (SSE), government expenditures (GE) have positive impact on change in employment rate. While gross fixed capital formation (GFCF), money supply (M2), trade (TRADE) and political stability (POL) show negative impact on the change in employment rate.

5. Conclusion and Recommendations
This study is to examine the socio-economic determinants of employment in Pakistan during the period of 1972 to 2015, analyzing the data by using Augmented Dicky Fuller and ARDL technique. The main determinants of employment that is being used in this study are: growth rate of labor force, growth rate of capital, secondary school of enrollment, investment from foreign, openess of trade, debt, instability in political terms, life expectancy and urbanization.

In this study the dilemma of unemployment has been supported with different employment theories such as general theory of employment, classical theory of employment, neo-classical concept of output and employment and Keynes theory of employment. In classical theory, Keynes gave the concept that the level of full employment is achieved by aggregate demand and not by price level. He discussed in this theory that it is wrong concept that the full employment state is self-maintaining or self-adjusting. While, the founders of classical theory that are Adim Smith, J.S Mills, Malthus J.B and N.W focused on the self-adjusting economy. They are on the view that any fluctuation in the economy eventually moves towards the level of full employment. The situation of over-
production and unemployment is temporary situation of the economy. According to the Keynes theory of employment, the level of full employment is estimated by the aggregate supply and demand that further determines the effective demand.

Keynes in his theory stated that aggregate demand and aggregate supply together determine the effective demand, which estimates the level of employment in the economy. If national income increases consumption rate also increases. While, low consumption rate result in the decrease in effective demand. This gap between the consumption and income is minimized by increase in investment. This will lead to the increase in effective demand which further leads in the reduction of unemployment and bring the economy at the level of full employment. Neoclassical economists argued that any change in monitory and fiscal policies that effects the aggregate demand does not affect output and employment. They focused on rational expectation on the basis of all existing information about all variables rationally and intelligently.

Being an agricultural rich country Pakistan has to face many problems to drive on the path of modernization. With the passage of time and better management the government of Pakistan is able to get in the list of fast developing countries. This study observed that education participate its positive part to progress the economy and to attain the job. There is need to invest more in school education so it eventually effect employment rate. With respect to age, there is U shaped pattern of unemployment. Among the youth there is higher rate of unemployment, moderate for the ages of middle and higher for the ages of old labor income composes the major source of income for the majority of individuals and households. The contribution in the market is restrained without income. The unemployed person has limited access to money and limited approach towards the standard of goods and services they can purchase. The unemployed person does not have excess income to save for security, education, holidays and lifestyle improvement. He cannot afford the status of well-paid employed worker so they are not able to contribute in the market activities. To meet the minimum living standards he has to depend upon his savings, family transfers, and loan and sometime on black economic activities.

- Strengthen especial employment programs.
- There should be upsurge in per capita GDP in this way that it exposes the several prospects of employment.
- Investment should be increased in such programs of technical education so that the literacy level would increase, it would indirectly increase the growth as well as employment.
- To boost up the employment the government must take serious steps by increasing productivity.
- There are two main elements of government policies.
- The most important is to increase the demand for labor through the boosting of both output and capacity of labor absorption with the solidification of employment plans.
- There should be protection of jobs in private sectors through urging work reorganization, acceptance of technological changes, innovation and by focused interventions in the specific sectors.
- The second element is to strengthen the employability of labor by giving them chances to get technical education and training and by improving the accessibility of skills.
- Government should give special attention to weak group such as women, young and fresh workers and disabled persons.

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Kill.A (2013) Determinants of employment-based private health insurance coverage in Denmark Nordic Journal of Health Economics Online ISSN: 1892-9710


Web Disclosure as Mediating Role in the Relationship Between Paradox of Choice, Investor Experience, Financial Literacy and Investment Decision Making: Evidence From China

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Purpose: The aims of this study to find the web disclosure as mediating role in the relationship between paradox of choice, investor experience, financial literacy and investment decision making.

Design/Methodology/Approach: Data were obtained from the 200 respondents for recent empirical investigation. The structural equation model is employed for analyzing the data.

Findings: The novel findings suggest that paradox of choice, investor experience, and financial literacy have direct positive effect on investment decision making. Moreover, the findings recommend that web disclosure acts as a mediator between paradox of choice, investor experience, financial literacy and investment decision making.

Implications/Originality/Value: The novel findings recommend that an important policy implication of web information disclosure for the investor.

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1. Introduction

Investment decision behavior has been incorporated into human psychology. Human psychology triggers well when there is a number of financial investment opportunities are available. Therefore, financial opportunities may involve but not limited to buying and selling of financial products with a vital purpose to make a profit (Diliberto, 2006; Mudholkar, 2007; Pompian, 2008). The primary objective of the investment decision making is to gain optimal income by minimized opportunity loss. Nevertheless, the probability of loss increase when the investor has many options to invest (Jabbarova, 2016). So, the investment decision is a problem when the market is not fully disclosed and asymmetric and investor tries to use many disclosed information to avoid this situation.
Asymmetric information prevails in the financial market which effects the investor behavior (Chandra & Kumar, 2011). Along with, numerous financial product and complicity in the financial market which increased complication for an investor in clicking the right decision (Lovric, Kayman, & Spronk, 2008; Sjöberg & Engelberg, 2006). In this regard, Web disclosure helps the investor for selecting the optimal choice (Cormier, Aerts, LEDOUX, & Magnan, 2010) and it also affects the earning depend on nature of disclosed information (Cormier, Ledoux, & Magnan, 2009). Financial crisis can be tackled if the firm discloses the proper risky information on time (Jorion, 2002). Furthermore, disclosed information creates a helping bridge for an investor to understand relationship gap between market information and financial statement (Aerts, Cormier, & Magnan, 2007; Amir & Lev, 1996; Lev & Zarowin, 1999).

The objective of this study to explore the mediation effect on the relationship between paradox of choices, investor experience, financial literacy and investment decision making. This study will create novelty in different ways: first, prior researchers have been studied the human psychology with investment decision making perspectives (Charles & Kasilingam, 2013 investor has a wide array of investment opportunity (Mottola & Utkus, 2003), called the paradox of choices. Although investor has many options he selects only a few preferable options, the paradox of choice recommends that always, it could not be true. Additionally, many options provide the investor to make a better decision. While extensive options may overload the investor choice validate to be demotivated and leading to “decision paralysis” (Iyengar & Lepper, 2000). Particularly, psychological literature regarding the paradox of choice phenomenon base on decision-making behavior. If an investor has experience and financial knowledge then he can select a better choice. Many preferences may be less when experienced and financial knowledgeable investor performs a task (Connolly & Ordóñez, 2003; J. F. Smith & Kida, 1991).

Second, Web disclosure helps in the paradox of choice phenomenon to make the investment decision. Investor experience and financial knowledge help the investor to understand web disclosure and also investment decision making (Slovic, Finucane, Peters, & MacGregor, 2002). Third, The Chinese economy has become the second largest economy in the world (Barboza, 2010). By the continuous growth, it was started the development of their capital markets in 1990 while it became the world second largest market in 2014 (Carpenter & Whitelaw, 2017).

The findings of the study validate the direct relationship of the paradox of choice, investor experience, and financial literacy with investment decision making. The imperial findings have also confirmed that web disclosure act as a mediator on the relationship between the paradox of choice, investment experience, financial literacy and investment decision making. The recent study contributes to present literature on numerous aspects. First, according to our best knowledge, none of the study used before web disclosure as a mediator on the relationship between the paradox of choice and investment decision making. Second, this study extends the behavioral finance literature by using the paradox of choices in the Chinese context. Third, this study also contributes to the heuristic investor decision-making theory.

2. Literature review
Investment decision includes the commitment of outflow in the form of capital to obtain cash inflow and benefits in the future (Adair, Berry, & McGreal, 1994). In the past, many research scholars have been attracted in decision making due to its complexities and future results (March, 1994). Decision making is considered as an integral part of the managerial level and organization research (Chia, 1994; Yu & Chen, 2010) and optimal allocation of resources among available opportunity is a major part of investment decision making. Therefore, investment decision making based on seminal key elements like the paradox of choice, financial literacy, investor experience and disclosed information, etc. The idea paradox has been become considered by management and organization research committee (Bloodgood & Chae, 2010; Fredberg, 2014; W. K. Smith & Lewis, 2011). The paradox of choice helps the investor to get a deep understanding of investment opportunities. The paradox of choice is a game theory (Moore, 1994) it might be possible that selected opportunity will not a grantee of optimal choose in future but it still best opportunity among available options (Simon, 1965).

The paradox of choice phenomenon plays a significant role in investment decision making and prior studies have been discussed in different perspectives. Iyengar and Lepper (2000) discussed that in the presence of more options investors lose their decision-making ability. Moreover, Sethi-Iyengar, Huberman, and Jiang (2004) suggest that many options adversely effect on preferences. Kempf and Ruenzi (2006) argued that when an investor has more
options then he becomes the status quo. Prior research findings suggest that more option adversely effect on the preferences and also increase the probability of the delay decision making (Chernev, 2003). In this regard, Investor experience is a key element to access the optimal preference to get the desired result in the future (Schwartz, 2004a, 2004b, 2005). Investor experience and financial knowledge support to understand and select investment alternatives (Chernev, 2003). Prior studies have explained that investment decision making may be affected if the investor has no practical investment experience. Sethi-Iyengar et al. (2004) the study recommends that individual experience help to select the preferences. The error occurs in available opportunity due to the reasoning process (Edwards, 1983). Phillips and Edwards (1966) suggests that human can perform better with a familiar task. J. F. Smith and Kida (1991) stated that when professionals perform the same task they perform better than a new task.

Although investor experience assists the investor in the investment decision-making process however, the investor cannot understand the financial terminology without financial knowledge. Financial knowledge is necessary because of the increase in new financial product and economic condition. So, financial literacy increases understanding of the available options along with it also decrease the investment options by limiting the optimal opportunity (Kida, Moreno, & Smith, 2010; Lusardi & Mitchell, 2007a, 2007b). The investor can get a good rate of return on investment with financial literacy and incentive to increase financial literacy mean an increase in financial knowledge and saving (Jappelli & Padula, 2013).

Financial literacy impacts financial decision-making and makes it more affected (Howlett, Kees, & Kemp, 2008). An investor with less financial knowledge is less likely to invest in a financial market like the stock market and financial knowledge is a positive impact on investment behavior (Mouna & Anis, 2017). Hathaway and Khatriwada (2008) argued that financial literacy improved the investment decision making and affects the investor behavior as a result investor can get more cash inflow in the future by investing in optimal assets (Abreu & Mendes, 2010). Chen and Volpe (1998) suggests that investor with a high level of financial knowledge perform a better saving and investment decision. Along with, financial literacy pushes the investor to enter into complex commodity market to get the benefit (Hsiao & Tsai, 2018). The study of Hassan Al-Tamimi and Anood Bin Kalli (2009) states that financial literacy has a direct positive relationship with investment decision process (Aren & Zengin, 2016). Moreover, if investor financial literacy is high then he preferred to invest in equity market less likely go for deposit. Although, the paradox of choice, Investor experience and financial literacy important elements for investment decision making but their fundamental role can be enhanced by available web disclosed transparent information (Lee & Joseph, 2013). Valentinetti, Rea, and Basile (2016) suggests that several factors of financial disclosure because if the investor has web disclosed information with above mention skills then the investor can make a quick decision by understanding the financial terminology and experience (Hillenbrand & Schmelzer, 2017). Prior studies suggest that firms who preferred web disclosure, they enjoyed the greater benefit and this information is also helpful for an investor in decision making (Gandia, 2011; Saxton & Guo, 2011; Saxton, Kuo, & Ho, 2012).

Web information is disclosed in three types categorical, semantic and feature information (Hartmann, Ma, & Vechsamatvaree, 2016; Wong et al., 2017). Cardoso, Leite, and de Aquino (2016) argued that web disclosure is the best way to disclose the information. It provides direct information, there is no need for intermediaries to collect the information (Lymer, 1999). Web disclosure is a versatile way of communication between manager and investor. Information on the web consists of the investor and financial statement related information (Ashbaugh, Johnstone, & Warfield, 1999; Debreceny, Gray, & Rahman, 2002).

The goal of this study is to bring in a discussion about the paradox of choice, investor experience, and Heuristic theory suggests that how individual investor behavior affects the investment decision-making process (Lucey & Dowling, 2005). We proposed a hypothesis in the light of the above discussion investor financial literacy affect the investment decision making as a mediating role of web disclosure. The and heuristic theory.

**H1 (a)** - Paradox of Choice has a positive effect on the investment decision-making process.

**H1 (b)** - Investor experience has a positive effect on the investment decision-making process.

**H1 (c)** - Investor financial literacy has a positive effect on the investment decision-making process.

**H2 (a):** Web disclosure has a mediating effect on the relationship between the paradox of choice and investment decision-making process.
H2 (b): Web disclosure has a mediating effect on the relationship between investor experience and investment decision-making process.

H2 (c): Web disclosure has a mediating effect on the relationship between investor financial literacy and investment decision-making process.

3. Research Methodology

Data were collected from three various methods, telephone, personal and email from October to December 2017. The respondents for the recent study were randomly selected from Beijing while they have an investment in Chinese security companies. The questionnaire was prepared in dual languages, English and Chinese. We followed (Baloch, Meng, Xu, Cepeda-Carrion, & Bari, 2017; Cohen & Diamant, 2017) study for translation and discussion. We hired the four bilingual experts of which three were a bilingual financial expert and one was the professional translator. We discussed the survey instrument with two bilingual financial experts. They translated the questionnaire from the original language to the Chinese language. Further, transferred the questionnaire to the third expert. The survey instrument was reviewed by the third expert. The discrepancies were found and forwarded to a language expert. All the discrepancies were removed and approved the survey instrument. Further, the 300 respondents were targeted for this study while 200 respondents gave the response. The response rate was 67%. The partial least square method is used for data analysis. It is based on structure equation model (Henseler, 2017). This study prefers PLS over the regression models due to the following causes. First, it provides a more robust result and has fewer identifications issues and it also provides better results in a complex problem. Second, a recent study sample is small (Henseler, 2017). Third, PLS has an appropriate measure when the model has an indicator (< 6) and study sample (>100) (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). The recent study contains the less than six indicators and sample size contain the two hundred respondents.

4. Results

Table 1 shows that the items having the loading value greater than 0.7 fulfill the requirements of the reliability test. Some items having the loading value close to 0.7, therefore the researcher has to take a decision to include or exclude them for the scale’s content validity. Furthermore, all dimensions and constructs pass the criterion of construct validity as their composite reliabilities (CR) are above the threshold value of 0.7. Moreover, table 1 shows that the constructs and dimensions having an average variance extracted (AVE) value greater than 0.5 level or near to 0.5 level pass the convergent validity test.
Table 2 depicts the discriminant validity test results which show that all the constructs pass the discriminant validity test as their HTMT90 and Fornell-Larcker values are within range. All the variables have HTMT value less than 0.85 and their Fornell-Larcker criteria show that the square root of AVE value of each construct is higher than the other constructs’ correlation values. These results confirmed that the model passes the discriminant validity (Henseler, Ringle, & Sarstedt, 2015).

Table 2
Measurement model. Discriminant validity.

<table>
<thead>
<tr>
<th></th>
<th>FL</th>
<th>IDM</th>
<th>IE</th>
<th>POC</th>
<th>WD</th>
<th>FL</th>
<th>IDM</th>
<th>IE</th>
<th>POC</th>
<th>WD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fornell-Larcker Criterion</strong></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>0.852</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDM</td>
<td>0.581***</td>
<td>0.753</td>
<td></td>
<td></td>
<td></td>
<td>0.644</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IE</td>
<td>0.479***</td>
<td>0.484***</td>
<td>0.814</td>
<td></td>
<td></td>
<td>0.542</td>
<td>0.575</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POC</td>
<td>0.518***</td>
<td>0.432***</td>
<td>0.410***</td>
<td>0.817</td>
<td></td>
<td>0.572</td>
<td>0.505</td>
<td>0.484</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WD</td>
<td>0.616***</td>
<td>0.495***</td>
<td>0.505***</td>
<td>0.520***</td>
<td>0.830</td>
<td>0.697</td>
<td>0.567</td>
<td>0.583</td>
<td>0.575</td>
<td></td>
</tr>
</tbody>
</table>

Notes: FL = Financial Literacy; IDM = Investment decision making; IE = Investor experience; POC = Paradox of choice; WD = Web disclosure; ***p < 0.01

Figure 1

4.1 The Structural model
The structural assessment of the two models is shown in figure 2 and the main parameters of the structural assessment are given in table 3. It is evident from the values of the total effect coefficients c1 (POC), c2 (IE) and c3 (FL) that there are a significant total effect of these variables (POC, IE, and FL) on IDM (see Model 1).

Whereas the direct effects c1’ (POC), c2 ’ (IE) and c3’ (FL) on IDM are significant but shows a decreasing trend when WD is introduced in the analysis. Moreover, the regression coefficients a1, a2, a3, and b are significant. Therefore, the decreasing trend of direct effects c1’ (POC), c2 ’ (IE) and c3’ (FL) and significant values of regression coefficients (a1, a2, a3 and b) leads to the conclusion that WD acts as a mediator between POC and IDM; IE and IDM; FL and IDM. Therefore, the hypothesis of this study H2-a, H2-b and H2-c are accepted and web disclosure (WD) role as a mediator is established in this study. However, the significance of (a1 × b) (a2 × b) (a3 × b) significance is yet to be tested for mediation (Hayes, 2009). To test the above-mentioned condition, SmartPLS is used for obtaining the indirect effects which turned out to be significant (Table 4). These results support the H2-a, H2-b and H2-c hypotheses. Thus, the study established partial mediation of WD between POC and IDM, IE and IDM, FL and IDM due to the facts that both the direct coefficients (c1, c2 and c3) and indirect coefficients ((a1 × b) (a2 × b) and (a3 × b) are significant (Baron & Kenny, 1986). Furthermore, to support the results more, this study calculates the standardized root mean square (SRMR). The SRMR discrepancy between the model implied correlations and the observed correlations for the two models (direct effect model and indirect effect model) as mentioned in (DeFond, Wong, & Li, 1999) Following the footsteps of (DeFond et al., 1999), present study
calculates the SRMR of composite factor model. As the SRMR (Model 1) turned out to be 0.054 for the composite factor model, which is well below the threshold value of 0.07 so the appropriate fit is assumed (DeFond et al., 1999). Whereas, the SRMR (Model 2) is turned out to be 0.07 for the composite factor model which is still better. These results lead to the conclusion that web disclosure acts as a mediator between POC and IDM, IE and IDM, FL and IDM.

![Diagram](image)

**Figure 2**

**Table 3**

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1-a POC → IDM</td>
<td>(c1) 0.129*** (6.071)</td>
<td>(c1) 0.116** (1.859)</td>
<td>Yes</td>
</tr>
<tr>
<td>H1-b: IE → IDM</td>
<td>(c2) 0.243*** (4.416)</td>
<td>(c2) 0.215*** (3.853)</td>
<td>Yes</td>
</tr>
<tr>
<td>H1-c: FL → IDM</td>
<td>(c3) 0.396*** (6.071)</td>
<td>(c3) 0.355*** (5.012)</td>
<td>Yes</td>
</tr>
<tr>
<td>POC → WD = a1</td>
<td></td>
<td>0.226*** (4.533)</td>
<td></td>
</tr>
<tr>
<td>IE → WD = a2</td>
<td></td>
<td>0.222*** (3.207)</td>
<td></td>
</tr>
<tr>
<td>FL → WD = a3</td>
<td></td>
<td>0.391*** (6.023)</td>
<td></td>
</tr>
<tr>
<td>WD → IDM = b</td>
<td></td>
<td>0.116** (1.809)</td>
<td></td>
</tr>
</tbody>
</table>

Notes: FL = Financial Literacy; IDM = Investment decision making; IE = Investor experience; POC = Paradox of choice; WD = Web disclosure; t values in parentheses, *** p < 0.01, ** p < 0.1, (based on t (4999), two-tailed test).

**Table 4**
Discussion and conclusion

The recent study finds the relationship between the paradox of choice, investor experience, and financial literacy and investment decision making by examining the web disclosure as a mediating role. Numerous studies have been used in different variables with investment decision making. Nevertheless, investment decision-making problem remains unsolved whether web disclosure has more indirect effect brought through the paradox of choice, investor experience, and financial literacy.

First, the recent study findings reveal that paradox of choice, investor experience, and financial literacy have a significant positive relationship with investment decision making. Second, web disclosure act as a mediating role in the relationship between paradoxes of choice, investor experience and financial literacy with investment decision making. Our direct relationship findings are in line with (Abreu & Mendes, 2010; Chernev, 2003; Kida et al., 2010). Our web disclosure findings are also consistent with Cormier et al. (2010) and Cormier et al. (2009), they reported that Web disclosure helps the investor for selecting the optimal choice and it also affects the earning depend on nature of disclosed information. These findings lead to the conclusion that web disclosure helps the investor to decide to invest through the paradox of choice, investor experience, and financial literacy.

The recent study contributes to present literature on numerous aspects. First, according to our best knowledge, none of the study used before web disclosure as a mediator on the relationship between the paradox of choice and investment decision making. Second, this study extends the behavioral finance literature by using the paradox of choices in the Chinese context. Third, this study also contributes to the heuristic investor decision-making theory for web disclosure context. The findings of the study would be supportive of an investor, capital market policy maker.

The novel findings suggest that the Chinese policymaker make those policies which enforce the business firms, institutions and government bodies to disclose periodic information on web timely and frequently. The recent study has a few limitations. First, this study focuses on security company investor and ignore the other investor which have an investment in banks and financial institutions. Second, this study uses web disclosure as a mediator and ignore the types of web disclosure. The recent study opens the broad avenue for future researchers of the following ways. First, the researcher would check this novel model in the international setting. Second, the researcher would be added some other variable which makes more efficient decision to invest.

<table>
<thead>
<tr>
<th>Summary of mediating effect tests.</th>
</tr>
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<tbody>
<tr>
<td>Total effect on IDM (Model 1)</td>
</tr>
<tr>
<td>Direct effects on IDM (Model 2)</td>
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<tr>
<td>Indirect effects on IDM (Model 2)</td>
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<table>
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<tr>
<th></th>
<th>Path</th>
<th>t</th>
<th>Lower</th>
<th>Upper</th>
<th></th>
<th>Path</th>
<th>t</th>
<th>Lower</th>
<th>Upper</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>POC (c1)</td>
<td>0.129***</td>
<td>6.071</td>
<td>0.260</td>
<td></td>
<td>H1-</td>
<td>a = c'1</td>
<td>0.116**</td>
<td>1.809</td>
<td>0.100</td>
<td>0.350</td>
<td>H2-a = a1bl (via WD)</td>
<td>0.026**</td>
</tr>
<tr>
<td>IE (c2)</td>
<td>0.247</td>
<td>4.416</td>
<td>0.136</td>
<td></td>
<td>H1-</td>
<td>b = c'2</td>
<td>0.215***</td>
<td>3.853</td>
<td>0.170</td>
<td>0.400</td>
<td>H2-b = a2bl (via WD)</td>
<td>0.025**</td>
</tr>
<tr>
<td>FL (c3)</td>
<td>0.238</td>
<td></td>
<td>0.022</td>
<td></td>
<td>H1-</td>
<td>c = c'3</td>
<td>0.355***</td>
<td>5.032</td>
<td>0.070</td>
<td>0.310</td>
<td>H2-c = a3bl (via WD)</td>
<td>0.045**</td>
</tr>
</tbody>
</table>

Notes: BCCI: Bias corrected confidence interval. Bootstrapping based on n=5000 subsamples. FL = Financial Literacy; IDM = Investment decision making; IE = Investor experience; POC = Paradox of choice; WD = Web disclosure

*** p < 0.01, ** p < 0.1 (based on t(4999), two-tailed test)

5 Discussion and conclusion

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The Impact of International Financial Reporting Standards (IFRS) on Accounting Quality in Malaysia

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ARTICLE DETAILS

ABSTRACT

There are two objectives of this study, first, it is to examine and compare the accounting quality in pre-and post-implementations IFRS from the viewpoint of investors. Second, is to identify the differences in the accounting quality between the shariah compliant and non-shariah compliant companies in pre-and post-implementations of IFRS. Using 2169 firm-year observations from firms listed on the Bursa Kuala Lumpur Stock Exchange over the period of 2008 to 2016, the result shows that the implementation of MFRS have reduced the firms’ earnings management. However, this study provides new arguments that Shariah-complaints firms in Malaysia do not necessary have greater incentives to report high-quality reporting based on the investor perspectives. Our evidence thus help to explains the different impact on IFRS adoption on accounting quality in Malaysia and shariah complaint compnaies.

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1. Introduction

Malaysian Financial Reporting Standards (MFRS) is word to word to International Financial Reporting Standards (IFRS) came to effect on 1 January 2012 and are in line with Malaysian Accounting Standards Board (MASB)'s mission to develop and promote high quality accounting and financial reporting standards. The improved accounting quality will benefit users, preparers, auditors and the public in Malaysia. Therefore, this study aims to examine and compare the accounting quality in pre-and post-implementations of IFRS from the viewpoint of investors. Further, this study will identify the differences in the accounting quality between the shariah compliant and non-shariah compliant companies in pre-and post-implementations of IFRS.

The existing studies on accounting standards and accounting quality in particular earnings management were focused on developed countries, for example, United States of America (USA), Australia, United Kingdom (UK) and European studies but few in emerging countries. Thus, this current research will attempt to fill the gap and to
offer an insight to the effects of improvements in accounting standards on earnings management activities among the public listed firms in Malaysia. To the best of our knowledge in the local scenario in Malaysia, there were only few studies which addressed the impact of IFRS-based accounting standards on earnings management and the results were inconclusive.

This study focuses on the information extracted from the consolidated financial statements of public listed companies listed at Bursa Malaysia before and after the adoption of IFRS. The data consists of annual observations, and covered the period between 2008 and 2016. The sample period selected provides a focus on recent adoption of MFRSs and also ensure sufficient time-frame for pre and post-adoption of IFRS studies. The findings will respond to whether the accounting quality has improved, deteriorated or status quo. Thus, these findings could provide valuable inputs to investors and standard setters in Malaysia.

2. Literature Review and Hypotheses Development

Accounting standards are often subjected to continuous changes, modifications and improvements over time. These changes are intended to boost comparison of financial statements between companies, enhance corporate transparency and elevate financial reporting quality (Baig and Khan, 2016). Improvements in standards include clarifying ambiguities in terminologies, removing the alternative accounting treatments and to take into account issues that had not been addressed (Al-Ghazzawi and Alsobao, 2016). Moreover, improvements in standards should add value to the financial reporting to facilitate efficient resource allocation and decision making (Healy and Whalen, 1999).

Ideally, financial reporting could help to distinguish best-performing companies from the poor performing ones in the economy (Healy & Whalen, 1999) and thus, increase investors’ confidence in the financial reporting system (Yurt & Ergun (2015). However, companies around the world manage reported earnings (Yu, 2014) and manipulate accounting data for a variety of reasons and this manipulation is often known as earnings management. Some companies use earnings management as management of the firms have an incentive to do so (Halaoua, Hamdi and Mejri, 2017), to maintain steady growth in earnings and to avoid reporting in red (Burgstahler and Dichev, 1997), to meet internal management goals to satisfy financial targets ahead of financial closing (Baig and Khan, 2016) and to influence internal decision-making process (Mcnichols and Stubben, 2008). Prior studies (Barth et al., 2008; Iatridis and Dimitras, 2013) regarded earnings management as a determinant of accounting quality. Accounting quality represents “the extent to which the financial statement information reflects the underlying economic situation” (Chen et al, 2010). Thus, improvements in accounting standards were anticipated to reduce earnings management impulse (Al-Ghazzawi and Alsobao, 2016) and therefore enhance accounting quality and consequently improve value relevance of earnings in firms.

Various terminologies were used to describe earnings management, which includes “accounting manipulation”, “accounting Hocus-Pocus”, “Rumpelstilzchen-accounting or “Bilanzpolitik” and “Gewinnsteuerung” in German literature (Dilger and Graschitz, 2015). However, there seemed to be no agreed definition on earnings management (Al-Ghazzawi and Alsobao, 2016). In the study by Schipper (1989), earnings management was defined as “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain”. Alternatively, Healy and Whalen (1999) explained that “earnings management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting practices”. According to Wan Ismail, Kamarudin and Sarman (2014), earnings management behaviour involved the maneuvering of earnings figure reflected in the financial statement by discretionary provisions that were permitted by particular accounting standards. Accordingly, it is noticeable that earnings management was made possible due to allowable exercise of judgements available in preparing financial statements, but was constrained by the existence of accounting standards (Wan Ismail, Kamarudin, Zijil and Dunstan, 2013). On the other hand, Mulyasari, Sugiri and Herdhayinta (2016) argued that earnings management has information contents that would degrade earnings quality and thus impact future profitability of firms.

2.1 IFRS Improves Accounting Quality by Reducing Earnings Management
There are various studies on improvements in accounting standards which were likely to reduce management’s opportunistic discretion, i.e. earnings management. In the local scenario in Malaysia, there were only a few attempts to investigate the impact of IFRS on earnings management in companies.

Wan Ismail, Kamarudin, Zijl and Dunstan (2013) reported that IFRS adoption is clearly linked to the quality of reported earnings among 4,010 companies over period of three years, i.e. the before and after adoption periods, of the updated accounting standards in Malaysia. With the IFRS adoption, firms reported a more superior quality of reported earnings. With lower earnings management activities observed in the post-adoption periods of IFRS, reported earnings resulted in higher value relevance. Fournat and Ghorbel (2017) addressed the impact of IFRS-based accounting standards on earnings management based on a sample of 3,340 firm-year observations across three reporting periods with different levels of IFRS adoption – pre IFRS period (2003-2005), post FRs period (2007-2011) and post MFRS period (2013-2014). The results of the regression to examine the effect of IFRS on earnings management employed the Kothari et al. (2005) model discovered that adoption of IFRS decreased earnings management practices in the partial convergence period. However, after full convergence to IFRS, the effect became restrictive.

The similar findings was highlighted in the study by Sellami and Fakhfakh (2013) where the Dechow et al. (1988) model were exploited to show a decrease in absolute value of discretionary accruals among a sample of 124 French companies during the post-IFRS period. It was also suggested that improvements in accounting standards led to the lessening of earnings management, further timely loss recognition and improved value relevance among these listed firms in the London Stock Exchange during the 2004 and 2005 period (Iatridis, 2010). Barth et al. (2008) studied on companies in 21 countries and discovered declining earnings management levels and less income smoothing due to the firms’ early voluntary adoption of IAS/IFRS over the period of 1994-2003, which also suggested that quality of financial reporting increased with these adoptions.

Mandatory first time adoption of IAS/IFRS in France is associated with lesser earnings management level (Zighal, Chhourou and Sellami, 2011). The authors conducted this study based on 353 French-listed companies utilizing the information extracted from annual reports and other secondary sources for a 4 year period from 2003-2006. It was also highlighted that earnings management were affected by corporate governance factors (independent and efficient of board of directors, audit committee, existence of block shareholders, external auditors and listing on foreign financial markets) – all of which are vital implementation factors of IAS/IFRS in France. In this study, discretionary accruals was employed to measure earnings management practices and had adopted the model by Kothari, Leone and Wesley (2005).

From the perspective of agency theory, implementation of IFRS enforced investor protection among a sample 106 listed companies in Germany, France and Belgium that reduced the motivation to manage earnings. This is due to the transition into IFRS made communication of accounting information more relevant (Kuoki, 2017). Hence, IFRS and investor protection were highlighted to be jointly significant to explain earnings management activities.

Liu and O’Farrell (2011) also discovered that mandatory adoption of IFRS increased accounting quality and reduced earnings management in the companies in China. Bouchareb et al. (2014)’s study in the France context revealed that the level of discretionary accruals decreased significantly after the adoption of IFRS. Chen et al. (2010) explored the relationship between IFRS adoption and earnings management levels among companies in the European Union. Results showed that the levels of earnings management reduced after IFRS adoption as the magnitude of absolute discretionary accruals declined.

2.2 IFRS Does Not Improve Accounting Quality as Earnings Management Activities Increases

On the other hand, some past studies highlighted contradicting findings in that adoption of IFRS does not reduce the earnings management intentions.

Improvements in International Accounting Standards (IASs) which were mandatorily adopted from 1 January 2005 in Jordanian Industrial Corporations did not result in lower earnings management practices (Al-Ghazzawi and Alsobao, 2016). The evidence from China in the study conducted by Zhang, Uchida and Bu (2013) showed that earnings management increased significantly after the adoption of IFRS-convergent new accounting standards. Ahmed, Neel and Wang (2013) discerned that firms showed substantial increases in income smoothing and
vigorously reporting of accruals and a substantial decline in the timeliness of loss recognition. Ames (2013)’s findings on the South African firms concurred with the findings of Al-Ghazzawi and Alsobao (2016) and Ahmed et al. (2013) in that earnings quality did not significantly improve in post-adoption of IFRS standards. Jeanjean and Stolowy (2008)’s study on the Australian, France and United Kingdom firms showed that occurrence of earnings management did not reduce in the post-IFRS period but surprisingly increased in France.

In the European Union context, Gray et al. (2015) examined public listed companies from 14 European Union countries and the results indicated that earnings management activities continued to be prevalent even after the implementation of IFRS among companies. Doukakis (2014) scrutinized the effect of compulsory implementation of IFRS on accrual-based and real earnings management. This study was based on the inspection of 15,206 samples from 22 countries in Europe between years 2000-2010. Findings suggested that there is no noteworthy effect of implementation of IFRS on accrual-based or real earnings management levels. Conversely, firm-level reporting incentives played a primary role in shaping accounting quality.

Kabir et al. (2010) highlighted that IFRS adoption among 118 companies in New Zealand increased the absolute value of discretionary accruals. The study by Watrin and Ullmann (2012) on German companies from 1994-2005 revealed that voluntary implementation of IFRS does not reduced the earnings management level.

As portrayed by past studies discussed above, the studies indicated that there were mixed or not unanimous findings as to whether the transition to IFRSs/IASs and/or improvements in accounting standards deters or contributes to greater earnings management activities. An explanation to these mixed evidences as suggested by Capkun, Collins and Jeanjean (2016) was "self-selection" on the adoption of IFRS. Moreover, the existing studies on accounting standards and earnings management focused on USA, UK and European studies. Thus, this current research will attempt to fill the gap and to offer an insight to the effects of improvements in accounting standards on earnings management activities among the public listed firms in Malaysia. Although the results are mixed we nevertheless, posit the following hypothesis:

**Hypothesis 1:** The implementation on IFRS will improve accounting quality in term of reducing earning management.

### 2.3 Shariah Compliant Companies and Earnings Management

Wan Ismail, Kamarudin and Sarman (2014) investigated the reported earnings quality of 508 Shariah-compliant companies listed on Bursa Malaysia for a period of six years from 2003-2008. In this study, earnings quality were measured using the accrual quality model by Dechow and Dichev (2002) which relate total current accruals lagged, current and future cash flows from operations. The authors argued that companies which were Shariah-compliant were subject to stricter regulatory assessments by regulators/institutional investors as there are three-levels of screening by Shariah Advisory Council, established under the Securities Commission. As such, the Shariah-compliant companies possessed better quality accounting information and better quality of accruals. The Shariah-compliant companies were also subject to the Islamic ethical code of conduct which limit the unethical behaviour and therefore enhanced financial reporting value relevance. It highlighted that the availability of enhanced financial reporting quality by Shariah-compliant companies boost foreign investments to Malaysia. This meant that the Shariah-compliant companies possessed higher quality of accruals as opposed to non-Shariah-compliant companies. Based on the above-mentioned discussions lead us to the following hypothesis

**Hypothesis 2:** Shariah-compliant companies have a higher accounting quality in term of lesser earning management, compare to non-Shariah-compliant companies.

### 2.4 Corporate Governance, Audit Quality, Company Size and Leverage And Earnings Management

In line with agency theory and corporate governance reports (Cadbury, 1992), the existence of independent outside directors increases the effectiveness of companies, minimizes fraud and reduces earnings management (Xie et al., 2003). Board size were highlighted to have a significant influence on board’s performance and efficiency and could curb fraud (Beasley, 1996). It was also found that board size had an effect on earnings management (Xie et al., 2003). Duality of board of directors (BOD) in that the chief executive officer is also the chairperson of BOD had been reported to reduce agency costs in large companies (Fama and Jensen, 1983; Beasley, 1996; Xie et al., 2003). In addition, the study by Mohd Saleh, Mohd Iskandar and Rahmat (2005) also revealed that the multiple
directorship is inversely related to earnings management activities and thus, duality of BOD is effective to reduce the earnings management levels. However, according to the authors, independence of BOD as indicated by percentage of outside BOD did not have a significant impact in mitigating earnings management practices in companies.

Audit quality by bigger and more reputable audit firms were presumed to provide higher audit quality and that higher audit quality reduces earnings management levels (Ben Othman and Zeghal, 2006; Van Tendeloo and Vanstraelen, 2005). By having more reputable auditors, e.g. BIG-4 firms to conduct the audit work, the better is the audit quality and hence, resulted in higher reported earnings quality (Krishnan, 2003). Company size as measured by total assets of the firm was emphasized in the study by Zeghal, Chtourou and Sellami (2011) as having an impact on earnings management practices. Larger companies have more incentives to reduce earnings management and larger companies are often associated with more reliable financial statements (Bedard et al., 2004) and better disclosure quality (Super and Shil, 2017), thus limiting earnings management practices. Firms with larger debts may have a higher tendency to resort to earnings management in an attempt not to violate debt covenants (Ben Othman and Zeghal, 2006). It was also suggested by Super and Shil (2017) that firms with higher leverage tend to have lower disclosure quality, suggested a tendency to manage earnings. Contrast to the above, study by Lazzem and Jilani (2018) on French firms and Christensen, Lee, Walker and Zeng (2015) on German firms suggested that firm leverage has a positive impact on earnings management as increased leverage provided incentives for managers to carry out earnings management activities.

3. Data and Methodology

3.1 Sample

This study begins with top 300 firms listed on the Malaysian stock exchange between 2008 and 2016. This period is selected due to the implementation of MFRS in 2012 financial statements. We exclude data from 2012, as this is the year of implementation to MFRS. We then remove banks and financial institutions, and REIT observation to enhance comparability. We also remove firms with missing financial statement data, corporate governance and auditor information. Thus, a total of 241 listed firms are used in the analyses. The annual financial data is obtained from the Bloomberg database. The corporate governance and auditor information is manually collect from the annual reports of listed firms. In this study, the sample is further divided into two subsamples (pre-MFRS period from 2008 to 2011 and post-MFRS period from 2013 to 2016).

Table 1 presents the descriptive statistics relating to variables used in our tests. Firms in post implementation MFRS generally have higher total assets and total debts in our sample. The average firm in our sample has total assets of RM3, 250 million and RM4, 865 million in pre- and post-MFRS periods, respectively. The mean of total debt in pre-MFRS is RM943 million, which is significantly different compared to post-MFRS is RM1, 409 million. The corporate governance variable of firm board size on average is 8 board member on the board, and is not significant different in the pre- and post-MFRS implementation. On average, 70 percent of our sample are audited by Big4 auditor. With respect to the number of independent directors and duality of CEO and chairperson indicating that their variations are fairly small in the post-MFRS periods. Table 1 shows that approximate 73 to 80 per cent are Shariah-compliant firms in our sample.

Table 1: Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Pre-MFRS (2008-2011)</th>
<th>Post-MFRS (2013-2016)</th>
<th>Test of Difference between the two groups t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total assets (RM million)</td>
<td>Mean: 3,249.812</td>
<td>Mean: 4,864.664</td>
<td>-3.367***</td>
</tr>
<tr>
<td></td>
<td>S.D: 8,253.775</td>
<td>S.D: 12,375.420</td>
<td></td>
</tr>
<tr>
<td>Total debt (RM million)</td>
<td>Mean: 942.968</td>
<td>Mean: 1,408.621</td>
<td>-2.876***</td>
</tr>
<tr>
<td></td>
<td>S.D: 3,007.150</td>
<td>S.D: 4,019.804</td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>Mean: 8.013</td>
<td>Mean: 7.997</td>
<td>0.181</td>
</tr>
<tr>
<td></td>
<td>S.D: 1.850</td>
<td>S.D: 1.947</td>
<td></td>
</tr>
<tr>
<td>Number of independent directors</td>
<td>Mean: 3.493</td>
<td>Mean: 3.618</td>
<td>-2.471**</td>
</tr>
<tr>
<td></td>
<td>S.D: 1.090</td>
<td>S.D: 1.123</td>
<td></td>
</tr>
<tr>
<td>CEO/Chairperson</td>
<td>Mean: 0.231</td>
<td>Mean: 0.174</td>
<td>2.158**</td>
</tr>
<tr>
<td></td>
<td>S.D: 0.410</td>
<td>S.D: 0.380</td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>BSize</th>
<th>Indep.</th>
<th>Dual</th>
<th>Big4</th>
<th>Size</th>
<th>Leverage</th>
<th>Shariah</th>
<th>DA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A:</strong> correlation matrix among variables (Pre-MFRS period: 2008-2011)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSize</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indep.</td>
<td>0.517***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duality</td>
<td>-0.084**</td>
<td>-0.060</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big4</td>
<td>0.106***</td>
<td>0.079**</td>
<td>-0.055</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.204</td>
<td>0.222</td>
<td>-0.058</td>
<td>0.108*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.198</td>
<td>0.161*</td>
<td>0.075*</td>
<td>-0.067**</td>
<td>0.611***</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shariah</td>
<td>-0.025</td>
<td>0.096**</td>
<td>0.042</td>
<td>-0.027</td>
<td>-0.062</td>
<td>-0.003</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>DA</td>
<td>-0.033</td>
<td>-0.043</td>
<td>-0.064*</td>
<td>-0.013</td>
<td>0.124</td>
<td>0.144***</td>
<td>0.085**</td>
<td>1.000</td>
</tr>
<tr>
<td><strong>Panel B:</strong> correlation matrix among variables (Post-MFRS period: 2012-2016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSize</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indep.</td>
<td>0.562***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual</td>
<td>-0.011</td>
<td>-0.046</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big4</td>
<td>0.068**</td>
<td>0.054*</td>
<td>-0.010</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.231**</td>
<td>0.302***</td>
<td>-0.020</td>
<td>0.102*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.259**</td>
<td>0.256</td>
<td>0.058*</td>
<td>-0.069**</td>
<td>0.626***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shariah</td>
<td>0.009</td>
<td>0.012</td>
<td>-0.007</td>
<td>-0.043</td>
<td>-0.039</td>
<td>-0.063*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DA</td>
<td>-0.037</td>
<td>-0.121*</td>
<td>-0.125*</td>
<td>-0.020</td>
<td>0.091</td>
<td>0.107***</td>
<td>0.067**</td>
<td>1</td>
</tr>
</tbody>
</table>

3.2 Methodology
3.2.1 Estimation of Discretionary Accruals

This study uses the discretionary accruals as the proxy of earning management. Studies such as Jones (1991), Dechow et al. (1995) Leuz et al. (2003) and Kothari et al. (2005) have proposed various models to measure discretionary accruals. We adopt Kothari et al. (2005) model to compute discretionary accruals because it has been widely used in the previous studies. It is shown in equation (1) below:

\[
\frac{TACC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{TA_{it-1}} \right) + \beta_2 \left( \frac{\Delta REV_{it} - \Delta REC_{it}}{TA_{it-1}} \right) + \beta_3 \left( \frac{PPE_{it}}{TA_{it-1}} \right) + \beta_4 (ROA_{it}) + \epsilon_{it} \quad (1)
\]

where TACCit is the total accruals, calculated as firm i’s net income minus cash flow from operations in year t; TAit-1 is total assets for firm i in year t-1; ΔREVit is the change in revenues for firm i between year t and t-1; ΔRECit is the change in account receivable for firm i between year t and t-1; PPEit is the gross property, plant and equipment for firm i in year t, ROAit is the return on assets for firm i in year t and it is the error term.
Discretionary accruals proxy can only be obtained by calculating the difference between the total accruals and the estimated non-discretionary accruals. The discretionary accruals (DA) are defined as:

\[ |DA_{it}| = TACC_{it} - [\bar{\beta}_0 + \bar{\beta}_1 \left( \frac{1}{T_{it-1}} \right) + \bar{\beta}_2 \left( \frac{\Delta REV_{it} - \Delta REC_{it}}{T_{it-1}} \right) + \bar{\beta}_3 \left( \frac{PPE_{it}}{T_{it-1}} \right) + \bar{\beta}_4 (ROA_{it})] \] (2)

where \( \bar{\beta}_0, \bar{\beta}_1, \bar{\beta}_2, \bar{\beta}_3, \bar{\beta}_4 \) is the estimated coefficients of \( \beta_0, \beta_1, \beta_2, \beta_3, \beta_4 \).

### 3.2.2 Regression Model

Studies such as Dechow et al. (1996), Xie et al. (2003) and Ghose et al. (2010) examine the structure and composition of a board and how they influence financial reporting. In our study, we specifically focus on the board size, board independence and separation of CEO and board chairperson. To analyse the relation between corporate governance and earnings management, after controlling for the impact of firm specific variables. The following model is employed:

\[ |DA_{it}| = \alpha + \beta_1 \ln(LNBSize_{it}) + \beta_2 \ln(Independence_{it}) + \beta_3 \ln(Duality_{it}) + \beta_4 \ln(Big4_{it}) + \beta_5 \ln(LnSize_{it}) + \beta_6 \ln(Leverage_{it}) + \beta_7 \ln(Sharjah_{it}) + \text{Fixed effects} + \epsilon_{it} \] (3)

Where

- \( |DA_{it}| \) is the discretionary accruals calculated from equation (2).
- Board size (\( \ln(LNBSize_{it}) \)) is measured in the natural logarithm of the number of directors on board. Board independence (\( \ln(Independence_{it}) \)) is the percentage of independent outside directors serving on the board. Duality (\( \ln(Duality_{it}) \)) is a dummy variable equal to one when a firm has a separate CEO and board chairperson and 0 otherwise. Xie et al. (2003) suggest that board size is associated to the extent of earnings management. If larger board is associated with more (less) efficient in monitoring earnings management, \( \beta_1 \) is likely to be negative (positive). According to Fama and Jensen (1983) due to outside directors are very concerned their reputation in the managerial labour market, they are to be more efficient in monitoring management compare to insider directors. Thus, a board with greater percentage of outside directors are believe to be more independent, leading to lower earnings management, \( \beta_2 \) is expected to be negative. \( \beta_3 \) is expected to be positive because when CEO also holding the Chair of the board are more powerful and thus have greater influence over board members.

Based on previous studies this study includes firm specific control variables that could influence top managers’ motivation to “manage” earnings (Houque et al., 2016; and Dauth et al., 2017). We use Big4 auditor as a control variable, the choice of auditor is proxy for the quality of the audit undertaken. Francis and Wang (2008) suggest that the presence of Big4 auditors limit accruals earnings management practices. Therefore, \( \beta_4 \) is expected to have a negative relationship with discretionary accruals. Big4 is a dummy variable that takes the value of one if the firm financial statements are audited by Big4 audit firm and 0 otherwise. We also include the natural logarithm of total asset (\( \ln(LnSize_{it}) \)) as a control variable to control for firm size on earnings management. Prior studies provide inconsistent evidence with regard of firm size effects on earning management. Scott (1991) and Callao and Jarne (2010) find that large firms more incline to “manage” earnings because they of are more visible than small firms, and the complexity of operations makes detecting overstatement more difficult (Lobo and Zhou, 2006). Therefore, \( \beta_5 \) is expected to have positive relation with discretionary accruals. Studies such as DeFond and Jiambalvo (1994) and Francis and Wang (2008) highly leverage firms are more likely have earnings management practices to avoid debt covenant violation. We include leverage to pick up debt contracting incentives of earnings management. Leverage (\( \ln(Leverage_{it}) \)) is the debt ratio calculated as total debt divided total assets of firm \( i \)’s in year \( t \), \( \beta_6 \) is likely to be expected to be positive. Another control variable is the Shariah-complaint firm, Shariah is dummy variable equal to one when a firm is listed as Shariah-compliant firm and 0 otherwise. We expect \( \beta_7 \) is negative relation with discretionary accruals as Shariah-compliant firms are subject to greater scrutiny from regulators. In addition, we control for the effect of time periods and industry by including year and industry dummy variables. Fixed effects are industry dummies and year dummies, a vector of dummy variables indicating year and industry sector, respectively.

### 4. Results

#### 4.1 Earnings Management In Pre- and Post-MFRS Periods
To analyse whether the implementation of MFRS would reduce the earning management level, we split our sample into pre-MFRS (2008-2011) and post-MFRS (2013-2016) periods. Table 3 presents the results of comparing the two periods. The high amount of discretionary accruals means company management may be more likely to overstate earnings. The means of all sub-groups for the pre-MFRS period is significantly higher than post-MFRS period. Furthermore, the results in Table 3 shows that the gap of mean between the group of DA≥0 and DA<0 is larger in pre-MFRS compare to post-MFRS period. These results suggest that the implementation of MFRS might reduce the firms’ earnings management. One possible explanations is that implementation of MFRS has limited the choice of accounting methods through reduction of creating accounting and increase the accounting quality.

Table 3:

<table>
<thead>
<tr>
<th></th>
<th>Pre-MFRS (2008-2011)</th>
<th>Post-MFRS (2013-2016)</th>
<th>Test of Difference between the two groups t-Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Mean 0.0157</td>
<td>Mean -0.0118</td>
<td>-2.632***</td>
</tr>
<tr>
<td>DA&lt;0</td>
<td>Mean -0.0241</td>
<td>Mean -0.0204</td>
<td>-3.209***</td>
</tr>
<tr>
<td>DA≥0</td>
<td>Mean 0.0181</td>
<td>Mean 0.0055</td>
<td>3.544***</td>
</tr>
</tbody>
</table>

4.2 Regression Results

This study use random effects GLS method for the regression analyses. Breusch-Pagan LM test is applied to verify the presence of random effect. The test result in Table 4 indicates that the null hypothesis of the absence of random effect is rejected (p-value is 0.0000 < 0.05). Therefore, the random effect is appropriate in our study.

Table 4:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>S.D</th>
<th>Mean</th>
<th>S.D</th>
<th>t-Statistics</th>
<th>p-Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.0010</td>
<td>0.0986</td>
<td>-0.0248</td>
<td>1.4492</td>
<td></td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td>LnBSIZE</td>
<td>-0.0070*</td>
<td>-1.8683</td>
<td>0.0066</td>
<td>0.8071</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent directors</td>
<td>0.0024</td>
<td>0.8706</td>
<td>-0.0082</td>
<td>-1.5492</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duality</td>
<td>-0.0003</td>
<td>-0.1702</td>
<td>-0.0106</td>
<td>-1.5643</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Big4</td>
<td>-0.0004</td>
<td>-0.1401</td>
<td>0.0027</td>
<td>0.6077</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnAssets</td>
<td>0.0029***</td>
<td>2.7524</td>
<td>0.0044***</td>
<td>2.6087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.0262***</td>
<td>6.1857</td>
<td>0.0683***</td>
<td>5.4966</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shariah</td>
<td>-0.0036*</td>
<td>-1.8550</td>
<td>-0.0003</td>
<td>0.1097</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation</td>
<td>964</td>
<td></td>
<td>964</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.0743</td>
<td></td>
<td>0.1066</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>4.9432</td>
<td></td>
<td>7.5446</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breusch-Pagan LM</td>
<td>62.1175</td>
<td></td>
<td>64.3877</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wald Chi-square</td>
<td>46.3950</td>
<td></td>
<td>33.5268</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry fixed effects</td>
<td>Included</td>
<td></td>
<td>Included</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>Included</td>
<td></td>
<td>Included</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pre-MFRS period (2008-2011). To evaluate the impact of corporate governance on earning management, we included board size, independent directors and CEO-chairperson duality. The regression results in Table 4 show that in the pre-MFRS period, the coefficient of board size is negative and statistically significant. This suggests that firm with greater number of members on board is associated with lower discretionary accruals. As for the other two
CG variables, the independent directors and CEO-chairperson duality, the coefficients are not significant associated with discretionary accruals.

With respect to control variables, the coefficient of Big4 is not significant associated with discretionary accruals. The firm size has a significant positive impact on discretionary accruals. In term of leverage, the coefficient indicates positive sign and statistically significant, this suggests that the company having more debt is more likely to manage its earning. The coefficient of the Shariah dummy is negative sign and statistically significant associated with discretionary accruals. This means Shariah-complaint firms have lower incentive to manage earnings.

Post-MFRS period (2013-2016). Overall, the results in the post-MFRS period are qualitative similar with pre-MFRS. However, the board size and Shariah dummy variables are not significant associated with discretionary accruals. We might conclude that the CG variables have less influence on earnings management. The results also suggest that firm size and firm leverage are important factors on earnings management in pre- and post MFRS periods.

The pre- and post-MFRS samples are further separate into two sub-groups: (i) group positive DA (DA≥0) and; (ii) group negative DA (DA<0). The regression results are presented in Table 5. Regarding the pre-MFRS period, the CEO-chairperson duality had a positive and significant influence on positive discretionary accruals. The coefficient of firm size and leverage indicate that the greater of firm size and leverage have significant pressure in the group of positive discretionary accruals. Whereas in the group of negative discretionary accruals, the CEO-chairperson duality and firm size variables are not significant influence the discretionary accruals. Comparing the results in post-MFRS period analysis indicates that the corporate governance and control variables are less influence on the discretionary accrual.

5. Conclusion
This study examines the relationship between implementation of IFRS and accounting quality in term of earnings management, particularly with respect to discretionary accrual. This study suggest that the implementation of MFRS have reduced the firms’ earnings management in the post IFRS period. However, this study provides new arguments that Shariah-complaints firms in Malaysia do not necessary have greater incentives to report high-quality reporting based on the investor perspectives although shariah-compliant firms are subject to greater scrutiny from regulators. The results are robust even after separate our samples into positive DA & negative DA. Overall, the result provide support that implementation of IFRS reduce earnings management but do not necessary apply to Shariah compliant firms.

<table>
<thead>
<tr>
<th>Table 5: Regression results for positive and negative discretionary accruals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected sign</strong></td>
</tr>
<tr>
<td>Positive DA (DA&gt;0)</td>
</tr>
<tr>
<td>Intercept</td>
</tr>
<tr>
<td>LogSize</td>
</tr>
<tr>
<td>Independent directors</td>
</tr>
<tr>
<td>Duality</td>
</tr>
<tr>
<td>Big4</td>
</tr>
<tr>
<td>Linkassets</td>
</tr>
<tr>
<td>Leverage</td>
</tr>
<tr>
<td>Shariah</td>
</tr>
<tr>
<td>Observation</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>F-statistic</td>
</tr>
<tr>
<td>(0.0051)</td>
</tr>
<tr>
<td>Breusch Pagan LM</td>
</tr>
<tr>
<td>(0.0000)</td>
</tr>
<tr>
<td>Wald Chi-square</td>
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<tr>
<td>(0.0071)</td>
</tr>
<tr>
<td>Industry fixed effects</td>
</tr>
<tr>
<td>Year fixed effects</td>
</tr>
</tbody>
</table>
Acknowledgement
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References


Does the ‘Process’ of Process Capital Matter to Performance? Evidence from Kenyan Commercial Banks

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ARTICLE DETAILS

ABSTRACT

Globalization, changing customer expectation and shrinking product life-cycle depict process capital as a source of competitive advantage in modern economies. Consequently, organizations are gradually becoming more process oriented to cope with a dynamic environment. However, the process capital and performance causality is scanty in extant literature. Besides, previous studies overlooked the process aspect of process capital. Thus, the objective of this study was to determine whether the “process” of process capital matters to firm performance. The hypothesis was tested using panel data for the years 2008-2017 extracted from 31 commercial banks in Kenya. The findings showed that process capital had a positive and significant effect on performance ($\beta = 0.275$, $p$-value $0.000<0.05$). Consistent with the resource based view theory; the study concluded that the process of process capital influences firm performance.

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1. Introduction

With emergence of knowledge and information driven economies, knowledge resources are considered the main source of competitive advantage as postulated by resource based view theory (Bontis, 1998; Guthrie, 2001; Zhou & Fink, 2003; Chase, 1997). RBV conjectures that firm resources, both tangible and intangible, drive firm competitiveness and superior performance (Wernerfelt, 1984; Prahalad & Hamel, 1990; Barney, 1991). Researchers claim that intangible resources are gradually replacing tangible factors of production as agents of superior performance (Drucker, 1993; Grant, 1996). Intangible resources are particularly more important to service organizations such as banks that hold minimal tangible assets for liquidity purposes (Iswatia, & Anshoria, 2007; Mondal & Ghosh, 2012; Joshi et al., 2010; Owusu-Antwi et al., 2015). In management, intangible resources are collectively referred to as intellectual capital which is a composite of human capital, process capital, innovation capital and customer capital (Itami 1987; Sveiby, 1997; Edvinsson & Malone, 1997). Amid unparalleled technological advancements, changing customer expectations and shortened product lifecycle organizations are more focused on process capital for competitiveness and survival (Quesada & Gazo, 2007). Despite the increased importance of process capital, its effect on firm performance is scanty in extant literature and largely contentious.
Thus, the main objective of this study was to determine the effect of process capital on firm performance in the Kenyan banking sector.

2. Literature Review

2.1 Definition of Process Capital

Process capital was coined by Edvinsson and Malone (1997) who developed the conservative taxonomy of intellectual capital. Studies on intellectual capital conjecture that process capital and innovation capital constitute organizational capital (Pulic, 2004). Moreover, some researchers claim that process capital symbolizes the structural aspects of organizational capital (Bontis, 1996; Stewart, 1997; Sveiby, 1997). Previous studies conceptualized process capital through different lenses. An early definition of process capital was proposed by Luthy (1999) who claimed that process capital embodies technical knowledge of operations, procedures and employees programs aimed at expanding and improving efficiency in production and delivery of goods and services for competitively. According to Fun and Lee (2012), process capital denotes a firm’s ability to transform tangible and intangible resources to assets generating cash flows and competitive advantage. Besides, Bchini (2015) states that process capital “is the operating process that improves the efficiency of production of a good or a service. It is the practical knowledge put at the service of the continuous value creation”. Similarly, Sue et al., (2011) asserts that process capital is “the knowledge resources concerning a business operation and the improvement of efficiency and quality”. Moreover, Castillo (2016) states that process capital infers to procedures, practices, and activities that promote the delivery of value creation. Additionally, Ordonez de Pablos (2002) claims that process capital is an aggregate of value and non-value creating processes. Likewise, Lu and Wang (2014) opine that process capital as workflows, production processes, technical knowledge, organizational core values and culture. Despite the diverse semantics, there seems to be a general consensus that process capital symbolizes vital organizational processes that create and deliver customer value besides earning the firm competitive advantage. The facets of process capital can be grouped into decisional, operational and support processes thus a realm of business process management (Armistead & Machin, 1998).

2.2 Process capital and firm performance

Resource based view theory claims that firms competitive advantage and superior performance emanates from resources endowment (Barney, 1996; Wernerfelt, 1984). Intangible resources are broadly classified into human capital, innovation capital, process capital and customer (relation) capital. Studies contend that the impact of knowledge resources vary across industries (Amadieu & Viviani, 2010). In particular, process capital is more important to service organizations which are more reliant on service quality and customer relationship management for competitive advantage.

Some of the elements of process capital discussed in extant literature include business process engineering (Hammer, 1990), total quality management (Daven Port 1993; Oakland, 1993), statistical quality control (Deming, 1986), bench marking and continuous improvement (Zairi, 1997). These elements have a significant influence on organizational outcomes. Zairi (1997) mentioned that flexible, effective and efficient processes lead to competitive advantage. Vantrappen (1992) observed that rationalization of critical processes; production, communication, marketing and distribution, creates customer value ultimately improved performance. Moreover, Moustaghfir (2009) noted that process capital is an enabler of operational and strategic goals. Wang and Chang (2005) contend that an investment on process capital creates a unique organizational architecture that supports value generation capability of the other elements of intellectual capital.

To tap the value entrenched in process capital firms must consistently invest on information technology, quality improvement, process designs and business integration systems to attain process excellence. Equally, organizations must focus on critical processes that anticipate and deliver customer expectations for value (Kohlbacher, 2010). Clearly, process capital is at the heart of core business processes that convert resources (inputs) into goods and services (outputs) for competitive advantage.

3. Framework and Hypotheses Development

Firm knowledge resources are considered as vital determinants of organizational outcomes as extensively discussed in literature and supported by theory (Barney, 1991, Khan et al., 2019; Martinez-Martinez et al., 2019, Kohlbacher 2010; Mahdi et al., 2019). In modern economies characterized by technological revolution, shifting customer expectation and shortened product lifecycle the focus is on process capital as a source of competitive advantage and
superior performance particularly to service organizations. Organizations are no-longer viewed as an amalgamation of functional units but an integrated system of processes (McCormack, 2004). In the context of a service industry, process capital is associated with service quality, service efficiency, speedy delivery of services and customer satisfaction which have a positive influence on firm performance (Fellmann & Leyer, 2018; Brenner et al., 2015).

Unfortunately, literature on process capital and firm performance is scanty despite the importance of financial intermediation to macro-economic factors such as economic growth (Ayadi et al., 2015; Caporale & Helmi, 2018), entrepreneurship (Ferdousi, 2015; Banerjee et al., 2017), inflation (Korkmaz, 2015), education (Melguizo et al., 2016) and health care (Hussain et al., 2016). This study is justified on the following grounds. First, none of the previous studies conceptualized process capital from a process perspective. In fact, a significant number of studies measured process capital as either process inputs or process outputs hence disregarding the value of the processes element which is the province of process capital (Chen et al., 2004; Bontis et al., 2000; Wang & Shang, 2005).

Second, none of these studies examined the independent effect of process capital on firm performance. All the components of intellectual capital were pooled into a single regression model. Statistically, in cases where the components are highly correlated, the variables tend to cancel out their individual effect on performance. In fact, studies claim that components of intellectual capital are interrelated and complementary (Izvercian et al., 2013; Kamukama et al., 2011; Ramírez, 2010; Chang & Hsieh, 2011; Wang & Chang, 2005). Third, previous studies focused on manufacturing firms in developed and emerging countries (Huang & Kung, 2011; Martín-de Castro & Verd, 2012; Sharabati et al., 2010; St-Pierre & Audet, 2011; Maji, & Goswami, 2016). Thus, there is need to determine the process capital and performance causality in service industries and developing economies.

Accordingly, the objective of this study was to determine whether the process of process capital impacts performance in the banking sector. In particular, the Kenyan banking sector that is considered the most vibrant and innovative in Sub-Saharan Africa for having excelled in mobile money technologies (Wachira & Ondigo, 2016; Blechman, 2016; Murinde et al., 2016). Based on knowledge theories, particularly resource based view; the study offered the following hypotheses:

Ho: Process capital has no significant effect on firm performance
Ha: Process capital has a significant effect on firm performance

3. Methodology
3.1 Sample and Data Collection
The study population consisted of all the 42 commercial banks in Kenya. However, due to incompleteness and inconsistency of data a sample 31 banks was selected that yielded 310 annual observations. The study used panel data for the period 2008-2017 which was extracted from banks annual financial reports and Central Bank of Kenya supervisory reports.

3.2 Measurement of Variables
The study had four variables namely the dependent variable (firm performance), the independent variable (process capital) and two control variables (firm size and firm age). Financial performance was measured as ROA which is the ratio of firm’s net earnings to total assets. A high ROA means that the firm is utilizing its assets efficiently and for value (Tabash, 2019; Shet et al., 2019; Ongere & Kusa, 2013). Measures of process capital are at a nascent stage as evidenced by the glaring overlaps and misconceptions in previous studies. Process capital symbolizes key technologies, core processes and systems that create and deliver value to customers. Similarly, process capital is conceptualized as critical internal processes such as quality management, managerial capabilities, strategy execution, response and process improvement that improve organizational efficiency (Shang & Wu, 2013; Wang & Chang, 2005; Hung, 2006; Bukh et al., 2001).

Interestingly, previous studies show some inconsistencies in measurement of process capital. For instance, Yıldırım and Allen (2017) and Namvar (2012) operationalized process capital as managerial capability Liebowitz and Suen (2000) measured process capital as administrative expenses/employees, administrative expenses/total revenue and IT expenses/administrative expenses. Logically, some of the measures of process capital overlap or conflict with proxies of other components of intellectual capital. For example, Wang & Chang (2005) productivity per employee, managerial capabilities and value added per employee have been used elsewhere as proxies of human capital.

Perhaps the endless debate on the process capital and performance puzzle is premised on how researchers measured process capital. A study Shang and Wu (2013) show that a large number of previous studies measured process capital as an investment on information technology. Measuring process capital as an investment on IT not only weakens the thin line between process capital and innovation capital, but also conceals the actual value of process capital. Logically, IT or R&D expenses and assets are the conventional measures of innovation capital (Jen Huang & Liu, 2005; Koroglu & Eceral, 2015; Romijn & Albaladejo, 2002; Gamal et al., 2011). A further misperception is apparent in Wang and Chang (2005) study where process capital was measured as productivity per employee and value added per employee. In practice and theory the two proxies are measures of human capital (Liebowitz & Suen, 2000; Hirer & William, 2003). Besides, a significant number of the proxies are basically investments on process capital with no specific reference to outcomes (Chen et al., 2004; Bontis et al., 2000; Wang & Chang, 2005; Van den berg, 2002). For that reason, these studies ignored the process aspect through which process capital generates value. That is, “how organizational resources (inputs) are converted into valuable goods and services (outputs) which is the heart of process capital”. Zari (1997) defines a process as “way in which resources of an organization are used in a reliable, repeatable and consistent way to achieve its goals”. To that extent, Bulletpoint (1996) suggested that the features of a process include defined inputs, logical sequence of activities, defined task and pre-determined outcomes. In the same perspective, Van den berg (2002) contends that the value of process capital is manifested by efficiency, effectiveness, utilization of key success factors and distribution efficiency. The importance of business processes to performance was also mentioned by Frei et al., (1999) and Rochmadhona et al., (2018) who claim that process capital denotes the ‘combined value of a company’s value creation process’.

Unlike previous studies, this study argues that efficiency in production of goods or provision of services is the ideal measure of the intrinsic value of process capital. For clarity, the chosen measure of efficiency should be based on core processes and allow for the uniqueness of production models among different forms of organizations.

Van den Berg (2002) contends that the focus of process capital is efficiency, effectiveness, optimal utilization strategic resources and distribution. In the context of a banking institution, the most significant business process is liquidity creation through intermediation. This process encompasses mobilizing savings from household and firms as deposits, repackaging them and then advancing them as loans and other forms of advance to investors. Thus, efficiency in liquidity creation is a key measure of process capital for a lending institution.

In this study process capital was be measured as efficiency is liquidity creation denoted by loan- deposit ratio. The study controlled for firm age and firm size. Firm age was measured as the number of years since incorporation of the firm (Vu et al., 2019; Chakravarty & Hegde, 2019; Ilaboya & Ohiokha, 2016). Firm size measured as natural logarithm of total bank assets (Mitra, 2019; Ayuba et al., 2019; Zhou et al., 2019). The model specification for the study is illustrated below

\[
FPit= \beta_0 +\beta_1PCit +\beta_2FAit+ \beta_3FSit + \varepsilon it
\]

Where

\[
FP= \text{Financial Performance}
\]
\[
PC= \text{Process Capital}
\]
\[
FA= \text{Firm Age}
\]
\[
FS= \text{Firm Size}
\]
\[
\varepsilon it= \text{error term}
\]

3.3 Analysis

The data was analyzed through descriptive and inferential statistics using STATA (version 13). Data was summarized in summary descriptive statistics comprising of mean, maximum and minimum values and standard deviation. Pairwise correlation was used to establish the magnitude and direction of relationship between the research variables. Several diagnostic tests were conducted to check the suitability of the data for regression analysis as the basis of testing the hypothesis. Breusch-Godfrey/Wooldridge tested autocorrelation and reported a ρ-
value=0.3478 that failed to reject the null hypothesis. Unit root was tested using ADF test and reported p<0.05 for all the variables. No multicollinearity was detected as indicated since the variable had VIF less than 10. Random effect regression was chosen considering the results of Hausman test (Prob>chi2= 0.064>0.05).

4. Results and Discussion

Table I: Summary Statistics for the variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Performance</td>
<td>310</td>
<td>0.03</td>
<td>0.00</td>
<td>0.10</td>
<td>0.018354</td>
</tr>
<tr>
<td>Process Capital</td>
<td>310</td>
<td>0.82</td>
<td>0.02</td>
<td>8.72</td>
<td>0.5003166</td>
</tr>
<tr>
<td>Firm Size</td>
<td>310</td>
<td>76600000000</td>
<td>2289000000</td>
<td>5560000000000</td>
<td>96200000000</td>
</tr>
<tr>
<td>Firm Age</td>
<td>310</td>
<td>34.82</td>
<td>1.00</td>
<td>121.00</td>
<td>29.22061</td>
</tr>
</tbody>
</table>

Source: Authors, 2019

Table II: Results for Correlation Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Firm Performance</th>
<th>Process Capital</th>
<th>Firm Age</th>
<th>Firm Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm Performance</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process Capital</td>
<td>.472**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Age</td>
<td>.294**</td>
<td>0.093</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>.372**</td>
<td>0.05</td>
<td>.542**</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Source: Authors, 2019

4.1 Results

Table I illustrate summary statistics for the data collected. Table II shows pairwise correlation analysis while Table III shows the results of the random regression effect. Table I illustrate the summary descriptive statistics of the research variables. The table shows that the average industry return on asset for the period 2008-2017 was 3%. In addition the table shows that average bank age is 34 years while the mean bank size is Ksh 76.6 billion. The table further shows that the mean process capital was 0.82 signifying a substantially high level of efficiency in liquidity creation.

The results of the pairwise correlation are shown in Table II. The table indicates that the relationship between process capital and performance is positive and significant (r=0.472, p<0.01). The correlation between firm age and financial performance and significant (r=0.294, p<0.01); same case to firm size and financial performance (r=0.372,
ρ<0.01) as well as firm size and firm age (r=0.542 ρ<0.01). However the correlation of the two control variables, firm size and firm age, with process capital was positive though nonsignificant at 1% and 5%.

The output of the random effect regression is tabulated in Table III. The results confirms that process capital has a positive and significant effect on performance (R2 = 0.5816, β = 0.275, ρ-value 0.000<0.05). Therefore our null hypothesis, process capital has no significant effect on firm performance, is rejected (Ho) and the alternative hypothesis (Ha.) accepted. The empirical model predicts that one percent change in process capital leads to 27.5% change in firm performance. The study further found that firm size had a positive though insignificant effect on performance (β = 0.133, ρ-value 0.016<0.05). However our results show that firm age had a negative and insignificant effect of performance (β = -0.004, ρ-value 0.962 >0.05).

4.2 Discussion
These findings confirm that process capital has a significant impact on bank performance thus a source of competitive advantage. These findings are consistent with previous studies (Loay, 2015; Shang & Wu, 2013; Wang & Chang, 2005). Conversely, our results contradict those reported by Ting and Lean (2008), Yeng and Chan (1998) and Balakrishnan et al., (1996) which found no relationship and; Cheng et al., (2008) who reported a negative relationship. Some probable explanations for the divergent results include variations in measurement of process capital, nature of data and contextual issues. As earlier discussed, this study conceptualized process capital as process efficiency and the focus was the banking industry in a developing country whereas most of the previous studies centered on manufacturing firms in developed and emerging economies. Unlike, earlier studies that used primary data, this study used panel data making it fairly objective. Accordingly, our results are reasonably convincing, reliable and superior. In summary, the findings are consistent with resource based view proposition that competitive advantage and superior performance emanates from a firms resource profile. Manager should therefore focus on building and managing internal processes that create and deliver value to customers to outdo competitors and survive environmental dynamics.

5. Conclusion and Implication
As the world gradually transits from production to knowledge based economies the importance of process capital to organizational performance, particularly service organizations, has attracted unparalleled attention from consultants, scholars, business managers and regulator. This has further been intensified by unprecedented technology innovations, cross border competition and more enlightened customers which have forced firms to focus more on internal processes for competitive advantage. Unfortunately no relevant study has examined the effect of process capital on firm performance from a process approach, excluding the other components of intellectual capital and focusing on a service organization in a developing country. This study therefore sought to fill that gap. Using data drawn from commercial banks in Kenya, the study empirically examined the relationship between process capital and performance. The study conceptualized process capital as the efficiency of core business processes. The results demonstrate that process capital has a significant effect on firm performance.

Through our study, we have provided further evidence that intangible assets have an influence on firm performance as claimed by resource based view. Our study contributes to the existing body of knowledge by arguing that the value of process capital is embedded on the efficiency of production processes; in the case of manufacturing concern- efficiency in production of goods (converting raw materials into finished good), while for service organizations- the efficiency in delivery of services and for value. The study further argues that business processes are heterogeneous across firms and industries thus measures of process capital should be customized to reflect an organization’s unique production model. This study focused on the banking industry therefore future researchers can consider other sectors of the economy such as education and manufacturing. We conclude that the process of process capital matters to performance.

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The Interaction Effect of Financial Leverage on the Relationship Between Board Attributes and Firm Performance; Evidence of Non-financial Listed Companies of Pakistan

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ABSTRACT

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The eminence of corporate governance (CG) was grasped after the major blunders in corporate strategies and distinct corporate scandals around the world during the global financial crises. Advanced countries have passed numerous laws such as “Say on Pay” or the Sarbanes-Oxley Act to shield the shareholder’s wealth. However, the evolving countries are still flourishing to gain recognition in corporate governance (CG) effectiveness. The intention of the study is to probe the link between the CG (board size, outside directors) and firm performance (Tobin’s Q). Leverage has been used as interaction term in current study. The data had been collected from 130 non-financial firms from the year 2012 to 2015 and Multiple Regression Techniques will be use as the instruments for data analysis. The results indicate that the board size and Tobin’s Q have a significant association and outside directors’ insignificant association with Tobin’s Q. The interaction effect of leverage found a significant connotation between board size, outside directors, and Tobin’s Q.

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1. Introduction

Performance of firms is dynamic significance for economic development of stakeholders and investors. Investors need a high return on their investment and well-organized business that could bring long-term profits for its stakeholders. Despite the extensive academic literature on the bases of firm performance, still researchers are struggling to evaluate the determinants of firm performance in both advanced and emerging economies (Cinca, Molinero, & Larraz, 2005; Delen, Kuzey, & Uyar, 2013; Galbreath & Galvin, 2008; Gombola & Ketz, 1983; Hawawini, Subramanian, & Verdin, 2003; Ho & Wu, 2006). As per as the current literature is concerned, researchers have evaluated several factors that could have an impact on the firm performances. For instance, pertaining the developed economies, there are certain factors such as employee ownership (Kim & Patel, 2017),
marketing capabilities (Cacciolatti & Lee, 2016), stakeholder relationships and brand equity (Wang & Sengupta, 2016), these could positively or negatively influence a firm performance. On the other hand, developing countries are still focusing on issues such as the industry and governance diversity (Chen & Lin, 2016), capital structure (Iavorskyi, 2013), corporate governance (CG) (Arora & Sharma, 2016, khan & Ali, 2018), tangibles and intangibles (Lazăr, 2016) that could possibly influence a firm performance. In the specific context of Pakistan, previous studies identified that risk management, capital structure, CG and economic indicators could likely influence a firm performance of Pakistani capital market (Mirza & Javed 2013; khan & Ali, 2017). The business of Pakistan particularly industrial sectors is frequently facing low performance in a textile sector, cement, and shoe. This is leading to a feeble economy and poor firms’ performance which is eventually affecting the foreign investors to invest in Pakistan. Consequently, multinational corporations are unwilling to commence their corporate operations in Pakistan (Shaikh, 2013). Reports to CIA (2016), Pakistan industrial production growth in 2016 is 6.8%, still behind the production growth rate of 8.00% in 2007. Moreover, according to ICMAP (2015), the industrial sector of Pakistan is facing abounding issues like power and energy crises, lack of investment, high production cost, and weak governance cooperation. Due to all these factors, the industrial sectors are facing huge losses of about USD 3.81 billion. This amount is almost 15% of the total revenues of government.

As per above discussion which indicates the issues of the performance due to different factors like capital structure and CG etc. Nowadays, CG has attended more intention in the current business scenario all over the world particularly due to the corporate scams and the failures of firms all around the globe. Accountability and transparency became important for the investor's attraction and one hand capital funds and on the other hand, need financial security and stability. Recent business environment is very viable, the ambiguity and risk are the foremost features of the current business. The modern business environment becomes very tough to control and predict (Kuratko & Morris, 2003). Strong CG can be the best solution to lessen the risk and uncertainty in the current business scenarios. Moreover, decreasing the risk level can attract investors. It is usually supposed that good CG improves performance of the firm and provides protection to shareholders, interest. The most important role of a sound CG exercise will provide better link between the firms and its environment and shelter its important resources through appealing the capital funds and investors. Moreover, the sound CG exercise can be a real tool for the organization to attain better performance. In addition, sound corporate CG carries good management and better utilization of the firm resources which can significantly contribute to the firm value (Keong, 2002). Therefore, it is important to understand the link between CG and firm performance. Past studies found the inclusive results in the relationship between CG and firm performance. Most of earlier studies has been conducted related to CG in advanced countries but less attention was given to the emerging economies countries like Pakistan. This means that there is a need for such research. One of the vital confrontations in the corporate sector of Pakistan is that of CG. Previous studies in Pakistan, however, revealed that Pakistan still has a weak CG structure (Ameer, 2013; Batool & Javid, 2014, Khan & Ali, 2017). The main aim of the current study is to test whether internal CG such as board size, outside directors influence the performance of Pakistani firm and also to check the interaction effect of leverage between them.

The following are the research objectives:

a) To test the link between board size and firm performance in listed firms on Pakistan Stock Exchange year, 2012 to 2015
b) To test the link between outside directors and firm performance in listed firms on Pakistan Stock Exchange year, 2012 to 2015
c) To test the interactional effect of leverage on the relationship between board attributes (board size and outside directors,) and firm performance in the listed firm Pakistan Stock Exchange year, 2012 to 2015.

The concern of the current study is to emphasize the significance of leverage as possible description of interaction in strengthening or weakening the influence of CG on firm performance, particularly in the underdeveloped countries firms.

2. Framework of the Study
The research framework of the present study is a sprout of the Hsu (2013), Khan, and Ali, (2017), and Chen & Lin, (2016). is demonstrated in Figure 1.
Supporting Information

Figure 1: Conceptual Frame Work

3. Literature Review and Hypotheses Development of the Study
Agency theory based upon the assumption that both agent and principal interest changes, and principal can reduce the gap of concern by offering maximum incentives to the agent also meet them to keep an eye on the agent (Ntim & Oseit, 2011; Khan & Ali 2017). A principal should take every measure to avoid agency issue (Bonazzi & Islam 2007) and established the board of directors conflicting aspects of the management can aid to achieve the aim of superb governance and convincingly affect firm performance.

Board activities are profoundly reliant on agency theory, as time passes, researches on the effects of CG and firm performance have been increased due to the realization of the importance of CG. Current literature is diverse and no consensus among the researchers concerning the outcome (Mayur & Saravanan, 2017; Black, Jang, & Kim (2006). Most of the prior studies reported that CG has an influence on firm performance for updated technology ventures and supported the relevant relationships among the CG. In addition, some of the previous studies reported the significant relationship CG and firm performance whose research was carried on the listed firm of Pakistan stock exchange (PSX) (Khan & Ali 2018; Akbar 2014).

Moreover, board of directors two most imperative functions are monitoring and advising (Raheja 2005; Adams & Ferreira 2007) and performed by inside and outside directors, though Fama and Jensen (1983) indicates the value of outside directors, who bring valued expertise and possibly important contacts. The benefit of higher board size is the superior collective information that the board afterward possesses, and hereafter higher boards will lead to greater performance (Dalton & Co-workers 1999, 2005).

Previous literature shown that the board size of the directors plays a vibrant role in the managements’ ability to oversee managers (Anderson, Mansi & Reeb 2004). According to Khan & Ali (2018), the link between the board size and performance is positive. Similarly, Coles, Daniel, & Naveen (2008) reported that performance gets better with board size for complicated companies. Some of the previous studies that reveal the negative link between the board size and performance include Mayur & Saravanan, (2017). Mashayekhi and Bazaz (2008) found an no link between board size and performance of Irani companies.

On the other side, the position of outside directors is associated to their capability to evaluate the performance of the firm independently. The directors have valued knowledge about firms activates that works inside the firm, while outside directors can contribute objectivity and expertise in evaluating manager’s decisions. Therefore, large board independence permits non-executives directors to monitor a firm more strictly and take accurate actions. In addition to that, according to Brickley, and James (1987), the presence of outside directors contributes to reduction
managerial consumption of perquisites. However, the results of the current academic literature on the empirical link between outside directors and firm performance are also mixed. For instance, Kouki and Guizani (2015), a study 42 non-financial Tunisian firms over the period of 2004-2010 and they found a positive link between independent directors and firm performance. Mohapatra (2016) found that outside directors have an insignificant relationship with operating performance. Johl et al. (2015) also found an no link of board independence with firm performance in the Malaysian context. The current literature indicates the inconsistency or mixed results of board size and outside directors with performance. Therefore, firstly, the current study sees the effect of board size and outside directors on firm performance and secondly employee; the moderator was taken as leverage which was also been employed (Azeem, Hassan, & Kouser, 2013).

H1: Board size have a significant influence on firm performance.
H2: Outside directors have a significant influence on earnings firm performance
H3: Leverage moderates the link between board size, outside directors and firm performance

3.1 Control Variable
Most of the previous studies used firm size as a control variable in estimating the link between the CG and firm performance. A study by Ehikioya (2009) found a positive association between firm size and firm performance. On the other side, Mohd Ghazali (2010) reported that firm size is negatively related to performance.

4. Methodology of the Study
4.1 Sample of the Study
The total population of the current study incorporates the non-financial listed firm on the Pakistan stock exchange year, 2012 to 2015. A total of 130 firms serves as a sample out of 384 non-financial firms. The data of the variables collected through the annual reposts or state bank of Pakistan website.

4.2 Measurement of the variables

Table 1; Description of used variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board size</td>
<td>“Total number of directors on the board”</td>
</tr>
<tr>
<td>Outside directors</td>
<td>“The total number of outside non-executive directors/ total number of directors”</td>
</tr>
<tr>
<td>Leverage</td>
<td>“Total liabilities/ total assets”</td>
</tr>
<tr>
<td>Firm size</td>
<td>“Natural log of total assets”</td>
</tr>
<tr>
<td>Tobin’s Q</td>
<td>“Total asset + market value of equity – book value of equity – deferred taxes /Total assets”</td>
</tr>
</tbody>
</table>

4.3 Model Specifications

\[
\text{TobinQ}_{it} = \alpha + \beta 1 (BDSZ_{it}) + \beta 2 (OSDZ_{it}) + \beta 2(LEV*BDS_{it}) + \beta 3(FS) + \epsilon_{it}...
\]

4.4 Descriptive Analysis

Table 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std.dv</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board size</td>
<td>8.04</td>
<td>1.33</td>
<td>07</td>
<td>15</td>
</tr>
<tr>
<td>Outside directors (%)</td>
<td>0.15</td>
<td>0.14</td>
<td>0</td>
<td>77</td>
</tr>
<tr>
<td>Leverage</td>
<td>1.34</td>
<td>13.25</td>
<td>0.0008</td>
<td>298.27</td>
</tr>
<tr>
<td>Tobins’ Q</td>
<td>0.57</td>
<td>1.23</td>
<td>0.003</td>
<td>22.07</td>
</tr>
</tbody>
</table>

The above table 2 indicates the descriptive statistics which shows that the board size (BS) average value is 8.04, the minimum value is 07 and the maximum value is 15. Outside directors
(OSD) average value is 0.15 and maximum 0 value and minimum value. The mean value of leverage is 1.34 and maximum value is 2.98 and minimum value is 0.0008.

4.5 Diagnostic tests

4.5.1 Multicollinearity Testing
The multilinearity test to displays Variance Inflation Factor (VIF) value of every independent variable as shown in Table 3

Table 3

<table>
<thead>
<tr>
<th>Variables</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS</td>
<td>1.12</td>
<td>0.89</td>
</tr>
<tr>
<td>OD</td>
<td>1.12</td>
<td>0.89</td>
</tr>
<tr>
<td>FS</td>
<td>1.10</td>
<td>0.91</td>
</tr>
</tbody>
</table>

The results indicate that every independent variable have a tolerance value is less 0.10 and VIF is less 10. Consequently, it can be determined that the independent variables can used in the regression model of current research are free the issue of multicollinearity (Gozali, 2013)

4.5.2 Autocorrelation Testing
To determine the autocorrelation, using the Wooldridge test, the results of table 4 indicates that there is no autocorrelation problem exists.

Table 4: Wooldridge test

<table>
<thead>
<tr>
<th>F(1,129)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.88</td>
<td>0.172</td>
</tr>
</tbody>
</table>

4.5.3 Heteroscedasticity Testing
To determine the heteroscedasticity test, use the Breusch-pagan test/Cook-Weisberg test. the results of the table 5 indicate the no problem of heteroscedasticity.

Table 5: Breusch-pagan test/Cook-Weisberg test

<table>
<thead>
<tr>
<th>Ch²(1)</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>705.54</td>
<td>0.354</td>
</tr>
</tbody>
</table>

4.6 Regression Analysis

Table 6

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coff</th>
<th>t-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobins’ Q</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board size (BS)</td>
<td>0.12</td>
<td>2.97</td>
<td>0.003</td>
</tr>
<tr>
<td>Outside directors (OD)</td>
<td>1.15</td>
<td>1.55</td>
<td>0.121</td>
</tr>
<tr>
<td>Leverage (LEV)</td>
<td>0.87</td>
<td>1.86</td>
<td>0.056</td>
</tr>
<tr>
<td>BS*LEV</td>
<td>0.60</td>
<td>3.96</td>
<td>0.000</td>
</tr>
<tr>
<td>OD*LEV</td>
<td>-0.21</td>
<td>-3.99</td>
<td>0.000</td>
</tr>
<tr>
<td>Firm size (FS)</td>
<td>0.028</td>
<td>0.48</td>
<td>0.631</td>
</tr>
<tr>
<td>constant</td>
<td>-0.8631597</td>
<td>-2.45</td>
<td>0.015</td>
</tr>
<tr>
<td>R2</td>
<td>0.067</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td>5.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob &gt; chi2</td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Findings and Discussion

5.1 Board Size, Outside Directors, Leverage and Firm Performance

The table 6 showing the results of regression analysis and indicating the board size (BS) has positive significant effect ($\beta = 0.12$, t = 2.97, P<0.01) on firm performance (Tobin’s’ Q). The current study indicates that the board size plays a significant role in the management ability to oversee managers. This result is consistent with previous studies such as (Khan & Ali 2018; Sheikh, Wang and Khan 2013; Malik et al. 2014; Johl, 2015). Outside directors have insignificant effect ($\beta=0.1.15$, t value =1.55, p>0.1) on firm performance (Tobin’s’ Q). Outside directors shows no relation with firm performance due to low representation of non-executive directors. This finding is in line prior studies such as (Johl et al. 2015, Sheikh, Wang and Khan 2013). The leverage also shows an interaction effect between board sizes, outside directors and firm performance. The findings are supporting the view of Hsu (2013) that leverage is very important to firms so as to ensure the financial resources required for new business actives and get the better performance of the firm.

6. Conclusion and Implication

The intention of current study is to offers empirical evidence of the interaction effect of leverage on the relationship between board size, outside directors and firm performance. The finding of the study suggests that interaction of leverage strengthen the influence of board size and outside directors on firm performance.

The current study results have the potential to support institution such as Pakistan Stock Exchange and invertors to know how to leverage can influence performance of firms. Also, the results of this study provide the better understanding of agency theory as well as the influence of the agency theory.

References


Economic and Business Studies, 9(1), 53-69.
CPEC Investment Opportunities and Challenges in Pakistan

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ARTICLE DETAILS

ABSTRACT

China-Pakistan Economic Corridor (CPEC) is related with energy and infrastructural projects. China has made massive investments in Pakistan so the region will attract reasonable foreign direct investments. Three routes are developed for infrastructural development i.e. Khunjerab to Gwader, establishment of railway, airport and seaport at Gwader so lot of prospering opportunities will be for the areas of Khyber Pakhtunkhwa and Baluchistan. As CPEC is a combination of the myriad projects on infrastructure and energy sector and these projects will be supported by an investment of $46 billion, whereby $ 35 billion will be spent on energy sector and remaining $11 billion will be spent on infrastructural developments. This review considered the available research on the prospects and issues of CPEC and provides implications for research and Pakistani economy. Available research on CPEC and its implications is descriptive in nature. There is a need to conduct sector specific studies to lay out policies and framework of action to capitalize on the opportunities provided by CPEC.

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1. Introduction

CPEC is a combination of infrastructural and energy related projects, whereby China directly or indirectly has committed a massive investment of $46 billion. Hali et al. (2015) quoted that investments on CPEC and related projects will bring more inflows to Pakistan over next 15 years, comparing the total inflows of the country since 1970. CPEC is being considered a ‘Game Changer’ for the Pakistan, which at the moment is facing many difficulties to uphold to its economic prospects. The first and foremost problem of Pakistan is its electricity outrage, which is addressed by CPEC by incorporating power generation projects with capacity of 15000+ MW, 74% of the existing power generation capacity of the country. Out of total $46 billion, an approximate amount of $34 billion...
will be spent on the revival of energy sector of Pakistan (BMA, 2015). Further, infrastructural developments, establishment of the special economic zones and development of the Gwader Port are added benefits of the CPEC. Gwader Port has its own geo-political and economic significance, not only for Pakistan, but also for China and other neighboring countries. The development of the Gwader Port started prior to the announcement of CPEC in 2002. An initial allocation of $700 million is made for the development of Gwader Port under CPEC agreement (BMA, 2015). According to Khan (2013), Gwader port has potential to generate billions in revenue and could support employment of more than 2 million jobs in the country. Haq and Farooq (2016) also provided positive projections of CPEC on social welfare of the country, specifically for those districts, which are located on CPEC routes. Social welfare dimensions probed in the study are related to education, health and housing along with living standards and poverty. Thus, a massive and positive impact of the CPEC is being propagated on the economy of Pakistan, and CPEC is being considered a ‘Game Changer’, which would ensure a long term sustainable growth of the economy of the country.

Apart from the positive implications of CPEC for the economy of Pakistan, there have been certain internal challenges, which might hinder the true potential of CPEC. These challenges are related to the internal issues like security concerns, interprovincial agreement & harmony, political uncertainty and administrative concerns (Abid & Ashfaq, 2015; Hussain, 2016) and also external issues like competition for dominance and economic benefits with India and Iran, proxy wars in the region and climate issues (Vandewalle, 2015; Hussain, 2016; Huang, Fischer & Xu, 2016). Although CPEC has just started and its initial harvest projects are due in early 2018, there have been a lot of debate as to whether the project will deliver to its expectations in terms of economic and social development, or it will unfold another controversy like Kala Bagh Dam (Mengal, 2016). This review in this regard provides a comprehensive overview of CPEC and its economic implications for Pakistan. This review is organization as follows: first of all, a general conception of economic corridors and special economic zones is provided, after that a detailed description of CPEC is made, subsequently economic implications of CPEC are discussed and after that challenges to successful implementation of CPEC are highlighted. Lastly, concluding remarks are made and implications for future research are provided.

### 2. Economic corridors and ASEAN Countries

Ishida (2009) in this regard provided the case of China and ASEAN countries, whereby the economic development of the region has been ensured by establishment of special economic zones and open coastal cities. These areas also have attracted massive foreign direct investments as these areas have easy access to port or harbor, and cheap supply of labor. Further, their interconnectivity through roads and other infrastructural facilities is quite good and tax incentives are provided to the industrialists in the area. Ishida (2009) Exemplified economic corridors in Greater Mekong Sub Region, whereby Laos, Thailand, Myanmar, China, Vietnam, Bangkok and Cambodia are interconnected through three economic corridors and highlighted importance of building industrial hubs for reaping benefits from economic corridors. Hussain (2016), on the other hand related economic corridors of Africa to ‘engines of growth’, whereby such corridors have facilitated trade and provided employment opportunities to the people. A need for the governing legislative framework is also stressed in this regard like Intermodal Surface Transport Efficiency Act of 1990 and NAFTA of 1994, which aimed at supporting the economic corridor and trade between Canada and USA.

### 3. CPEC and related Investments

Infrastructural component of the project will be based on the development of three routes from Khunjerab to Gwader, establishment of railway, airport and seaport at Gwader. These infrastructural and power related projects are distributed evenly among all geographical regions of Pakistan, and there are a lot of prospering opportunities for neglected areas of Khyber Pakhtunkhwa and Baluchistan. Further, establishment of mineral processing zones, industrial processing zones and industrial parks is also part of CPEC and a total of $46 billions would come to the country (Hussain, 2015). The project also has expansion potential as other countries in the region could also have access to the trade routes and to the port of Gwader. Butt and Butt (2015), in this regard quoted Chinese President Jinping who iterated that, “The planning and layout of the Economic Corridor should cover other parts of Pakistan as well so that the fruits of its development will reach both all the people in Pakistan and the people of other countries in our region”. Thus, CPEC could not only provide economic and regional integrational benefits to Pakistan, but also other countries in the region could have access to it and reap mutual benefits of trade, peace and harmony.
4. CPEC – Details of projects
As related previously, that CPEC is a combination of the myriad projects on infrastructure and energy sector and these projects will be supported by an investment of $46 billion, whereby $ 35 billion will be spent on energy sector and remaining $11 billion will be spent on infrastructural developments (Rafi, Khan & Aslam, 2016). Out of this $46 million, China will spend around $28 billion in shape of foreign direct investment, while remaining $18 billion will be Pakistan’s share, which will also be advanced by China on concessional rates (BMA, 2015). The early harvest projects have timeline of five years, while other long term projects will take ten to fifteen years in completion (Hussain, 2016). Table 3.2.1 below provides initial breakup of the approximate costs and nature of the investments in energy, infrastructure and Gwader based projects as provided by board of investment (boi) of Pakistan.

Table 4.1 Project Breakup

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Sector</th>
<th>No. of Projects</th>
<th>Estimated Cost (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Energy</td>
<td>21</td>
<td>33,793</td>
</tr>
<tr>
<td>02</td>
<td>Transport Infrastructure</td>
<td>4</td>
<td>9,784</td>
</tr>
<tr>
<td>03</td>
<td>Gwadar</td>
<td>8</td>
<td>792.62</td>
</tr>
</tbody>
</table>

Source: http://boi.gov.pk/InfoCenter/CPEC.aspx

A relatively more elaborated breakup of the investments was provided by BMA (2015) research in their report, which is provided in table 3.2.2. The breakup elaborated that energy is main focus of CPEC, while infrastructure, rail and Gwader port are relatively small parts of the overall investments. Appendix A to D provides a detailed overview of the projects associated with Energy, transportation infrastructure, Gwader port and also details on the industrial coordination projects like establishment of the special economic zones.

Table 4.2 Investment Breakup – CPEC Projects

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Total Investment ($ Bn)</th>
<th>Domestic Share (%)</th>
<th>Domestic Share ($ Bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>33.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>7,560 MW</td>
<td>20%</td>
<td>1.8</td>
</tr>
<tr>
<td>Wind</td>
<td>200 MW</td>
<td>20%</td>
<td>0.1</td>
</tr>
<tr>
<td>Hydel</td>
<td>1590 MW</td>
<td>50%</td>
<td>2.1</td>
</tr>
<tr>
<td>Solar</td>
<td>1000 MW</td>
<td>0%</td>
<td>-</td>
</tr>
<tr>
<td>Second Phase</td>
<td>6445 MW</td>
<td>20%</td>
<td>1.9</td>
</tr>
<tr>
<td>Mining Expenditure</td>
<td>9.0</td>
<td>50%</td>
<td>4.5</td>
</tr>
<tr>
<td>Road</td>
<td>5.9</td>
<td>80%</td>
<td>4.7</td>
</tr>
<tr>
<td>Rail</td>
<td>3.7</td>
<td>50%</td>
<td>1.8</td>
</tr>
<tr>
<td>Mass Transit in Lahore</td>
<td>1.5</td>
<td>50%</td>
<td>0.8</td>
</tr>
<tr>
<td>Gwader Port</td>
<td>0.7</td>
<td>50%</td>
<td>0.3</td>
</tr>
<tr>
<td>China Pak Fiber Optics</td>
<td>0.0</td>
<td>0%</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: BMA (2015)

First and foremost significant part of the CPEC projects is related to power generation. Pakistan is short of its energy demand and there exist a shortfall of $ 4,500 MW. CPEC energy investments would enable Pakistan to overcome this shortfall as it is is expected that production capacity of Pakistan will increase by more than 10,000 MW by 2018 and by the completion of the project in 2030, this investment would have contributed a total of 16,400 MW into national grid (Rafi, Khan & Aslam, 2016). These projects include establishment of coal power plants, wind farms, hydropower stations and solar power parks as the focus of these projects is to produce power at cheap rates, thus higher priority is being given to the coal generated power in the project (BMA, 2015).

5. Issues & Challenges
Prospects of CPEC are not without perils and challenges. These issues and challenges could be categorized into internal and external challenges (Abid & Asfaq, 2015; Hussain, 2016). Abid and Ashfaq (2015) quoted the Chinese view on these issues which indicated towards administrative issues, security concerns and political instability could prove to major challenges for successful implementation of CPEC. Provincial rifts and concerns of different political parties are another issue in this regard. While external factor included geopolitical rifts in the area, development of Chabahar port in Iran,

5.1 Internal Issues & Challenges

Internally, Pakistan is plagued by corruption and administrative inefficiencies. China has raised serious issues over such administrative glitches, whereby Federal Board of Revenue (FBR) is said to purposely delaying the tax exemption process of imported equipment, used for CPEC (Abid & Ashfaq, 2015). Wolf (2016) also indicated towards poor administrative capacities, corruption and lack of transparency of Pakistan, which could significantly delay mega projects and also cause project implementation cost to rise. Gul (2015) indicated towards poor law and order situation and infrastructural problems in Khyber Pakhtunkhwa and Baluchistan, which can hinder development of CPEC. Internal security situation is also an issue, whereby terrorism has caused serious damage to the local society, and the massive infrastructure of CPEC could easily be harmed, and there would be additional costs to ensure security of the CPEC project, which could cause a slowdown in expected economic growth of the country (Hussain, 2016).

Further, political parties of different provinces have raised concerns over the implementation plan of CPEC and it is alleged that more benefits are secured by Punjab province, while Khyber Pakhtunkhwa and Baluchistan provinces will not be able to reap enough benefits from the project. Abid and Asfaq (2015) pointed out that all major political parties of these two provinces are voicing their concerns, while separatists in Baluchistan are altogether against CPEC. There had been incidents of violence, kidnappings and killings against Chinese working in Baluchistan from Baloch extremists to derail CPEC developments. Even the governments in power of these two provinces have raised concerns (Hussain, 2015). Wolf (2016) in this regard iterated that Pakistan has tendency of ruining good development projects due to political tussles and lack of vision. A relevant example quoted in this regard is of Kalabag Dam (Mengal, 2016; Wolf, 2016).

Wolf (2016) also indicated towards some geographical and climate issues, whereby it is difficult to build good infrastructure at mountain areas and some of the gateways like Khunjrab pass remain closed half of the year due to heavy snowfall. Lastly, there are some environmental concerns to address, as research indicate that such economic corridors have a negative impact on the environment of the region due to increased carbon emission and land deteriorations (Ishida, 2009; Huang, Fischer & Xu, 2016; Shaikh, Ji & Fan, 2016), which should be dealt in an appropriate manner by all the stakeholders.

5.2 External Issues and Challenges

Externally, there have been geo-political and regional conflicts of Pakistan with India, Iran and UAE, which might join hands to hamper development of the CPEC. CPEC is being considered an effort of China to increase its influence in Indian ocean, which is being considered a threat by India and also USA (Wolf, 2016). Further, CPEC has tremendous implications for Gilgit-Baltistan and Azad Kashmir, which at present are disputed territories and India also have claims to these territories. CPEC could formally incorporate these territories into Pakistan, which would not be acceptable for India (Wolf, 2016). Apart from this, CPEC is expected to spur economic competition of Pakistan with Iran and India in the region (Hussain, 2016). Thus, India and Iran have joined hands to develop Chabahar port in Iran to counter that (Mullen, 2012). Sabena (2014) also indicated that Russia has monopoly in central Asia states, which are land locked, CPEC provides these states an opportunity to get free from the monopoly of Russia, which would be against Russian interests. An ongoing proxy war in Afghanistan could also pose a serious threat for CPEC and hinder its benefits for the region (Wolf, 2016; Hussain, 2016). Port of Gwader has potential to become regional trade hub, which pose a serious threat for UAE, whereby a fully operational Gwader port will cause Dubai to lose almost 70% of its business (Butt & Butt, 2015).

Despite a threat to USA and Russian, both of the world powers have not opposed CPEC, although there have been certain attempts of USA to refrain Pakistan handing over operational control of Gwader to China (Butt & Butt, 2015).
The external issues of CPEC are myriad of geo-political and economic concerns of various regional and non-regional stakeholders, which could effectively be dealt by a strong foreign policy, at which Pakistan is at a serious discredit as of now (Smejo, 2016; Herald, 2016).

6. Conclusion
CPEC as perceived from this review is a multilateral opportunity for Pakistan, which has economic and social implications. On economic side, it will bring FDI into Pakistan immediately, afterwards regional trade will be promoted through it and economy of Pakistan revive in the order. Further, people of Pakistan will find employment, economic zones will be built, and physical infrastructure will be improved, which will uplift overall economy of the country in a sustainable manner. Thus, economic prospects of CPEC are quite promising for the future of Pakistan. Further, there are certain internal and external issues, which could cause serious damage by hindering the prospects and implications of CPEC. These include internal issues like administrative inefficiencies, political rifts, poor infrastructural and transportation capabilities, security concerns and law & order situation and external geopolitical and regional conflicts of interests and power with India, Iran, UAE, USA and Russia. A systematic approach should be adopted to gradually build the capacity to solve internal issues and a strong foreign policy should be devised and pursed to minimize external ones. Further, policy makers should seriously focus on the development of capacity to cultivate a skilled workforce, much needed to sustain the projects of CPEC and their subsequent economic impact in the long run.

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Impact of CSR on Financial Performance of Banks: A Case Study

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ARTICLE DETAILS

ABSTRACT

The aim of current study is to investigate the impact of CSRRRI on bank’s financial performance. For this purpose, ROA, EPS and PAT are taken as proxies for measuring bank’s financial performance by using time series and panel data. The time span is from 2004 to 2017. The current study used HBL and MCB bank for analysis. The dependent variables are ROA, EPS and PAT while independent variables are CSRRI and bank size. To estimate the model, the current study used quantitative data to analyse the results by using descriptive analysis, correlation analysis, and multiple regression analysis.

The findings of the current study revealed that the slope coefficient of intercept and CSRRI are positive except bank size which is negative in three models. In short, the CSRRI can further, CSR reporting may provide welfare for both banks and econometric models suggests that socially responsible banks can not only attract large numbers of customers but also increases profitability.

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JEL Classification:
P10, P17, P19, C50, C59

1. Introduction

The possible emergence of corporate social responsibility (CSR) in the field of management takes place in 1950’s in the United States. The socially responsible business operations in 1900 were in many forms such as philanthropic donations to charity, service to the community, upgrading wellbeing of workers and provide support to religious activities. The basis of CSR changed in 1980’s from CSR to the obligations such as doing good to do well. (Banerjee, 2009). Pakistan has faced serious monetary challenges on national and global level because of enigmatic issues in governance, weak organizations, natural disasters, corrupt policies and practices of administration. Therefore, the problem of the institution exists, and the corporate governance is not developed. Although, companies are making money, but their contribution to society is limited. In Pakistan, the social sector has focused less on other sectors of the economy, such as education and health, in
terms of investments made. Beyond that, there are differences in interest between company and the corporate sector, the issue of CSR has gone unnoticed which is not encouraging for the development of Pakistan (The Economic Survey of Pakistan, 2015). The key player in the Pakistani economy is considered to banking sector and vitalness of banks are not unnoticed because it has help out numerous people affected by floods and natural disasters (Malik, Ali and Ishfaq, 2015). In Pakistan, multinational companies such as Nestle and Unilever, have promulgated the idea of CSR, while banking companies such as HBL and MCB have begun to provide assistance in the preparation of talent and other contributions in education and health sector. Some firms are seeking and contributing to security regarding environment. There are few banks which are integrating the CSR with their objectives strategies and statements. The foundation of HBL also works for the society with objective of refining the value of life in Pakistan (Sustainability Report of HBL and MCB, 2011).

CSR is a new developing concept in Asia specifically in Pakistan. It has attained more interest in last few decades. The scope of corporate responsibility varies accordingly in different countries, regions, interest groups and organizations which includes not only environmental issues, but it also deals with other issues like; ethical, social, health, governance etc. Organizations are involved in more community development programs, health and other philanthropy activities to construct social and ethical image of their business. CSR has various definitions in corporate world. In line with Marrewijk (2003) who define the CSR is the solution which will resolve degradation in environment, poverty gap on international level, and social exclusion. It proves that almost all organizations try to show that their business does not stand only for profits, but they add some value to society with their activities which are for the benefit of society. The CSR requires that companies can acknowledge that they must be publicly accountable not only for their monetary performance, but also for their social and environmental record. More generally, the businesses can promote democracy, community improvement, human rights, and goals of sustainable growth on international level are included in CSR related activities (CBI, 2001a). Helg (2007) stated that firms should standardized CSR activities in order to make its impact on society.

The socially responsible firms have positive impact on their reputation. The customers are demanding from organizations to behave ethically and socially because they have become more concern about social obligations and are demanding environment friendly products. The understanding of environmental issues to the public over the past few years has increased, and it is necessary for firms to take this in consideration since the customers have ability to harm the brand tremendously. (Walker et al., 2008). Many firms in Pakistan are playing vital role in implementation of environmental growth and social well-being. For e.g. Oil & gas companies have invested in poor and local communities and build schools and hospitals. Banking, Automobile and other business sectors have also engaged themselves in environmental protection measures, energy conservations, sports and other good governance activities. CSR has shown a great impact in today’s world by maintaining both financial growth and social responsibility. There is a vast literature present on CSR since two decades. But, the research shows that still a controversial data is present on both the financial growth of a firm and performance of CSR (Alshammari, 2015).

The traditional view is presented by Friedman (1970). He stated that firm’s that are social responsible in order to earn returns. In addition, such firms are using its own resources and involve in those activities which are designed to raise returns and are also engage in free and open competition without fraud or dishonesty (The New York Times Magazine, 1970). While Carroll (1991) believed that the purpose of business is not only involved in profit maximization. During 1991, he introduced a pyramid of responsibilities which give clear understanding of corporate social responsibility. The concept behind CSR is that businesses should do more than just making profits. They should engage themselves in activities that benefit society and environment. Carroll’s four layered pyramid well explains the corporate social responsibility. The four layers of pyramid are economical, legal, ethical and philanthropic.
Fig. 1. Carroll’s Pyramid

Being profitable is the first and foremost obligation of any business. This is the basis of rest of the responsibilities. The second responsibility is being legal which means businesses should abide by laws which are established by the society. The third responsibility is ethical responsibility. Being ethical means what is right and whenever laws don’t allow businesses to do unethical practices. The fourth responsibility is philanthropic which are mainly include welfare of human beings and to spread the goodwill. The objective of this article is to investigate the impact of CSR activities on financial performance of both banks in Pakistan based on descriptive analysis, correlation analysis and regression analysis. This article is divided into five sections. The second section is about literature review, the third section is about data and methodology. The fourth section is about results and discussions and last section is conclusion.

2. Literature Review
Having idea of CSR activities, the following is the empirical literature survey examined in this paper. CSR is one of obligations of corporations to its stakeholder and furthermore a willful obligation by organization to sustainable progression (Crane and Matten, 2007). During era of expanding the corporate monetary outrages, CSR has shift to essential methodology for firms globally in order to enhance the image of CSR related activities and such practices can conceivably make a brand image for firms and can create the positive linkages among stakeholders (Yoon, Gürhan‐Canli and Schwarz, 2006). CSR might be referred as corporate citizenship and can mainly involve in short term costs that ae unable to provide a quick monetary advantage to businesses, but instead can promote the positive change in society and environment. The term is mostly put on organization’s activities which are essential by controllers or environmentalist assurance groups. The ongoing demanding firms in eras of globalization are more engage in the CSR related activities (Chapple and Moon, 2005).
Soana (2011) studied the connection between corporate financial performance (CFP) and corporate social performance (CSP) in banks. Since 1970’s, Anglo-American examinations have explored the topic of CSR. Various work done by researchers have concentrated on the examinations of conceivable expenses and advantages that would result from the usage of socially responsible activities keeping in mind the end goal to comprehend whether such activities involve economic and monetary loss or despite what might be expected, regardless of whether they ensure the accomplishment of competitive advantage. To this point, various quantitative examinations have been completed to set up, to a great extent in testing different businesses and the link between CSP and CFP. Such investigations delivered opposing outcomes and any endeavor to give a summed up and coherent conclusion that has demonstrated inappropriate. The point of their examination is to research the conceivable connection between social execution and money related execution in banking sector. In example of national and global banks, the
possible link between social execution and money related financial execution has been analyzed. It rises up out of these investigations that there is insignificant link which can demonstrates any positive / negative relationship between CSP and CFP.

Mahbuba and Farzana (2013) studied the CSR and profitability based on case study by using Dutch Bangla Bank Limited (DBBL) during period from 2002 to 2011. The magnificent history of Bangladeshi banks is involved themselves in diverse types of social actions which is previously called as CSR. The objective of their study is to examine the association between CSR and profitability. The methodology is regression analysis based on Ordinary Least Square (OLS) for analyze and estimate the model. The result shows that 90.70 percent of variations of profit after taxes (PAT) of DBBL has been explained by advantages accrued from CSR. In addition, there is positive and significant link between CSR and PAT.

Malik and Nadeem (2014) examined the impact of CSR on the monetary performance of banks in Pakistan during period from 2008 to 2012. The data is collected from yearly financial statements of banks. The endogenous variables are EPS, ROE, ROA and total Profit while exogenous variable is CSR. The methodology is based on regression analysis. The results reveal that there is lack of CSR in Pakistan. In addition, the result also reveals a positive link between bank’s profitability (i.e. EPS, ROE, ROA and total Profit) and CSR activities. The banks which are implementing CSR activities in their operations can earn more return during large period.

Djalilov et al., (2014) studied the CSR performance of banks in transition states. The objective of their study is to investigate the nature of association between CSR and performance of banks and the motive of banking sector to engage in CSR related activities. The other objective includes whether this is dissimilar during stable periods i.e. 2002 to 2005 and turbulent periods i.e. 2008 to 2012. They used 16 transition states of Central and Eastern Europe and former Soviet Union. The results of the structural equation model using the data for 254 banks show that there is a positive impact of bank performance on CSR activities in stable and turbulent periods which point toward the strategic choice that is a foremost reason for banking sector in order to engage in CSR related activities. Chang and Shen (2014) studied the CSR and firm’s profitability in Taiwan Stock Exchange during period from 2005 to 2009. They examine two problems related to CSR related and the firm’s cost of debt which is taken as proxy for credit ratings. First, we investigate whether CSR activities has a positive effect on credit ratings and thus decreases the cost of debt. Second, they studied the credit ratings is taken as mediator between CSR and profitability of firms. The mediator here means that, given the presence of credit ratings, the impacts of CSR on the firm’s performance will be lower than in those cases where credit ratings are not considered in the regression analysis. The results reveal that firms engage in CSR activities tend to have higher creditworthiness and thus a lesser cost of debt. Moreover, after controlling for credit ratings, the impact of the CSR activities on the profitability of firm is reduced, thereby showing that credit ratings serve as the mediator between CSR and performance.

Malik, Ali and Ishfaq (2015) studied the CSR activities and organizational performance by using banking sector. Numerous work done in past to investigate link between corporate sustainability, CSR and business performance. The study is based on exploratory research. They used both primary and secondary data. The primary data of employees of banks collected while secondary data were collected from articles, financial statements. The methodology s based on correlation and regression analysis. The study found link between awareness of CSR activities and organizational performance. In addition, the study found linkage between organizational performance and organizational culture for the banking sector of Pakistan. The results also reveal a significant impact for Pakistani banks.

Arshad, Anees and Ullah (2015) studied the impact of CSR on the monetary performance of firms during period from 2009 to 2013. CSR is the summation of donation and environmental cost which is taken from financial statements of firms. The monetary performance of the firms is measured as ROA and Tobin’s Q. The sample size is based on 125 firms which are listed in Karachi stock exchange in Pakistan. The companies which selected for sample purpose are taken from 25 sectors. The methodology is based on regression analysis. The results reveal that there is no significant impact of CSR on the financial performance in short-term scenario at 5 percent confidence level but found positive impact at 10 percent confidence value. In long-term scenario, CSR has no impact on Tobin’s Q for the selected companies. The study has documented recommendation for policy makers as CSR activities in Pakistan is a new phenomenon.
Nidhi (2016) studied the CSR in banking industry of India. They stated that CSR is mainly refer what a business are doing over and above legal obligation for the advantage of humanity. The word responsibility emphasizes on business that has few moral commitments towards humanity. Now-a-days CSR has been assuming greater importance in the corporate world including financial institutions and banking sector. Banks and other monetary institutions are starting to promote the socially responsible lending and environment friendly investment practices. The sample size is six banks based on secondary data. Further, the author also used a case study on HDFC Bank.

Bagh et al., (2017) studied the CSR and monetary performance of by using financial sector of Pakistan. The competitiveness of monetary sector has enlarged manifold and the issue of CSR has become an indispensable concern parallel to concentrating on profitability enhancement. The businesses are mainly considering as social units, to serve stakeholders. Such business can tend to implement CSR on significance basis and subsequent disclosure as well. Unhealthy CSR policies may cause externalities and eventual resigned clients. The aim of their study is to emphasis on impact of CSR on monetary performance of banking sector of Pakistan, using a sample of thirty banks listed on PSX during 2006 to 2015. The methodology is based on pooled regression models. The findings signify the robustness of pooled model that documented a positive and significant impact of CSR on ROA, ROE and EPS. This premise holds that CSR has positive and significant impact on financial performance of carefully chosen commercial banks of Pakistan. The findings reveal that CSR phenomena is considering as a vital growth element and monetary performance is boosting tool by banking sector of Pakistan. Finally, majority of the studies on CSR are in context of well-established firms and states. However, emerging states are least highlighted.

Alshehhi, Nobanee and Khare (2018) studied the effect of sustainability practices on corporate financial performance. The connection between corporate sustainable practices and financial performance has received rising attention in past work but an agreement remains indescribable. This paper mainly identifies by developing trends and enigmatic problem that can hinder the conclusive consensus in such linkage. The methodology is based on content analysis. An aggregate of one hundred and thirty-two papers from top-level journals are selected. We find that 78 percent of publications report have a positive link between corporate sustainability and financial performance. There are variations in research methodology and measurement of variables lead to the opposing view on such linkage. But besides this, past work is gradually supplanting total sustainability with narrow CSR which is dominated by the social measurement of sustainability while incorporating little to nothing of natural and financial measurements. The past work from developing states remains rare.

In short, the literature scrutinizes that the crucial of CSR and firm’s profitability in Pakistani banks are not explored during period of 14 years i.e. 2004 to 2017. There is a requirement of such study to inspect the impact of CSR activities on firm’s profitability. This study tries to fill the gap in academic research using three models based on panel data and various techniques such as descriptive and correlation analysis, and multiple regression analysis.

3. Methodology
The current paper is based on secondary data which is collected from financial reports of HBL and MCB during period from 2004 to 2017. It includes all those commercial banks of Pakistan that are listed in Pakistan Stock Exchange (PSX) during 2004-2017.

The sample size of this study is based on two commercial banks i.e. HBL and MCB.

3.1 Method
This section makes clear the methods and tests that will be used for the empirical analysis. A time series and panel data set are used, since earlier work done by previous scholars on the impact of CSR reporting index on ROA (Mahbuba and Farzana, 2013). There are three models used in the current study based on OLS regression by using panel data. In addition, descriptive analysis, correlation matrix and regression analysis are used to estimate the model (Mahbuba and Farzana, 2013; Malik, Ali and Ishfaq, 2015).

3.2 Variables Measurement and Definitions
3.2.1 Return on Asset (ROA)
It is an endogenous variable of the current study and taken as proxy for financial performance that is used as a proxy for the profitability of banks (Shoukat and Nadeem, 2014; Malik and Nadeem, 2014). It can measure to estimate the monetary strength and efficiency of business in terms of operating the available financial resources (Bagh, et al., 2017). Mathematically, the ROA can be calculated as:
3.2.2 Earnings Per Share (EPS)
It is an endogenous variable and a measure of financial performance. It shows the earnings of banks’ in terms of how more return is earned on behalf of each outstanding share of common stock during period of one year (Malik and Nadeem, 2014). Mathematically, the EPS can be calculated as:

\[
EPS = \frac{\text{Net Profit After Interest and Taxes}}{\text{Total No. of Outstanding Share of Common Stock}}
\]  
(3.2)

3.2.3 Profit after Taxes (PAT)
It is an endogenous variable and a measure of financial performance. It shows the calculated by dividing net profit after interest and taxes by total revenue of bank. Mathematically, the PAT can be calculated as:

\[
PAT = \frac{\text{Net Profit After Interest and Taxes}}{\text{Total Revenue}}
\]  
(3.3)

3.2.4 Corporate Social Responsibility Reporting Index (CSRRI)
It is explanatory variable of current study. CSR is known as corporate conscience or responsible businesses is a form of corporate self-regulation integrated into a business model (Nidhi, 2016). In other words, CSR is evaluated by using the investment made in CSR like education, health, donation, social good and other expected disasters for CSR activities in reports regarding banks under study (Shoukat and Nadeem, 2014; Murtaza, 2014; Malik and Nadeem, 2014). There are some major CSR related activities which are specified by Rashid and Sharif (2013) that can mainly contributes to education sector, support to health sector, activities for donations, natural disaster, accomplishments for staffs, ecological problems, and services and products. The CSRRI can be calculated as follows (Sharif and Rashid, 2013).

\[
\text{CSRRI} = \sum \frac{d_i}{n_j}
\]  
(3.4)

Where,
- \(d_i = 1\), if the item \(d_i\) is disclosed and \(0\) if the item \(d_i\) is not disclosed,
- \(n_j\) = Highest number of items for jth firms and \(n_j \leq 60\)

To calculate a particular firm score, each item scores added are totally divided by the highest likely score multiplied by 100 to get the percentage scores. In this study, sixty items of CSR activities represent the highest probable reporting score. (Sharif and Rashid, 2013).

3.2.5 Bank Size (BS)
It is control variable of current study. Different proxies are being used by the researcher in order to measure the firm size. For example, natural log of sales, market capitalization and net assets. In current study, size of bank is calculated by taking natural logarithm of total assets. Mathematically, we can write as:

\[
\text{BS} = \ln(\text{Total Assets})
\]  
(3.5)

Where,
- \(\ln\) = Natural Logarithm

3.3 Econometric Model
The following three econometric models are used to estimate the multiple linear regression model based on panel data.

\[
\text{ROA}_i \text{t} = \alpha_0 + \beta_1 \text{CSRRI}_i \text{t} + \beta_2 \text{BS}_i \text{t} + \epsilon_i \text{t}
\]  
(3.6)

\[
\text{EPS}_i \text{t} = \alpha_0 + \beta_1 \text{CSRRI}_i \text{t} + \beta_2 \text{BS}_i \text{t} + \epsilon_i \text{t}
\]  
(3.7)

\[
\text{PAT}_i \text{t} = \alpha_0 + \beta_1 \text{CSRRI}_i \text{t} + \beta_2 \text{BS}_i \text{t} + \epsilon_i \text{t}
\]  
(3.8)
Where,

\[
\begin{align*}
\alpha_0 &= \text{Intercept} \\
\beta_1 &= \text{Slope coefficients of CSRRI.} \\
\beta_2 &= \text{Slope coefficients of Bank Size.}
\end{align*}
\]

\[
\begin{align*}
\text{ROA}_{it} &= \text{Rerun of Asset of ith bank in year } t. \\
\text{EPS}_{it} &= \text{Earnings per Share of ith bank in year } t. \\
\text{PAT}_{it} &= \text{Profit after Taxes of ith bank in year } t. \\
\text{CSRRI}_{it} &= \text{Explanatory variable and stands for corporate social responsibility reporting index of ith bank in year } t. \\
\text{BS}_{it} &= \text{Bank Size of ith bank in year } t. \\
\epsilon_{it} &= \text{Error term of ith in year } t. \\
i &= 1, \ldots, 2 \text{ i.e. banks } \\
t &= 1, \ldots, 14 \text{ i.e. years }
\end{align*}
\]

4. Results and Discussion

The below table 4.1 shows the descriptive analysis of all the variables used in the current study which include mean, median, standard deviation (SD) and observation.

<table>
<thead>
<tr>
<th>Measures</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>2.5646</td>
<td>1.6011</td>
<td>0.3000</td>
<td>7.3300</td>
<td>28</td>
</tr>
<tr>
<td>EPS</td>
<td>21.5447</td>
<td>9.1922</td>
<td>5.5780</td>
<td>42.7635</td>
<td>28</td>
</tr>
<tr>
<td>PAT</td>
<td>40.6963</td>
<td>13.7177</td>
<td>7.0492</td>
<td>65.8421</td>
<td>28</td>
</tr>
<tr>
<td>CSRRI</td>
<td>0.2030</td>
<td>0.0991</td>
<td>0.0833</td>
<td>0.3167</td>
<td>28</td>
</tr>
<tr>
<td>Bank Size</td>
<td>27.4323</td>
<td>0.6349</td>
<td>26.2812</td>
<td>28.6184</td>
<td>28</td>
</tr>
</tbody>
</table>

The mean value of ROA regarding HBL and MCB is 2.5646% shown in Table 4.1. The variability in data regarding ROA is measured by SD that is 1.6011% for HBL and MCB during period from 2004 to 2017. It is quite lower and is a signal of less risk. Furthermore, the higher value of ROA is the indication of high profitability of both banks. The value of ROA fluctuates between 0.3000% and 7.3300%. The average value of EPS is 21.5447%. The variability in data regarding EPS is higher from all variables except PAT which is 9.1922% for both banks during period from 2004 to 2017. The value of EPS fluctuates between 5.5780% and 42.7635%. The mean value of PAT is 40.6963%. The variability in data regarding PAT is highest as compared to other variables which is 13.7177% for both banks during period from 2004 to 2017. The minimum value of PAT is 7.0492% and maximum value of PAT is 65.8421%. The mean value of CSRRI is 0.2030%. The variability around means value is measured by standard deviations which is lowest for CSRRI i.e. 0.0991% for both banks from 2004 - 2017. The value of CSRRI ranges between 0.083% and 0.3167% which is good signal in order to maintain CSRRI in both banks during period from 2014-2017. The average value of bank size is 27.4323%. The variability around mean value is measured by standard deviations which is 0.6349% and greater than CSRRI. The value of bank size fluctuates between 26.2812% and 28.6184% which is good signal in order to maintain high value of investments for investors in terms of total assets in balance sheet by both banks during period from 2014 to 2017.
The correlation analysis of all variables used in current study is shown in Table 4.2. Correlation measures the degree or strength of relationship among the variables. It ranges from minus one to plus one. Minus one shows a strong negative correlation, while plus one shows strong positive correlation. The correlation equal or less than 0.25 is considered as weak, whereas, if the degree of correlation between exogenous variables is 0.80 or more, there will be the problem of multicollinearity.

### Table 4.2: Correlation Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
<th>EPS</th>
<th>PAT</th>
<th>CSRRRI</th>
<th>Bank Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPS</td>
<td>0.8946</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAT</td>
<td>0.7962</td>
<td>0.8330</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSRRRI</td>
<td>0.5560</td>
<td>0.5469</td>
<td>0.6331</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>Bank Size</td>
<td>-0.4963</td>
<td>-0.1617</td>
<td>-0.4211</td>
<td>-0.2815</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

The result of correlation matrix is shown in Table 4.2. It is clear from correlation matrix that there is no problem of multicollinearity found in dependent and independent variables. In fact, there is high multicollinearity found among dependent variables i.e. ROA, EPS and PAT. In addition, we are not interested in correlation among dependent variables. All the variables correlation is less than 80%. The slightly strong and positive correlation is found between PAT and CSRRRI which is 63.31% while moderate and positive correlation is found between ROA and CSRRRI and EPS and CSRRRI which is 55.60% and 54.69%, respectively. The moderate and negative correlation is found between ROA and bank size which is -49.63%. The lowest negative correlation is found between EPS and banks size which is -16.17%. Thus, the correlation value fluctuates between 63.31% and -49.63%. Furthermore, the linear association between endogenous and exogenous variables are analyze by regression analysis which will show better results because regression analysis is more flexible and accurate than correlation. The result of the multiple linear regression model of the current study are shown in Table 4.3, 4.4 and 4.5, respectively by using three dependent variables i.e. ROA, EPS and PAT.

### Table 4.3: Regression Results of Model-1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-stat</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>26.6085</td>
<td>11.0007</td>
<td>2.4200</td>
<td>0.0230**</td>
</tr>
<tr>
<td>CSRRRI</td>
<td>7.3061</td>
<td>2.5329</td>
<td>2.8800</td>
<td>0.0080*</td>
</tr>
<tr>
<td>Bank Size</td>
<td>-0.9305</td>
<td>0.3952</td>
<td>-2.3500</td>
<td>0.0270**</td>
</tr>
</tbody>
</table>

N = 28, R² = 65.92%, R² = 43.45%, F-stat = 9.60, Prob. (F-stat) = 0.0008

Where *, ** and *** indicates the level of significance at 1, 5 and 10 percent.

It is clear from Table 4.3 that the slope coefficient of intercept and CSRRRI are positive except bank size which is negative. The coefficient of correlation is 65.92% which shows a slightly strong and positive link found between ROA and independent variables. The coefficient of determination (R²) is 43.46% which means that the 43.46% variations in ROA are explained by CSRRRI and bank size. The probability of F-stat is 0.08% which is less than 5% level of significance. Thus, it can support the validity, usefulness and statistically significant of model. The below Eq. (4.1) is the numerical form of multiple linear regression model.
ROA<sub>it</sub> = 26.6085 + 7.3061 CSRRI - 0.9305Bank Size + ε<sub>it</sub>  \hspace{1cm} (4.1)

It is clear from the above Eq. (4.1) that the slope of equation is positive and significant at 5% because P-value of intercept is 2.30% which is less than 5% level of significance. In addition, intercept is positive which means that when all determinants of ROA are zero then ROA will be positive which is 26.6085. The slope coefficient of CSRRI is positive and statistically significant at 1%. If one-unit increase in CSRRI then ROA will be increased by 7.3061 units. The slope coefficient of bank size is negative and significant at 5%. If one-unit increase in bank size, then ROA will be reduced by 0.9305 units.

**Table 4.4: Regression Results of Model-2**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-stat</th>
<th>P -Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>14.6310</td>
<td>70.3086</td>
<td>-1.0100</td>
<td>0.8370</td>
</tr>
<tr>
<td>CSRRI</td>
<td>50.5247</td>
<td>16.1887</td>
<td>0.2600</td>
<td>0.0050*</td>
</tr>
<tr>
<td>Bank Size</td>
<td>-0.1281</td>
<td>2.5261</td>
<td>1.2100</td>
<td>0.9620</td>
</tr>
</tbody>
</table>

N = 28, R = 54.70%, R<sup>2</sup> = 29.92%, F-stat = 1.48, Prob. (F-stat) = 0.0117

Where *, **and *** indicates the level of significance at 1, 5 and 10 percent.

The slope coefficient of intercept and CSRRI is positive while slope coefficient of bank size is negative shown in Table 4.4. The coefficient of correlation is 54.70% which shows a slightly weak and positive link found between EPS and independent variables. The coefficient of determination (R<sup>2</sup>) is 29.92% which means that the 29.92% variations in EPS are explained by CSRRI and bank size. The probability of F-stat is 1.17% which is less than 5% level of significance. Thus, it can support the validity, usefulness and statistically significant of model. The below Eq. (4.2) is the numerical form of multiple linear regression model.

EPS<sub>it</sub> = 14.6310 + 50.5247 CSRRI - 0.1281 Bank Size + ε<sub>it</sub>  \hspace{1cm} (4.2)

It is clear from the above Eq. (4.2) that the slope of equation is positive and statistically insignificant at 5% because P-value of intercept is 83.70% which is greater than 5% level of significance. In addition, intercept is positive which means that when all determinants of EPS are zero then EPS will be positive which is 14.6310. The slope coefficient of CSRRI is positive and statistically significant 5%. If one-unit increase in CSRRI then EPS will be increased by 50.5247 units. The slope coefficient of bank size is negative and statistically insignificant. If one-unit increase in bank size, then EPS will be reduced by 0.1281 units.
The slope coefficient of intercept and CSRRI are positive except bank size which is negative shown in Table 4.5. The coefficient of correlation is 68.17% which shows a slightly strong and positive link found between PAT and exogenous variables. The R2 is 46.48% which means that the 46.48% variations in PAT are explained by CSRRI and bank size. The probability of F-stat is 0.04% which is less than 5% level of significance. Thus, it can support the validity, usefulness and statistically significant of model. The below Eq. (4.3) is the numerical form of regression model.

\[
PAT_{it} = 181.3068 + 77.3749 \text{CSRRI} - 5.6992 \text{Bank Size} + \epsilon_{it} \tag{4.3}
\]

The intercept of model-3 is positive and significant at 10% because P-value of intercept is 5.9% which is greater than 5% level of significance shown in Eq. (4.3). In addition, intercept is positive which means that when all determinants of PAT are zero then PAT will be positive which is 181.3068. The slope coefficient of CSRRI is positive and statistically significant at 5%. If one-unit increase in CSRRI then PAT will increase by 77.3749 units. The slope coefficient of bank size is negative and significant at 10% because P-value is 9.60% which is lower than 10% level of significance. If one-unit increase in bank size, then PAT will be reduced by 5.6992.

5. Conclusion
The aim of this study is to investigate the impact of CSRRI on banks financial performance. For this purpose, ROA, EPS and PAT are taken as proxies for measuring bank’s financial performance by using panel data. The time span is from 2004 to 2017 by using two banks i.e. HBL and MCB. The dependent variables are ROA, EPS and PAT while independent variables are CSRRI and bank size. There are 3 models used in current study based on panel data. To estimate the model, the current study used descriptive analysis, correlation analysis and multiple regression models. The result reveals that all models can support the validity, and significant at 5% as per lower P-value of F-stat. The findings of current study revealed that slope coefficient of intercept and CSRRI are positive except bank size which is negative in model-1, model-2 and mode-3. The coefficient of correlation (R) of three models are 65.92%, 54.70% and 68.17%, respectively. The coefficient of determination (R2) of all three models are 43.45%, 29.92% and 46.48%, respectively. Overall, the CSRRI can significantly and positively impacting the profitability. CSR reporting may provide assistances and welfare for both banks and the econometric models suggests that socially responsible banks can not only attract large numbers of customers but also increases profitability.

References
Economics and Financial Issues, 7(2), 301-308.
Impact of Corporate Social Responsibility Awards on Share Prices

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ABSTRACT

This paper provides empirical evidence to evaluate the business case of corporate social responsibility. In contrast to former studies, we choose to examine the relationship between corporate social responsibility awards and share prices. We examined this relationship in the contextual setting of Pakistan, where several award schemes are operating to reward CSR performance. An event study methodology was adopted to investigate the impact of award announcement on the abnormal return of TOP 100 companies listed on the Pakistan Stock Exchange. A daily price for each company was collected during the estimation window of 120 days before the event window and an event window of 3 days [-1, 0, 1]. Our analysis shows that the overall announcement of CSR awards has an insignificant impact on share price.

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1. Introduction

Corporate Social Responsibility (CSR) concept is getting attention while making business decisions and policy debates in Pakistan. Although there are many challenges to measure the impact of corporate social responsibility, corporations’ investments in CSR activities has been growing significantly as a strategy for business and have importance for value creation (McWilliams, Siegel, & Wright, 2006). The stock market provides a place where the stakeholders can interlink themselves with many firms and form new relationships with customers and increase their competitiveness in the market (Zanotti, 2012). Currently there are number of CSR rating agencies that are contending based on diversity of ratings methodologies. Rating agencies measure firms on their Corporate Social Performance (CSP) and issues ratings. CSR rating agencies have a transnational impact, among others, on the leading firms and their stakeholders (Scalet & Kelly, 2010).
The main objective of this research is to study the market reaction to CSR awards. The market studied is Pakistani companies who got CSR awards by National Forum for Environment and Health (NFEH). The major implication is to find the relationship between awards announcements and stock prices. For the purpose of this research, event study methodology was used. It addresses the impact of CSR awards on stock prices, which is missing from both the event studies and CSR literature. This research is mainly concerned with short term investor reactions, around announcement dates of CSR awards.

2. Literature Review

Over the last 25 years, many researchers worked on the concept of Corporate Social Responsibility (hereafter CSR), but little focus has been given to understand that why corporation always act in socially responsible ways (Campbell, 2007). CSR has been shown to increase the corporation’s profitability ratio (Orlitzky, Schmidt, & Rynes, 2003). Asymmetric information results in uncertain outcomes (McWilliams et al., 2006). There are two types of CSR motives extrinsic and intrinsic. Extrinsic motives are financial motives which can be achieved through CSR activities. Intrinsic motives are nonfinancial motives that observe Corporate Social Responsibility independent from financial benefits.

Beneficial impacts of CSR activities are; Company image, status & reputation, enhanced employee’s motivation and retention, Cost savings, CSR activities increases revenue and market share of firms and CSR activities reduce risk. While costs of CSR can be related to CSR engagements. CSR cost may be one-time cost or might be continuous cost. One time cost which firms incur once during the business and get benefit for multiple years such as donations, installations and other related investments cost. Continuous cost which firms bears or paid after regular interval or during a specific period, such as fees, cost of materials, promotion of corporate social responsibility activities, marketing operations, licenses, patents, copy rights. Other possible cost of CSR engagements which arises from the active CSR activities is social media, print media, electronic media and non-governments organization, which leads to higher exposure.

Existing studies on CSR focus on the non-financial (marketing-related) outcomes, such as social sponsorship (Simmons & Becker-Olsen, 2006) cause-related marketing (Barone, Miyazaki, & Taylor, 2000; Varadarajan & Menon, 1988) collaborating with consumers related to Corporate Social Responsibility issues (Caruana & Crane, 2008) environmental marketing (Crouch, 2006) corporate repute (Berens, Van Riel, & Van Bruggen, 2005). CSR issues have also been examined by the researchers from the stakeholder perception, that has been focused on stakeholders communications (Basu & Palazzo, 2008), the effect of shareholder relationships on corporation sustainability (Choi & Wang, 2009). Corporate Social Responsibility attentiveness between investors and its connection with corporate social and financial performance, investment in securities, and loyalty of employees (Sen, Bhattacharya, & Korschun, 2006). Instead of variability and complications of the CSR related approaches; there are some basics and conventional theories on the Corporate Social Responsibility. The theories which are related to CSR are: Efficient Market Hypotheses, legitimacy theory, stakeholder’s theory, signaling theory and resource dependence theory.

Many researchers, in recent years, have made attempt to investigate the financial outcomes of CSR. The study of Bass and Steidlmeier (1999) is one of the best and first actions in this field. The association between CSR and financial performance has been considered very important in the field of business and management, and investors are also in this area of study (Weber, 2008). The relationship between corporate social responsibility and firm’s financial performance may be positive, neutral or negative. In the light of findings in the study of Ullmann (1985), Vance (1975) established that there was a negative relationship among CSR and financial performance of firms, which disproved the earlier research conducted by Moskowitz (1972). Makni, Francoeur, and Bellavance (2009) detected a negative effect of CSR on the performance of stock market, which shows the similar findings as also did (Baird, Geylani, & Roberts, 2012).

CSR actions are regarded as strategic goal of firms for achieving competitive advantage, which would result to produce long term profits. This indicates the role of CSR in firms’ stock returns. Rating agencies evaluate companies based on Corporate Social Performance (CSP) and some rating agencies such as Vigeo, based on their performance of management from a CSR point of view. This development confirms that the interest of financial world for such rating agencies and would yield some standardization of the different methodologies. So, it would be very interesting to know that if these social ratings indicate a market reaction and investors’ behaviors modification.
The study of Arya and Zhang (2009) that looked for institutional reforms and investor behaviors and reactions to CSR announcements in the emerging economies. Chollet and Cellier (2011) studied that the effect of CSR rating announcement on the prices of stock. While the study used CSR rating of firms, it is contended that those firms which had poor social and environmental ratings can damage a company’s reputations and performance. Moreover, corporate social ratings are hardly evaluated and have been criticized due to the lack of transparency in rating of different rating agencies using different methodology.

Brammer, Brooks, and Pavelin (2009) explored that there is a link among corporate social performance and share price return and shown that firms having high CSR scores have decreasing stock return, whereas the companies with the lowest score on CSR outperformed and have abnormal returns. Gupta (2006) in his study investigated the Impact of earnings Announcements on share prices and he researched on market reaction related to earning announcements in the Indian market and tested that whether these stock prices possess any information content. In his study he found that the Average Abnormal Return (AAR) is larger and greater than zero on the day of announcement and AAR is less than zero for bad news. Higher earnings announcement than the expected by investors leads to a rise in the stock returns on the days before the announcements and stock return decreases after news has been announced (Kong & Taghavi, 2006).

Gupta (2006) in his study investigated the Impact of earnings Announcements on share prices and he researched on market reaction related to earning announcements in the Indian market and tested that whether these stock prices possess any information content. In his study he found that the Average Abnormal Return (AAR) is larger and greater than zero on the day of announcement and AAR is less than zero for bad news. Higher earnings announcement than the expected by investors leads to a rise in the stock returns on the days before the announcements and stock return decreases after news has been announced (Kong & Taghavi, 2006).

Patell and Wolfson (1984) examined earnings and dividend releases effects on stock prices and they found that stock prices reaction is greater than in response to earnings announcements than dividends announcements.

Maina (2009) explored stock prices and market reactions about annually earnings announcements for the companies that are listed at the NSE and he found that the average abnormal returns and average abnormal volume are significantly greater than zero as compared with the nonevent period. Onyang (2004) discovered through the sample of 48 companied that are listed at the NSE for the period (1998–2003) established that announcements related to any good news or bad news contain important, material and relevant information to investors which are fully impounded by the stock market preceding the date of announcement.

In the CSR studies an event study methodology had been used to test the impact of these CSR announcements and events on the financial performance. According to some researchers that CSR events and announcements only yield benefit for short period of time around the announcements’ dates. There are many reasons of yielding different results. It could be due to multiple time periods used in their studies and taking sample of different types of firms from different sectors. Some studies found positive impact of CSR rating announcements, some found negative and other found no relationship. So, to avoid this problem of inconsistent results by using CSR ranking which have issued by the different CSR rating agencies and different methodology has been used assess the firms and to give scores. In this study CSR awards announcements, which are awarded by many organizations such as NFEH instead of using CSR ranking or CSR rating announcements. Instead of using subjective based CSR rating announcements, the study will use the actual announcements of CSR awards as a proxy for social performance. Secondly, rather than using accounting-based ratios and formulas which gives the variation of results, this study will measure financial performance of firms by means of stock return.

According to signaling theory, the announcements of CSR awards send important signals to the investors. If CSR Awards announcements is considered positive signal to the investors, then market quickly responds and if CSR awards announcements is considered a negative signal by investors then market will react negatively. So, the investor respond to the CSR awards announcements is difficult for prediction, the idea behind our study is that to investigate whether CSR awards have positive or negative impact on the stock return of all those firms who win CSR awards. So, we propose two basics hypothesis to test whether announcements of CSR awards have positive impact on stock return or negative impact on stock return around the announcement’s dates for short period of time.

**Hypothesis 1:**
*Ho: The announcement of CSR Awards induces a positive significant impact on the share prices of event firms.

**Hypothesis 2:**
*H1: The announcement of CSR Awards induces a negative significant impact on the share prices of event firms.*
3. Methodology

We took companies from two award schemes from National Forum for Environment and Health (NFEH) for the year 2010 to 2015. National Forum for Environment and Health (NFEH) introduces the Annual environment excellence Award (AEEA) to identify best practices and excellence in Corporate Social Responsibility (CSR) in sustainable business. Its intentions to display case innovative corporate initiatives which are portion of a comprehensive sustainable strategy and discourse the utmost pressing environmental and social challenges. The judges are nominated by an independent jury who appraise the participants on their performance in the past and their ongoing projects in the CSR realm. Another Award which is awarded by National forum for environment and health (NFEH) is CSR business excellence awards. The purpose of introducing this award is to investigate the best Corporate Social responsibility business practices according to the international standards and norms and to enhance those firms which are engaged in the CSR activities.

There are two variables in the proposed hypothesis one is dependent and other is independent variables, stock prices of firms are dependent of announcements of CSR awards. So, CSR awards represents as independent variables and stock prices represents as a dependent variable. Following framework explains the structure these two variables.

<table>
<thead>
<tr>
<th>CSR Awards</th>
<th>Stock price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td>Dependent variable</td>
</tr>
</tbody>
</table>

Event study methodology is used to test market reaction towards unexpected events such as announcement of CSR awards, dividend announcements, on the stock prices. According to McWilliams, Siegel, & Teoh, (1999) the event study was established to measure the impact of unexpected event on the stock return that shows the market reaction to the announcements of events as average change in the share prices of firms who are engaged in the CSR activities.

Event study methodology has three assumptions which are as follows
- The stock market should be efficient market which reflects the all available information as past information, public information and private information which means fully and quickly reflect the all type’s corporate announcements.
- During the period of analysis like estimation window and event window which is main focus point of research, event should be the only event which has significant impact on the changes in share price. Even if ant other event happened micro or macro, it would not have any impact on the stock prices changes. If there is any other factor which influenced the stock price then accurate result might not be generated around the announcements dates.
- Finally, the impact of announcements in response to the market reaction should be measured in terms of abnormal rate of return (ARR) during the event window.

Following are the basic steps which have been followed in this event study analysis, recommended by MacKinlay.
- Event of interest
- Date of event
- Define the interval of time for event window.
- To set estimation window.
- Sample selection
- Selection of model
- Collection of data. Downloaded share prices of firms who are engaged in CSR activities and winner of CSR award and also downloaded the data of market index i.e. KSE 100 index.
To calculate the daily stock price return and return of market index.
To estimate the Alpha and Beta, we used the data of estimation period.
To calculate Alpha and Beta which are two basic parameters, are used to calculate the daily expected return.
Calculation of daily abnormal return (AR) and generate the cumulative abnormal return (CAR) and also average abnormal return (AAR).

Apply the significance test

The most important things when conducting an event study methodology to select the event of interest which mean what types of event are using in the study. The initial step of event study is to identify event types.

Following types of events can be analyzed in this study for example;
- If there are financial crises
- Announcements of earning
- Split of stock
- Incurring of micro and macro-economic factors
- Dividend announcements
- Publications of financial reports of companies
- Announcements of CSR awards

But in this study our event of interest is the announcements of CSR awards to test that what are impact of stock return of firms who are engaged in CSR activities and wins the awards. Our concern is not to discuss the evaluation criteria of organization who are awarded CSR awards; how these organization gives CSR scores to every company, we only test what are the effects of CSR awards on share prices of award winner firms, so our event interest is the announcements of CSR awards.

According to MacKinlay (1997), the selection of event date is most important for the selection of estimation period. There are multiple time periods for different awards in multiple years and in our study event dates is date of announcements of CSR awards.

A huge literature is available on the event study in finance, in which reaction of stock market has been analyzed towards the announcements of corporate news. That literature investigated the different types of announcements related to corporations such as dividend announcements, stock splits, and issue of equity (Kothari & Warner, 2007; MacKinlay, 1997). This study uses three-day interval [-1, 0, 1], for event window period because event study provides more accurate result after the event for short period. There is greater uncertainty to check the real impact on the share price in the long-term period due to effect of many other factors which affects after announcements.

Next step is to define the estimation window to found that what reaction of market without the event window. Estimation window might be before the prior event period, but estimation window may be established after the event window and in some cases, it can be during the event window. The basic goal behind the establishing estimation window is to estimate the financial performance of firms unbiased. In this study, the estimation window is chosen 120 days before the event window which is proposed by MacKinlay (1997) while dealing with the daily share price data and using market model. To get the accurate results, period of event window is not included in the estimation period to ensure that event itself have no impact to estimate the normal performance of parameter Alpha and Beta. So, the estimation period ranges from 121 days prior to event window which covers the one day before the event window. Finally, total time period used in this study is 123 days which includes 120 days of estimation window, 3 days event window which indicate the 1 day before the announcements date, day 0 is the day of announcements and 1 day after the announcements.

Event Study Time Line

| t = 120 | t = -1 | t = 0 | t = 1 |

145
Time period between t=-1 and t=1 shows the event window and time period between t= -120 and t= -1 show the estimation window.

4. Findings and Discussion

To meet the desired objectives of research share prices of firms has been collected which are listed on the Pakistan Stock Exchange (PSX) which are the winner of CSR awards, name of the winner companies and all other detail has been provided in the appendix. This study analyzes the effect of CSR awards announcement on the stock return of firms with the event window period of 3 days. We calculated the actual return, expected return, abnormal return, average abnormal return and cumulative abnormal return. Only charts have been provided about results of different CSR awards in this section. A t-test has been applied to test whether changes are significant or not. A 95% confidence interval has been used to generate result.

4.1 Results of Annual Environmental Excellence Award (AEEA)

In this section result about AEEA has been discussed for the year 2010 to 2015. We have only presented here chart which shows results about expected return, abnormal return and cumulative abnormal return.

![Annual Environmental Excellence Award 2010](image)

**Figure # 1: Annual Environmental Excellence Award 2010**

The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 days for year 2010. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 57 companies who have won CSR awards in the year 2010, only three companies have significant impact which includes INIL, NRL and SIEM. INIL has significant impact before the announcements day (4.94%) and on the day of announcement (3.94%) but insignificant after the announcement day (-1.03%). NRL has significant impact on the day of announcements (3.56%) only, before (0.57%) and after (-0.82%) the announcements have insignificant impact. SIEM has significant impact on the day of announcements (-5.37%), before (-0.7%) and after (-0.06%) the announcements have insignificant impact.
The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 days for year 2011. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 63 companies who have wins CSR awards in the year 2011, only two companies have significant impact which includes RMPL and PCAL. RMPL has significant impact on the day of announcements (4.82%) only, before (-3.25%) and after (3.34%) the announcements has insignificant impact. PCAL has significant impact on the day of announcements (3.58%), before (0.19%) and after (0.23%) the announcement has impact insignificant.

The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2012. There are 73 companies who wins CSR award that shows all companies have insignificant impact of CSR Award announcement on the share prices.
The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2013. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 64 companies who have wins CSR awards in the year 2013, only five companies have significant impact which includes FFC, LUCK, PKGS, PTC and SSGC. FFC has significant impact on the day of announcements (1.77%) and after (2.15%) the announcements but has insignificant impact before the announcements (-0.69%). LUCK has significant impact after the announcements (3.54%), has insignificant impact on the announcement and after the announcements. PKGS has significant impact on the day of announcement (0.09%), has insignificant before and after the announcement. PTC has significant before the announcements (5.12%). SSGS has significant impact after the announcements (3.76%), has insignificant before and on the announcement’s day.
The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2014. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 64 companies who have wins CSR awards in the year 2014, only two companies have significant impact which includes KSBP and NRL. KSBP has significant impact after the day of announcements (4.42%), has insignificant impact before the announcements (-2.07%) and on the day of announcements (-0.8%). NRL has significant impact after the announcements (3.83%), has insignificant impact on the announcement (0.77%) and before the announcements (0.29%).

The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2015. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 59 companies who have wins CSR awards in the year 2015, only three companies have significant impact which includes KEL and KAPCO and KSBP has significant impact after the day of announcements (4.42%), has insignificant impact before the announcements (-2.07%) and on the day of announcements (-0.8%). NRL has significant impact after the announcements (3.83%), has insignificant impact on the announcement (0.77%) and before the announcements (0.29%).

4.2 Results of CSR Business Excellence Award

In this section result about CSR Business Excellence Award has been discussed for the year 2013 to 2015. We have only presented here chart which shows results about expected return, abnormal return and cumulative abnormal return. Tables about values are not presented here due to large data.
The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2013. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 40 companies who have wins CSR awards in the year 2013, only two companies have significant impact which includes FATIMA and NBP. NBP has significant impact after the announcements (-24.11%), has insignificant impact before the announcements (-0.71%) and on the announcements (-1.35%).

The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2014. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 41 companies who have wins CSR awards in the year
2014, only four companies have significant impact which includes PRL, EFU and JSBL. PRL has significant impact before the announcements (5.27%), has insignificant impact on the announcement’s day (-2.64%) and after the announcements (-0.5%). EFUL has significant impact after the announcement’s day (4.65%), has insignificant impact before the announcements (-0.81%) and on the announcement’s day (-0.04%). JSBL has significant impact after the announcement’s day (7.42%), has insignificant impact before the announcements (1.27%) and on the announcements day (-2.27%).

The above chart depicts the expected return, abnormal return and cumulative abnormal return of the events firms around the event window i.e. -1 and 1 day for year 2015. It shows that mostly companies have insignificant impact of CSR Award announcement on the share prices. Out of 48 companies who have wins CSR awards in the year 2015, only two companies have significant impact which includes FATIMA and SNGP. FATIMA has insignificant impact before the announcements (0.26%), has significant impact on the announcement’s day (-3.32%) and after the announcements (2.90%). SNGP has significant impact after the announcement’s day (-4.09%), has insignificant impact before the announcements (-3.03%) and on the announcement’s day (-3.15%).

5. Conclusion

The basic objective of this study was to investigate the empirical relationship between CSR awards announcements and stock return of firms listed on the Pakistan Stock Exchange. To investigate the impact on the stock market return of firms an event study methodology has been conducted on the respective sample of CSR awards announcements. Normal return has been calculated over the period of estimation window of 120 days, then abnormal return has been calculated and then cumulative abnormal return has been calculated over the period of three days event window [-1, 0, 1]. The results of the event study describe that on the announcements of some awards market quickly reflects the new information and on the announcements of some other awards market respond few days later to absorb information.
We found that there are some firms whose abnormal returns are positively significant with announcements of CSR awards and some firms have negatively significant impact of CSR awards announcements. Overall there is insignificant impact of CSR awards announcements on the stock prices which is measured by the abnormal return. Many firms have positive impact on the announcements of CSR awards and other firms has negative effect on the announcements of CSR awards but little effect which is insignificant.

This study contributes to the literature of CSR in terms of its impact on stock prices. This study has some implications for policy makers and practitioners. The business case for CSR must be established for the promotion of CSR. Investors, stakeholders and financial analysts must be provided awareness about the importance of CSR. Unless, positive performance of companies in terms of social responsibility is not given due consideration by the stock market, no way companies be attracted towards CSR initiatives. Getting CSR awards may add to the corporate reputation and soft image of the company but unless this award is reflected in the stock prices, companies will pay little attention to this. This study is limited to the reaction of Pakistani stock market towards CSR awards of National Forum for Environment and Health. Future studies may be conducted in other countries and may consider other award schemes for more evidence.

References


