INTRODUCTION

Review of Economics and Development Studies (READS) is a double-blind peer-reviewed Multidisciplinary research journal published bi-annually by CSRC Publishing, Center for Sustainability Research and Consultancy Pakistan. The journal is independently managed by Editor–in–Chief with the assistance of Advisory Board and associate fellows of CSRC comprising of distinguished faculty at higher education institutions. The journal aims to cover topics and issues in various sub-areas of economics and development studies in general and particularly in the context of emerging and developing economies. The major and significant purpose of this journal is to highlight the theoretical and applied issues faced by economic managers, businesses and society in the economies. The journal especially welcomes submissions which cover the topical areas related to sustainable economic development in emerging and developing economies. The journal also covers all disciplines of social sciences in the context of development studies. READS disseminates quality research in all disciplines of Economics and Development Studies in Social Sciences. The subscribers are universities, research institutions, government institutions, NGOs and individual researchers. The views expressed in all research papers published in the READS are only of authors and not of the editor or the publisher. The authors are responsible for their views expressed in their published research papers in READS.

SCOPE AND MISSION

Issues of sustainable economic development are mainly interwoven into economic policies and dynamics of business markets in emerging and developing economies. With this background READS aims to be a premier forum for policy and theoretical discussion of high impact research in emerging economies. READS covers various sub-areas of economics and development studies specially related to sustainable economic theory and policy. The journal is open to both academicians and practitioners in its subject areas.

The journal considers articles written in all areas of economics and development studies in emerging economies including but not limited to micro economics, macroeconomics, financial economics, environmental economics, sustainable economic growth and development, monetary economics, econometrics, agriculture economics, international economics.
EDITORIAL BOARD

Patron
- Prof Dr Hayat Muhammad Awan, President, Center of Sustainability and Research Center

Editor
- Prof. Dr. Imran Sharif Chaudhry, Director, School of Economics, Bahauddin Zakariya University Multan, Pakistan.

Associate Editors
- Dr. Sallahuddin Hassan, Associate Professor, Universiti Utara Malaysia
- Dr. Farrukh Bashir, School of Economics, Bahauddin Zakariya University, Multan, Pakistan
- Dr. Hassan Alaaraj, School of Economics, Finance and Banking, Universiti Utara Malaysia

Editorial Advisory Board
- Prof. Dr. Ruth Kattumuri, Asia Research Centre, London School of Economics (LSE), UK.
- Prof. Dr. Halia Valladares Montemayor, Capilano University, Canada.
- Prof. Dr. Kuperan Viswanathan, College of Arts and Sciences, Universiti Utara Malaysia.
- Prof. Dr. Lucy Ojode, Texas Southern University, USA.
- Prof. Dr. Jamal Bin Ali, School of Economics, Finance and Banking, Universiti Utara Malaysia.
- Prof. Dr. Eatzaz Ahmad, Department of Economics, FC College University, Lahore, Pakistan
- Prof. Dr. Usman Mustafa, Pakistan Institute of Development Economics (PIDE), Quid-i-Azam University Campus, Islamabad, Pakistan.
- Prof. Dr. Himayatullah Khan, Director, Institute of Development Studies, University of Agriculture Peshawar Pakistan.
- Prof. Dr. Sofia Anwar, Department of Economics, Govt. College University Faisalabad Pakistan.
- Prof. Dr. Maria Theresa G. Argonza, Emirates Aviation University, UAE.
- Prof. Dr. Babar Aziz, Department of Economics, NUR International University, Lahore, Pakistan.
- Assoc. Prof. Dr. Nguyen Chu, Houston-Downtown University, USA
- Assoc. Prof. Dr. Syed Atif Jaffri, Department of Economics, University of Gujrat, Gujrat, Pakistan.
- Asst. Prof. Dr. Nabila Asghar, University of Education, Lahore.
- Dr. Ryan L. Mason, Brennan School of Business, Dominican University River Forest USA.
- Maxwell Tuuli, Peter B. Gustavson School of Business, University of Victoria Canada.
- Dr. Chung-Jen Wang, National Pingtung University of Science and Technology Taiwan.
- Dr. Lee Wen Chiat, School of Economic, Finance and Banking, Universiti Utara Malaysia.
- Dr. Hilal Yildirim Keser, Bursa Technical University Turkey
INDEXING AND ABSTRACTING
The Review of Economics and Development Studies is indexed and abstracted by following institutions. The publishing manager and editorial team are committed to enhance outreach of the journal by expanding the indexing and abstracting of its content further.

- JEL (Journal of Economic Literature-EconLit)
- WorldCat of Library Literature and Information (LibLit)
- British Library
- Ulrich’s Periodicals Directory/ProQuest/ International Bibliography of the Social Sciences (IBSS)
- ProQuest/ Humanities Index (HumInd)
- RePEc
- Bibliography of Asian Studies (BAS)-EBSCOHOST
- ECONBIZ (German National Library of Economics-ZBW)
- EconPapers
- DOAJ
- Crossref
- EDRIC
- IDEAS
- NLB (National Library Board Singapore)
- Zetoc
- SHERPA/RoMEO
- DRJI (Directory of Research Journals Indexing)
- ResearchBib
- LogEc
- CitEc
- Google Scholar
- SUNCAT
- Scilit
- OAI-PMH Compliant Repositories
- Copac
- BASE
- ESJI (Eurasian Scientific Journal Index)
<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributing Factors of Capital Structure: A Case of Non-Financial</td>
<td>127-133</td>
</tr>
<tr>
<td>Companies Listed at KSE 100</td>
<td></td>
</tr>
<tr>
<td>Lala Rukh, Sangeen Khan, Hazrat Bilal</td>
<td></td>
</tr>
<tr>
<td>Corporate Governance and Firm Efficiency: Empirical Study of Pakistan</td>
<td>135-144</td>
</tr>
<tr>
<td>Adnan Ahmad, Muhammad Nisar Khan, Muhammad Ilyas, Ihtisham Khan</td>
<td></td>
</tr>
<tr>
<td>Teacher in Promoting Quality Education: Head Teachers Perception</td>
<td>145-151</td>
</tr>
<tr>
<td>Muhammad Javed Iqbal, Mohammad Nabi, Rahat Mand, Intzar Hussain Butt</td>
<td></td>
</tr>
<tr>
<td>Effect of Board Independence on Earning Response Coefficient (ERC):</td>
<td>153-164</td>
</tr>
<tr>
<td>Evidence from Pakistan</td>
<td></td>
</tr>
<tr>
<td>Anjum Ihsan, Wahid Raza, Shahid Jan</td>
<td></td>
</tr>
<tr>
<td>Effect of Service Quality on Customers Satisfaction: An Application</td>
<td>165-177</td>
</tr>
<tr>
<td>of HEdPERF Model</td>
<td></td>
</tr>
<tr>
<td>Shahid Jan Kakakhel, Nisar Muhammad, Fayaz Ali Shah</td>
<td></td>
</tr>
<tr>
<td>Analysis of Susceptibilities, Capacities of Local Communities, Disaster</td>
<td>189-197</td>
</tr>
<tr>
<td>Muhammad Waqas Idrees, Muhammad Bashir Khan</td>
<td></td>
</tr>
<tr>
<td>Trade Reforms and Productivity Growth in Manufacturing Industries of Pakistan</td>
<td>199-207</td>
</tr>
<tr>
<td>Ansa Nazli, Rehana Siddiqui, Imran Hanif</td>
<td></td>
</tr>
<tr>
<td>Dilemmas of Adolescents: Dark Triad and Relational Aggression, Moderated by Economic Status</td>
<td>209-218</td>
</tr>
<tr>
<td>Saima Riaz, Zakia Bano, Raheel Abbas, Muhammad Rizwan</td>
<td></td>
</tr>
<tr>
<td>Social Exclusion, Entrepreneurship and Public Policy Challenges for Pakistan</td>
<td>219-225</td>
</tr>
<tr>
<td>Saima Shafique, Abou Bakar, Fatima Farooq, Kishwar Perveen</td>
<td></td>
</tr>
<tr>
<td>Knowledge Management, Emotional Capability, Teamwork, and Innovativeness: Mediating Role of Organizational Learning</td>
<td>227-235</td>
</tr>
<tr>
<td>Syeda Rumaisa Khalil, Khawaja Khalid Mehmood</td>
<td></td>
</tr>
<tr>
<td>Impact of Empowerment &amp; Emotional Labor on Teacher’s Work Engagement: Moderating Role of Job Experience</td>
<td>237-245</td>
</tr>
<tr>
<td>Ammara Saleem, Javed Iqbal, Moeed Ahmad Sandhu, Shaheera Amin</td>
<td></td>
</tr>
<tr>
<td>Institutional Determinants of Bilateral Trade Flows: A Panel Data Analysis</td>
<td>247-260</td>
</tr>
<tr>
<td>Muhammad Ramzan Sheikh, Imran Sharif Chaudhry, Naila Gul,</td>
<td></td>
</tr>
<tr>
<td>Muhammad Hanif Akhtar</td>
<td></td>
</tr>
</tbody>
</table>
Sectoral Investment and Employment Generation in Pakistan: An Econometric Analysis
Furrukh Bashir, Hafeez ur Rehman, Rashid Ahmad, Ismat Nasim

The Calculus of Rural Poverty: Evidence from District Bhakkar – Pakistan
Sobia Khuram, Mahmood ul Hassan

An Overview of English Language as a Window of Economic Opportunity in Pakistan
Ayaz Ahmad, Sana Hussan, Muhammad Shoaib Malik

Explaining Survival and Growth of Women Entrepreneurship: Organizational Ecology Perspective
Sulaman Hafeez Siddiqui, Rabia Rasheed, Muhammad Shahid Nawaz, Muhammad Suhail Sharif

Global Trends of Online Dispute Resolution (ODR) with reference to Online Trade in Pakistan
Muhammed Danyal Khan, Serkan Kaya, Rao Imran Habib

Learning styles preferences and diagnostics at higher education level: A comparative perspective among three faculties
Hukamdad Malik, Hajra Shaheen, Wajeeha Aurangzeb

Measuring Socioeconomic Stratification and Mobility Pattern: A Case Study of Intra-Generational and Intra-Temporal Household Mobility of Southern Punjab, Pakistan
Samra Khalid, Nabila Asghar

Determinants of Cost Efficiency of Takaful and Conventional Insurance Firms of Pakistan
Muhammad Abbas, Allah Bakhsh Khan, Salman Abbasi, Zeeshan Mahmood

Exploring the Impact of Financial Development on Inequality: Evidence from Three Asian Countries
Abdul Qayyum Khan, Muhammad Haroon Hafeez, Naima Saleem, Muhammad Azam

Student Evaluations of Teaching in Universities of Pakistan: Analysis from the Perspective of Closing the Feedback Loop
Hakim Ali, Bashir Hussain

Author Guidelines
**Contributing Factors of Capital Structure: A Case of Non-Financial Companies Listed at KSE 100**

1*Sangeen Khan, 2Lala Rukh, 3Hazrat Bilal

1PhD Scholar Hazara University, Assistant Director Planning and Development, University of Swat, Pakistan. sangeenkhan@uswat.edu.pk

2PhD Scholar Malakand University, Lecturer, Center for Management and Commerce, University of Swat, Pakistan. lalarukh@uswat.edu.pk

3Assistant Professor, Center for Management and Commerce, University of Swat, Pakistan. hbilal@uswat.edu.pk

---

**ABSTRACT**

The current study has taken the firms listed on KSE (Karachi Stock Exchange) now called Pakistan stock exchange. The data for the said purpose is collected for five years of time period from 2005 to 2010. The results obtained demonstrate that all the selected variables under study shows a highly significant impact on the determinants of capital structure except the tangibility of the asset. The insignificant relationship of tangibility with the capital structure supports the financing hierarchy theory. While the Growth, Size and profitability shows a significant and negative relationship with leverage. The negative relationship of growth shows that higher the growth of the firms lower will be the leverage maintained by the firm. Similarly, firms with smaller size show that such firms prefer high leverage as compared to firms of larger size. The results reveal that higher the profitability of the firm lower will be the leverage ratio. While the positive relationship of the volatility of the earnings states that firms with higher risks has high leverage ratio. Overall a detailed description and impact of the different variables on leverage is provided in the current study.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

**Keywords**

Tangibility, KSE, Non-Financial Firms, Leverage

**JEL Classification:**

G30, G32, R53

---

1. Introduction

The mix of financing (debt and equity) is known as capital structure and firm chooses its optimal capital structure to maximize its value. A firm can raise its capital by issuing equity or debt. Capital structure is greater of importance because it can affects the firm’s value and that is why a lot of research has been done in this area of finance. Modigliani & Miller (1958) described in their paper that a firm’s risk can be determined by the standard deviation of its earnings, there are no taxes and bonds and stocks traded in perfect capital markets. Their assumptions are unrealistic but it’s providing theoretical grounds. After Miller & Modigliani’s work many theories developed about capital structure.
Berle & Means (1933) developed the agency theory. According to Berle & Means (1933) a gap arises among management of the firm and its shareholders because of decrease in equity ownership. Shareholder are the primary owners of the business and management should work to maximise their wealth. But problem arises when managers start to work for their own interest and ignore shareholder’s interest. This self interest of managers leads them to waste valuable cash flows for unprofitable opportunities. Some research suggest that the debt in financing mix provides a mechanism to control the manager’s self interest and reduce agency problem.

Capital structure decision requires tradeoff between benefit associated with tax shield and the cost of financial distress. When a firm increases percentage of debt the chances of bankruptcy increases with increase of debt. The firm chooses an optimal capital structure where benefit in the form of tax shield is greater.

Modigliani & Miller (1958) assumed that the management and the investors have the same information while in real world managers of the firm have better information about the prospects of the firm. They purchase stock of the firm when it undervalued and sell the stock if it is overvalued. Investors of the firm perceive this action of purchasing and selling stock by the management as a signal and react accordingly. Investors consider that the firm’s prospects are good when management make announcement to repurchase the stock and firms prospects are not good when the firm make announcement about issuing new equity.

Whenever a firm needs funds to finance its assets and new projects it has three options. It may reinvest the profits, raise funds through debt or issue new equity. Issuing new equity means bringing new owners to share profits which are not good for existing owners. That is why firm avoids issuing new equity and considers other options to raise funds. A firm must reinvest from profits when it need funds to finance its assets. If profits are not enough then it would raise funds through debt and then issue shares.

Objective of the study is to test the validity of determinants of capital structure for nonfinancial companies listed at Karachi Stock Exchange 100 index. This Study analyzes the determinants of capital structure for nonfinancial companies listed at KSE 100 index and for this purpose data from 2005 to 2010 is selected for analysis. There are many other variables which may affect the capital structure but in this study five independent variables are selected as described by Rajan & Zingales (1995).

2. Literature Review
First research was conducted by Modigliani & Miller (1958), investigate capital structure and the cost of capital. They found that the decision of capital structure does not affects the firm’s value. Results of the study were based on unrealistic assumption but because of their research other capital structure theories came in to existence. After Modigliani & Miller (1958) many researchers investigated capital structure and capital structure theories. (Fama & Jensen, 1983) examined agency issues and described how to solve agency problems and features of residual claims. These residual claims cover a part of net cash flows and a conflict arises because of these claims among the states. Those organization who wants servival residual claims are very important for them. They concluded that open organaization have unrstricted residual claims because there is no need for shareholders to require any other right. The factors such as greater the benefits of unrestricted risk sharing, specialized management, and the amount of organization specific assets,all in the favour of open organizations. Unresticted stock residual claims provides the benefits which are helpful to resolve agency problems in the organization.

Myers ( 1984) tried to solve capital structure puzzle and described that capital structure change convey some information to investors. He studied capital structure in Tradeoff framework and packing order framework and neglected the millers idea of “mutual mutation”.He described that investors take interest in the announcements of financing choices which in turn affect stock prices.

Titman and Wessels (1988) analyzed the explanatory power of some optimal capital structure theories which suggest that selection of capital structure by firms depend on factors associated with cost and benefit of debt and equity financing. They discussed the attributes suggested by capital structure theories which may affect the debt to equity ratios, growth and tax shield. They found that the smaller firms most of the time tends to use short term debt and there is no evidence found that the debt ratios are related to volatility, non-debt tax shield or expected growth. The results of the study indicated that the cost may be an important determinant of capital structure decision while short term debt ratios are negatively related to the size of the firms. This may be the firms face highly transaction
cost when it issues long term financial instruments.

Harris and Raviv (1990) studied how investors of the firm react receive information when firm takes decision about the debt policy of the firm. They described debt as a tool to restrict managers to take decisions of their own interest. Moreover debt also convey some information about future prospects of the corporation to investors. Investors use models such as static model to evaluate debt policy decisions which convey some information about income benefits due to debt and bankruptcy cost. They argued that the information conveyed by debt to investors is the learning process. Agrawal & Nagarajan (1990) analyzed the family relations of top managers, leverage and capital structure. The sample of 82 all equity firms from 1979 through 1983 were selected to analysed. The empirical results of the study showed higher median stockholding in equity firms which was greater than leverage firms. Equity firms also were found to have higher dollar valued stockholdings the leveraged firms. There was positive relationship of managerial ownership towards family involvement and that evidence was consistant that the managers of the all equity firms tried to reduce risk associated with diversification.

Agrawal and Knoeber (1996) examined seven mechanisms to reduce and control agency problems. They suggested that the single mechanism may provide misleading results so they tried four of the mechanism which were sepearately regressed by OLS method. Sample of the data for analysis incleled 800 firms in 1987. Results of the study showed significant relationship among performance of the firm and inside ownership and inside ownership has positive impact on the performance of the firm. Results showed by second OLS indicated insignificant effect of the firm’s performance and negative relationship of corporate control activity to firm’s performance.

Agrawal and Jayaraman (1994) analyzed the free cash flow theory for all equity firms. They tested the hypothesis that firm’s pay out is high if it has low debt in its financing mix. The second hypothesis of the study was about negative relationship among ownership structure and dividends. They tested hypothesis for sample from 1979 to 1983. The results of the study indicated that the all-equity firms were paying higher dividend yields and payouts than levered firms. The results were consistant with that the ownership structure and dividends were substitute to reduce agency problem.

Baker & Wurgler (2002) studied the impact on capital structure when a firm attempts to time the market and investigated that whether the market timing has long-run or short-run effect on capital structure of the firm. The results of the study indicated persistent impact on capital structure. They also found that low leverage firms are those who raised funds during high valuations and highly leveraged firms are those who obtained funds when their valuations were too low as measured by market to book ratios. They finally concluded that the capital structure decisions largely affected due to fluctuation in valuation of the firms and capital structure decisions are the outcome of past attempts to time the market. In their study Kim, Rhim, & Kang (2005) said that corporate policies can be determined jointly not independently and they included the pension funding desion in to capital structur decision and divident policy. Pension funding dicision is greater of importance because it affects values of the stocks of the firm because of its size and risk. For empirical analysis of these policies various independent variables was selected such as size, growth, risk, tax, and leverage as mentioned in the previous letterature about capital. The concluded the results obtained from a three stage least square equation. Finally they concluded that the independent variables were consistant with the dividend yield while blockholdings and institutional varaibles were not consistant with the ownership variables because of issues other than agency cost. Firm’s risk and institutional hodings were inversly related to pension funds.

Joher, Ali and Nazrul (2006) conducted study about ownership structure on kolalampur stock exchange by taking data from 1998 through 2002. The data of 100 companies of kolalampur stock exchange investigated to explore the impact of institutional holdings on ownership structure. They have used 2 stage least square simultanious model to find the impact and interdependency of ownership structure on debt policy. They found a significant impact of institutional ownership which indicates that institutional ownership helps to slove agency problem. The relationship of the debt and institutional ownership was negative suggesting managerial ownership get decrease as the firm increases its debt level. The relationship between the institutional owners and managerial ownership were also inversly related suggesting instititutional investors take better control over the firm.

Roshan (2009) investigated the relationship among ownership structure and capital structure. He reviewed previous literature and theories about capital structure and ownership structure. He described angency theory and free cashflow theory and argued that the main problem is the self interest of managers of the firms. Most of the managers because of their self interest wast some of the free cashflows. He concluded that the ownership structure
and capital structure has some relationship but he also described that the researchers failed to find the determinants of capital structure to maximise value while dealing with agency problem as well. He also argued that the debt financing is better as it provides tax shield and also help to control management. Bortolotti, Cambini, Rondi, & Spiegel (2007) conducted panel study and they took sample from 1994 to 2005 of 96 publically traded companies. They examined how capital structure is affected by the interaction of regulated firms, prices policies and investment. If regulators have not long-term prices then it may have incentives and the regulated firm get benefit of tax shield because of leverage. Debt financing is the source to finance new opportunities and regulators encourage firm’s and also regulators try to avoid price reduction because it can be reason of bankruptcy for highly regulated firms. They found that the European regulated firm were highly leveraged and their interaction depends on regulatory framework and capital structure. The also found that the privately controlled firms increased their leverage because of IRA and got positive affect over regulated prices.

In line with the above discussion there are hypothesis that will be tested in the present study.

\[ H_1 = \text{There is a negative relationship between firm’s growth and its leverage.} \]
\[ H_2 = \text{There is negative relationship between firm’s profitability and its leverage.} \]
\[ H_3 = \text{There is a negative relationship between firm’s size and its leverage.} \]
\[ H_4 = \text{There is a positive relationship between firm’s tangibility and its leverage.} \]
\[ H_5 = \text{There is a negative relationship between firm’s earning volatility and its leverage.} \]

3. Research Methodology
3.1 Data Description
This study is based on the financial data which was collected from the official website of State Bank of Pakistan and the official website of Karachi Stock exchange 100. A published data was gathered from “the financial analysis of joint stock companies 2006-2010” available at the website of State Bank of Pakistan. Study analyses the capital structure on non-financial companies listed at KSE 100 from 2006 through 2010. The sample of 50 nonfinancial companies was selected to generalize the results for the whole nonfinancial sector listed at KSE 100.

3.2 Model Specification
There are five independent variables which may affect capital structure decision as described by Rajan & Zingales (1995) that are size, Book-to-Market ratio, profitability, tangibility and volatility of earnings. Therefore the following equation would be estimated to test the hypothesis:

\[ L = \alpha + \beta_1(T) + \beta_2(S) + \beta_3(G) + \beta_4(P) + \beta_5(V) + \varepsilon \]

L= Leverage  
T= Tangibility  
S= Size  
G= Growth  
P= Profitability  
V= Volatility of earnings

3.3 Variables
Growth, profitability, size, tangibility and volatility are taken as independent variables and Leverage is taken as dependent variable.

3.3.1 Growth
Growth is independent variable. For this study growth can be calculated as a percentage increase of total assets of the firm.

3.3.2 Profitability
A high profit of the firms provides the ability to finance internally rather debt. According to pecking order theory a firm must finance its assets from profits and then leverage. So we are expecting negative relationship between profits and leverage. Profitability ratio can be calculated as:

\[ P = \frac{\text{Net Income Before Taxes}}{\text{Total Assets}} \]
3.3.3 Size
Size is independent variable and for this study it can be calculate as taking natural logarithm of sales of the firm.

3.3.4 Tangibility
The firm having large portion of fixed assets must have the ability to obtain debt from financial institution. So we are expecting positive relationship between tangibility and leverage. Tangibility ratio can be calculated as:

\[ T = \frac{\text{Fixed Assets}}{\text{Total Assets}} \]

3.3.5 Volatility of Earnings
The firm with stable earnings would be in a better position to repay debt and cost of debt. So it is expected that the Volatility of earnings is negatively related to leverage. Volatility of earnings can be calculated as:

\[ V = \frac{\text{Deviation of net profits from mean}}{\text{Total number of years of each firm in the given year}} \]

4. Results and Discussion
The results of the Fixed-effects are presented in Table 1 and F statistics are given in Table 2. All the variables are significant except tangibility. Coefficient of the firm’s growth is -0.0421 is significant as \( p = 0.00 < 0.05 \). Study accepts the first hypothesis and confirms that the growth does matter to determine the capital structure of Pakistani non-financial firms. This relationship is negative between firm’s growth and its leverage. The results support the pecking order theory that suggests preferring internal financing over debt when investment needed to finance projects. Managers of the firm’s would not hesitate to take risky projects and increase the return of the shareholders of the firm. Debt restricts managers to go for risky projects. On the other hand internal financing provide confidence to managers to go for risky projects and increase shareholders wealth.

Profitability is negatively related to the firm’s leverage as its coefficient is -0.241 and significant at 10% significance level (\( P = 0.09 < 0.10 \)). So we accept the \( H_2 \) that there is a negative relationship among leverage and profitability of the firm. Profitability does matter to determine the capital structure of Pakistani non-financial firms. The firm with higher profits becomes able to finance their assets from internal investment rather than using leverage to finance assets. So the results are in favor of pecking order theory. So we conclude that the non-financial companies listed at KSE 100 index finance their projects from retained earnings rather than leverage.

There is a positive relationship among size and the leverage of the firm. Coefficient of the size is -0.0426 with \( p = 0.018 \), shows significant at 5% level so we accept the third hypothesis \( H_3 \). Results of the study prove that the size also an important determinant of the capital structure of non-financial companies listed at KSE 100. Having few assets reduces the small firm’s ability to obtain debt from financial institutions. It is required for firm’s to provide collateral against loans to secure the lender. On the hand large films will have large amount of assets to secure the lender and it helps large firm to obtain debt from financial institutions.

Coefficient of the tangibility is 0.051 indicating positive relationship but insignificant at 5% significant level as \( p = 0.455 \) which is less than 0.05. So we reject the fourth hypothesis \( (H_4) \). This can be concluded that tangibility is not the determinant of capital structure of Pakistani non-financial companies. It was considered that the higher percentage of fixed assets may make the firm to obtain debt at lower interest rate but study result are insignificant showing tangibility has no relationship with capital structure decision. The results are in line with results found by Shah & Hijazi (2004).

Volatility with coefficient 0.083 indicating significant positive relationship with capital structure with \( p = 0.000<0.05 \). Study accepted the fifth hypothesis that there is a negative relationship of volatility of earnings with leverage of the firm. So it is concluded that the volatility of earning is an important determinant of the capital structure of Pakistani non-financial companies listed at KSE 100 index. Volatility of earnings means risk associated with the earnings of the firm. High risk increases the chances of bankruptcy and financial institutions hesitates to give loans to the firm. On the other hand stable earnings help the firm to obtain debt.
Table 1: Fixed –Effects Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-ratio</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.693474</td>
<td>0.0831017</td>
<td>8.3449</td>
<td>&lt;0.00001</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.0421564</td>
<td>0.0251081</td>
<td>-1.6790</td>
<td>0.09475  *</td>
</tr>
<tr>
<td>Profitability</td>
<td>-0.241534</td>
<td>0.0784216</td>
<td>-3.0799</td>
<td>0.00237  ***</td>
</tr>
<tr>
<td>Size</td>
<td>-0.0426262</td>
<td>0.0179027</td>
<td>-2.3810</td>
<td>0.01823  **</td>
</tr>
<tr>
<td>Tangibility</td>
<td>0.0515952</td>
<td>0.0689247</td>
<td>0.7486</td>
<td>0.45502</td>
</tr>
<tr>
<td>Volatility of Earnings</td>
<td>0.0832511</td>
<td>0.0126669</td>
<td>6.5724</td>
<td>&lt;0.00001 ***</td>
</tr>
</tbody>
</table>

Table 1: Fixed-effects, using 250 observations, Included 50 cross-sectional units, Time-series length = 5, Dependent variable: L

Table 2: R Square Model, F Statistics

<table>
<thead>
<tr>
<th>R-squared</th>
<th>Adjusted R-squared</th>
<th>F(54, 195)</th>
<th>P-value(F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.516714</td>
<td></td>
<td>3.860881</td>
<td>2.64e-12</td>
</tr>
</tbody>
</table>

Test statistic: F(49, 195) = 1.93961, with p-value = P(F(49, 195) > 1.93961) = 0.00080557

5. Conclusion

In this study we investigated the determinants of capital structure on the data of non-financial companies listed at Karachi Stock Exchange 100 index. For this purpose five years data from 2006 to 2010 was used to analyze the effect of growth, profitability, size, tangibility and earning volatility on capital structure decision. We found that the all the variables except tangibility were significant. Study concludes that the growth, profitability, size, and earning volatility are important determinants of capital structure of non-financial companies list at Pakistan stock market. Large profitable firms prefer internal financing over leverage and these results support the validity of pecking order theory. On the other hand small and risky firms face difficulty to arrange external financing to finance their projects.

References


Corporate Governance and Firm Efficiency: Empirical Study of Pakistan

Muhammad Nisar Khan, Adnan Ahmad, Muhammad Ilyas, Ihtisham Khan

PhD Scholar, Abdul Wali Khan University, Mardan, Lecturer in Finance, Bacha Khan University, Charsadda, Pakistan.
nisarmgnt@bkuc.edu.pk

Assistant Professor, Abdul Wali Khan University, Mardan, Pakistan.

Lecturer in Finance, Abdul Wali Khan University, Mardan Pakistan.

Assistant Professor, Abdul Wali Khan University, Mardan Pakistan.

ARTICLE DETAILS

History
Revised format: October 2018
Available Online: December 2018

Keywords
Data Envelopment Analysis, Corporate Governance Index, Non-Financial Sector, Pakistan Stock Exchange.

JEL Classification:
D22, G10, G20, G34, R50

ABSTRACT

In this exploratory study, we examine the effect of firm level corporate governance on firm efficiency calculated through Data Envelopment Analysis (DEA) during the period from 2008-2017 for a sample of 136 non-financial firms listed on Pakistan Stock Exchange (PSX). DEA is a non-parametric technique developed by Charnes, Cooper and Rhodes (1978) which is used to measure firm efficiency by taking different input and output variables. In this study we have used three input and three output variables for firm overall technical efficiency (OTE) measurement, input variables were Total Assets, Total Liabilities and Cost of Goods Sold (CGS) and output variables were Gross Sales Revenue (Sales), Income before Tax (IBT) and Net Income (NI). Overall technical efficiency was calculated through DEA for selected non-financial firms.

In the second stage, the association between firm efficiency measured through DEA and corporate governance estimated by Corporate Governance Index has been fully confirmed in selected firms. Firm size, growth, dummy variable for financial crises 2007-09, GDP growth, and operating cash flows (OCF) were used as control variables. The results show that better implementation of CG practices by the firms will help in increasing their efficiency. In other words, better CG practices help firms to utilize their resources in the better way to produce firm outputs (sales/Profit).

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: sangeenkhan@uswat.edu.pk


DOI: 10.26710/reads.v4i2.384

1. Introduction

In the modern world, it is becoming highly important for organization to know how efficiently and effectively its operations are? As compare to its competitors. For example, these comparisons may be take place among different universities, such as the department of one university may compare its performance with the same department in some other university. Similarly, a bank branch in one city may compare its performance with the branch in some other city of the country; furthermore, the firms in non-financial sector may compare their results with each other. This paper in fact is an attempt to measure the efficiency of non-financial firms listed in Pakistan.
What does this word ‘efficient’ mean? It means working well, without waste and quickly; while the word ‘effective’ means to produce what is actually desired. This thesis is primarily concerned to measure to efficiency of the non-financial firms that how well, without waste and quickly firm performs. The concept of efficiency was discussed in more details in the thesis from which this paper extracted.

To calculate the efficiency of the companies, different research studies have been conducted. Farell, (1957) for the first time empirically calculated the firm efficiency and Charnes et al., (1978) generalized the Farell’s concept of technical efficiency measurement from a single input and single output to multiple inputs and multiple outputs. This model was presented by Charnes, Cooper and Rhodes, that is why it is known as CCR model. Which was further extended in 1984 by Banker, Charnes and Cooper, and that model was named as BCC model. This method combines different inputs and outputs of a set of decision-making units (DMUs) to produce efficiency.

Corporate Governance has become an independent and new area of research in the last three decades (Denis, 2011). It is discussed in the different areas of study such as finance, management, accounting, economics, politics, law, and organizational behavior. There are different definitions of CG available in the literature (Shleifer & Vishny, 1997; OECD, 1999). There are many more definitions of CG, which were categorized by the researchers and scholars into two types, such as “broad” or “Narrow”. This categorization is based on the concentration of CG system to which degree it is satisfying shareholders or all stakeholders. If the CG system is only emphasizing on shareholders it can be called narrow (Sternberg, 2004; West, 2006) and if it is satisfying a wide range of all stakeholders interests then it is known as broad context (gillan, 2006).

There are different scholars who have been given narrow CG definitions. For example, Shiekh & Chatterjee (1995, p.5) defined CG as;

“a system whereby directors are entrusted with responsibilities and duties in relation to the direction of company’s affairs”. Similarly, (Sheifer & Vishny, 1997 p. 737) define CG as “the way in which suppliers of finance to corporations assure themselves of getting a return on their investment”

Sir Adrian has been given broad CG definition in World Bank Report (1999, p.7) as

“concerned with holding the balance between economic and social goals and between individual and communal goals.... the aim is to align as nearly as possible the interests of individuals, corporations, and society”

This paper is an attempt to study the association of corporate governance and firm efficiency in the non-financial firms listed in Pakistan Stock Exchange (PSX). For efficiency measurement, a very well-known model Data Envelopment Analysis (DEA) was used.

DEA was initiated by E. Rhodes in his doctoral dissertation supervised by W.W. Coopers, at Carnegie Mellon University on the doctoral dissertation. E. Rhodes evaluated the “unfairness” black and Hispanic students experience under government subsidized public education program. In order to evaluate the accomplishment of the program, “increase in the pride of the students who receive the benefit of the program” was used as an output, and “hours mother spend with their children on reading books together” was used as an input. The results were published on European Journal of Operation Research in 1978. Since then, DEA has been developed mainly for the purpose of estimating output efficiencies of decision-making units (DMUs herein after).

In this paper three input and output variables were used to estimate the firm Overall Technical Efficiency (OTE), input variables were total assets, total liabilities and cost of goods sold (CGS) and output variables were Sales, Income Before tax and Net Income. DEA was used to estimate the efficiency score, after calculating the efficiency score of 136 non-financial firms. These OTE scores were used as dependent variable and Corporate Governance Index (CGI) was used as independent variable to check the effect of CG on Firm efficiency, some control variables were also added to the model to better predict the effect of CG on firm Efficiency. The results suggest that good CG practices positively affect the firm efficiency.
2. Literature Review

Firm performance is used as dependent variable and is very relevant construct in the research of management field. Regardless of this relevance, no concrete consensus has been developed about its definition measurement and dimensionality, different researcher has used different proxies for firm performance.

Efficiency is important for the purpose that organization performance is an important characteristic. Organizations such as financial and non-financial, small or big must get the optimal performance so that to compete in the market. Mohamad & Said, (2010) recommend that the major objective of the organization is to improve performance. Many experts and researchers define performance in different ways. One aspect of firm’s performance is efficiency measurement. It can be in terms of increasing outputs, decreasing cost or maximizing the profits. A firm is considered as technical efficient if from the given level of inputs, producing maximum level of outputs or at the minimum level of input produce given level of output.

Most of the literature suggests that efficiency measures of DMUs are compared to firm operating in the same industry or sector (Mantri, 2008). One example is study of Philips et al., (1994) who compare all the US computer industry firms by measuring productive efficiency using the inputs and outputs from their financial statements. Similarly, Reynolds & Thompson (2007) measure the efficiency of 62 full service restaurants for comparison where their input variables are restaurant seats, hourly server wage and a standing alone facility restaurant as a coding variable, and total daily sales and percentage of tip as output variables. Abbott & Doucouliagos (2003) measure the efficiency of 36 Australian public sectors universities in teaching and research.

DEA is also used to analyze the time series data of DMUs operating in the same sector/country. For example Flegg et al., (2004) Applied DEA to 45 British universities to measure efficiency in the period of 1980/81 to 1992/93. Barros & Santos (2006) used Portuguese hotel industry from the period of 1998 to 2002 to measure efficiency. DEA also allows firms from same sector across countries for comparison, as Mantri (2008) compared efficiency of German and Swiss hospitals. Firms in finance sector have gained great attention to compare efficiency of firms. Touhami & Solhi (2008) studied Moroccan banks efficiency during the period from 1993 to 2006.

Batra & Tan (2003) used the data of six countries SME’s Indonesia, Malaysia, Maxico, Colombia, Guatemala and Taiwan to measure technical efficiency. Their results showed that technical efficiency rises with the firm size and a substantial overlap occurs in the distribution of efficiency with firm sizes, while some small firms are producing higher efficiency than the large firms. There are some factors that differentiate high efficient companies from low level of efficient companies in these six countries, and these factors are, education and training of employees, use of latest technology and automation, and quality control.

Wu (2005) uses the data of Taiwan’s steel industry during the period of 1970-1996 to examine the performance, their results recommend that technical efficiency and industry evolution is highly affected by the companies involved in liberalization and adopting new technology. While Wu et al., (2006) uses DEA to examine the retailing industry performance in Taiwan, the results showed that half of the companies were inefficient.

Hong & Park (2007) used DEA based approach and examined that through Support Vector Machine (SVM), they evaluated single company and efficiency of IT venture business was provided without comparing with other firms. The most important variables to provide financial information were capital turnover, employees’ productivity and sales/employees for efficiency evaluation of IT business venture.

Din et al., (2007) used output oriented DEA approach under CRS and VRS model assumption to evaluate the technical efficiency of large manufacturing sector in Pakistan. Data of 101 companies were collected in two parts, from 1995-96 and 2000-2001. Capital, industrial and non-industrial cost and labour were used as inputs variables and contribution of GDP was used as output variable. The result of CRS model showed improvement in mean efficiency from 0.23 in 1995-96 to 0.42 in 2000-01. On the other hand, an increase in efficiency score has occurred from 0.31 to 0.49 during these two periods under variable return to scale model. Singh (2006-07) used DEA model to measure the efficiency of sugar mills in Uttar Pradesh. The results found 93 percent of overall technical efficiency during the period of 1996-97 to 2002-03, and further suggested that the mill may reduce 7 percent of inputs to become more efficient than others.
Meenakumari & Kumaraj (2008) evaluated the efficiency of 29 public electric utilities (SOEU’s) in India and employed CRS and VRS model assumption of DEA to calculate efficiency. Yearbook 2004/05 and TERI energy data directory were used for data collection. First of all, correlation between inputs and outputs were calculated through regression analysis and found positive correlation among all variables. And the DEA results recommend that under CRS and VRS model, 24% of SOEU’s were efficient.

Joshi & Singh (2009) used CCR and BCC models of DEA to evaluate the productivity efficiency of readymade garment in India. Primary data of eight garments firms were used. Inputs variables were stitching machines and operators and garments pieces produced are used as output variable. Primarily, correlation analysis showed that inputs and output are significantly correlated. Their results recommend that under CRS model firms are 75 percent efficient and could increase by 25 percent. While firms are 83 percent efficient under VRS model.

Barita et al., (2011) have used CRS model of DEA to find out the technical efficiency and to find out the benchmarking units for Indian safety performance industries. The output taken was the number of accidents and annual budget percentage was taken as input variable; under CRS model, out of thirty units only seven were found efficient and for inefficient units benchmarking was done to become efficient.

Mahadevan (2002) analyzed the data of Malaysian manufacturing firms during the period of 1981 to 1996 to measure the growth of productivity. He used DEA to calculate the Malmquist index of growth and technical change in TFP (total factor productivity). From Malmquist index change in technical and scale efficiencies were decomposed. They had taken capital and labor as inputs variables and value added was taken as output variable. The higher TFP growth was obtained by non-ferrous metal industry, which was 3.7 percent and lowest TFP growth was obtained by petroleum refineries which was -0.3 percent. They also recommended 0.8 percent weighted average TFP growth; 0.3 percent technical change; 0.5 percent technical efficiency, 0.4 percent pure technical efficiency and 0.1 percent scale efficiency changes were found. They claimed that due to minimal gain in technical change and technical efficiency, TFP growth was low, with other industries operating at optimal scale.

Baten et al., (2006) applied stochastic frontier production approach on Bangladesh manufacturing industry to examine the technical efficiency during the period of 1981/1982 to 1999/2000. 3-digit sensus selected factories were covered. They used value added labor and capital as their research variables. To model the: half normal distribution and truncated normal distribution, these two alternative distributions were applied. They found that under truncated normal distribution, the technical efficiency was estimated for the selected industry was 40.22 percent while 55.57 percent under half normal distribution potential output was estimated. They also recommended that parameter of time varying inefficiency was positive which shows decline in technical efficiency in the selected period of time.

Duzakin & Duzakin (2007) analyzed 480 firms’ performance of manufacturing firms from 12 industries in Turkey during the year of 2003. CRS model of DEA output oriented based model was applied. two input and three output variables were used. Net assets and average number of employees were used as inputs variables and gross value added, profit before tax and export revenue were used as output variables. They analyzed that deviation from the standard was average scored from 0.178 to 0.989 and recommended that 278 firms results remained below average, and 65 firms were identified efficient firms. The main reason of inefficiency in Turkish firms was the minimum level of inefficient exports.

Watanabe & Tanaka (2007) used the Chinese industry at province level to examine efficiency over the period of 1994 to 2002. The two efficiency measures were estimated through directional output distance function, the one, which consider only desirable output, and the other, which consider both desirable and undesirable outputs. Inputs were material, capital and labor while industrial products was taken as desirable output and sulfur dioxide was taken as undesirable output. They recommended that the result with only desirable output, the efficiency level was biased. They concluded that ignoring the undesirable output may tend to overestimate efficiency of industries in Sichuan, Shandong and Hubei. They also added that industrial structure of province significantly affects the efficiency levels.

2.1 Corporate governance and firm efficiency
Lin, Ma, & Su (2002) studied 461manufacturing firms listed in china to study the relationship between corporate governance and firm efficiency. Efficiency was measured through DEA. There results recommend that firm efficiency is significant negatively affected by state ownership while state and managerial ownership positively
affect firm efficiency. U shaped relationship was found among ownership concentration and firm efficiency.

Andries, Alin, Bogdan & Simona (2016) this study attempted to study influence of corporate governance on firm efficiency, the sample consists of 139 commercial banks from 17 central and eastern Europe from the period of 2005 to 2012. The results show that good corporate governance practices significantly affect technical efficiency.

This study examines the relationship between corporate governance and the efficiency of Turkish banks using a sample of 10 banks listed in Borsa Istanbul from the period of 2005 to 2015. Efficiency was estimated through Data Envelopment Analysis (DEA) and panel regression models were used to find out the effect of CG on banks efficiency. The results revealed negative and significant association among free float rate and board independence with the efficiency of the banks. Finally, the consequences have showed that there is no statistically significant relationship among corporate governance and bank efficiency. (Mustafa, İşil & Fatih, 2016).

this research examined the effect of corporate governance on the efficiency of financial performance of oil and gas companies listed in Kuala Lumpur Stock Exchange Malaysia from the period of 2007 to 2011. Efficiency was estimated through Data envelopment analysis (DEA) technique under constant return to scale (CRS) model and variable return to scale (VRS) model. Results show that firm size and CEO/chairman duality significantly affect the efficiency of corporate governance in producing financial performance. (Ong, Soh, The & Ng, 2014).

Kashif Rashid (2008) studied the developing (Malaysia) and developed (Australia) capital markets to check the relationship between corporate governance and firm performance. The results shows that there is positive association between corporate governance and firm value.

Ece Oguz (2016) studied the association of Corporate governance and firm performance of 90 firms listed in Turkey during the period from 2008 to 2014. There results recommended that corporate governance variables significantly affect firm performance.

Kusuma H., Ayumardani A., (2016) studied 11 islamic banks of Indonesia to examine the effect of corporate governance efficiency on bank performance during the period from 2010 to 2014. For corporate governance efficiency, Data envelopment analysis (DEA) was applied. The results show that corporate governance significantly affects the firm efficiency.

Leora F. Klapper Inessa Love (2002) studied the association among CG, investors protection and firm performance in 25 developing market. Their results suggest that countries where protection to shareholders are weak and judicial efficiency is poor, firm level corporate governance matters a lot in those countries.

Humera Khatab, etal (2011) explore the relationship between corporate governance and firm performance of 20 listed firm in Karachi stock exchange during the period from 2005 to 2009. Their results suggest that corporate governance practices positively affect the performance measured through ROA, ROE and Tobin’s Q.

3. Data Collection and Methodology

The population of this study was all firms listed on Pakistan Stock Exchange (PSX), the sample size of the conducted study was extracted from PSX listed companies and include only 136 non-financial firms listed on PSX. The panel data have total numbers of firm year observations are 1360, which represent 136 non-financial listed firms selected from Pakistan Stock Exchange (PSX) over a period of 2008-2017. Input and output variables data for firm efficiency measurement and corporate governance index was collected from annual reports of the companies.

Table 1: represent the inputs and outputs variables used in the study

<table>
<thead>
<tr>
<th>Input Variables</th>
<th>Output Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Assets (TA)</td>
<td>Gross Sales Revenues (SALE)</td>
</tr>
<tr>
<td>Total Liabilities (TL)</td>
<td>Income before Taxes (IB)</td>
</tr>
<tr>
<td>Cost Of Goods Sold (CGS)</td>
<td>Net Income (NI)</td>
</tr>
</tbody>
</table>

Firm overall technical efficiency scores were calculated through DEA by taking the above given input and output variables. Firms efficiency score was used as dependent variable, corporate governance index (CGI) and other control variables were used as independent variables.
The regression model is given below:

$$OTE_{it} = \beta_0 + \beta_1*CGI + \beta_2*WGI + \beta_3*SIZE + \beta_4*LEV + \beta_5*F\_CRISSES + \beta_6*GROWTH + \beta_7*GDPG + \beta_8*BETA + \beta_9*OCF + \epsilon_{it}$$

This part of the research discusses the quantitative data and results analysis conducted in this research study. In the first instance, it presents the assumptions of regression analysis. It provides the descriptive statistics of the data; then testing hypotheses to check the effect of country governance and corporate governance on firm efficiency. These results based on the panel data analysis techniques, but before conducting panel data analysis, the dependent variables were first measured through Data Envelopment Analysis (DEA) technique (see introduction section of the thesis for details).

Table: 1 Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>OTE</th>
<th>CGI</th>
<th>SIZE</th>
<th>LEV</th>
<th>GROWTH</th>
<th>F_CRISSES</th>
<th>GDPG</th>
<th>OCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.707</td>
<td>78.074</td>
<td>15.823</td>
<td>1.360</td>
<td>12.273</td>
<td>0.298</td>
<td>3.449</td>
<td>1.183</td>
</tr>
<tr>
<td>Median</td>
<td>0.657</td>
<td>78.572</td>
<td>15.702</td>
<td>1.078</td>
<td>12.093</td>
<td>0.000</td>
<td>3.507</td>
<td>0.066</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.000</td>
<td>100.000</td>
<td>19.840</td>
<td>3.678</td>
<td>16.099</td>
<td>1.000</td>
<td>4.833</td>
<td>3.108</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.460</td>
<td>57.158</td>
<td>11.907</td>
<td>-1.188</td>
<td>8.010</td>
<td>0.999</td>
<td>1.607</td>
<td>1.000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.106</td>
<td>7.534</td>
<td>1.507</td>
<td>1.777</td>
<td>1.968</td>
<td>0.458</td>
<td>1.150</td>
<td>1.607</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.245</td>
<td>-0.033</td>
<td>0.339</td>
<td>0.234</td>
<td>0.000</td>
<td>0.099</td>
<td>1.776</td>
<td>0.753</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.007</td>
<td>2.869</td>
<td>3.143</td>
<td>2.914</td>
<td>2.945</td>
<td>1.776</td>
<td>1.744</td>
<td>3.270</td>
</tr>
</tbody>
</table>

OTE is dependent variables where the OTE stands for Overall Technical Efficiency, CGI is independent variables where CGI stands for Corporate Governance Index of listed Firms the rest of variables were used as control variables which consist of SIZE which was the logarithm of total assets of the selected listed Firms, LEV is the leverage of the selected listed Firms calculated as ratio of Debts/equity, Growth is the change in sales of selected listed Firms, F\_crises is the dummy variable for financial crises, GDPG is the growth of gross domestic products, OCF is the operating cash flows of selected listed Firms. All variables were winsorised at 1 and 99 percentiles to remove outliers.

Table: 2 Correlation Matrix of variables included in the study

<table>
<thead>
<tr>
<th></th>
<th>OTE</th>
<th>CGI</th>
<th>SIZE</th>
<th>LEV</th>
<th>GROWTH</th>
<th>F_CRISSES</th>
<th>GDPG</th>
<th>OCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTE</td>
<td>1</td>
<td>0.112*</td>
<td>0.027</td>
<td>-0.133*</td>
<td>0.214*</td>
<td>-0.04**</td>
<td>0.059*</td>
<td>0.08*</td>
</tr>
<tr>
<td>CGI</td>
<td>0.112*</td>
<td>1</td>
<td>0.081*</td>
<td>0.094*</td>
<td>0.630*</td>
<td>0.14*</td>
<td>0.072*</td>
<td>-0.035</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.027</td>
<td>0.081*</td>
<td>1</td>
<td>0.133*</td>
<td>0.07*</td>
<td>1</td>
<td>0.05**</td>
<td>-0.11*</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.133*</td>
<td>0.094*</td>
<td>0.133*</td>
<td>1</td>
<td></td>
<td></td>
<td>0.02</td>
<td>-0.05*</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.214*</td>
<td>0.085*</td>
<td>0.630*</td>
<td>0.07*</td>
<td>1</td>
<td></td>
<td>0.04</td>
<td>-0.19*</td>
</tr>
<tr>
<td>F_CRISSES</td>
<td>-0.04**</td>
<td>-0.15*</td>
<td>-0.13*</td>
<td>0.14*</td>
<td>-0.08*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDPG</td>
<td>0.059*</td>
<td>0.072*</td>
<td>0.05**</td>
<td>-0.08*</td>
<td>0.04</td>
<td>-0.19*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>OCF</td>
<td>0.08*</td>
<td>-0.035</td>
<td>-0.11*</td>
<td>-0.05*</td>
<td>0.02</td>
<td>0.02</td>
<td>0.03</td>
<td>1</td>
</tr>
</tbody>
</table>

*(**) represent the significance level at 5% and 10% respectively

3.1 Test for Multicollinearity

To test the relationship between independent variables, this study has calculated variance inflation factor (VIF) to check whether independent variables are highly correlated or not with each other. High correlation between two or more independent variables lead to high multicollinearity which can affect regression estimation (Hair et al., 2009), the test results are given below (Wooldridge, 2002):

$$VIF = \frac{1}{1 - R^2}$$

Where, $R^2$ denotes unadjusted $R^2$ of the model after running the regression of dependent and independent variables. If the value of $VIF$ is greater than 10, it means there is the problem of Multicollinearity (Gujarati, 2003).
The below tables shows that VIF results are less than 10, it means that there is no problem of multicollinearity.

<table>
<thead>
<tr>
<th>Variables</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGI</td>
<td>1.06</td>
<td>0.943</td>
</tr>
<tr>
<td>SIZE</td>
<td>2.06</td>
<td>0.485</td>
</tr>
<tr>
<td>LEV</td>
<td>1.07</td>
<td>0.935</td>
</tr>
<tr>
<td>GROWTH</td>
<td>1.95</td>
<td>0.513</td>
</tr>
<tr>
<td>F_CRISES</td>
<td>1.28</td>
<td>0.781</td>
</tr>
<tr>
<td>GDPG</td>
<td>1.32</td>
<td>0.758</td>
</tr>
<tr>
<td>OCF</td>
<td>1.02</td>
<td>0.980</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.38</td>
<td></td>
</tr>
</tbody>
</table>

3.2 Test for Heteroscedasticity
To test for the issue of heteroscedasticity in the data, Breusch-Pagan / Cook-Weisberg was conducted as the problem of heteroscedasticity can invalidate significance of statistical tests that assume that error term variance does not vary, and the model is uniform and uncorrelated (Johnston, 1972). Table given below shows that the results of Breusch-Pagan for which the null hypothesis is Ho = constant variance. Below given table shows that there is problem of Heteroscedasticity among the models.

<table>
<thead>
<tr>
<th>Model</th>
<th>Breusch-Pagan / Cook-Weisberg [if F&lt;0.05 → there is Heteroscedasticity]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 01 (OTE)</td>
<td>Chi2(1)=40.23 Prob &gt; F = 0000</td>
</tr>
</tbody>
</table>

3.3 Test for Autocorrelation
In panel data models, serial or autocorrelation can bias the standard errors, due to which the results can be caused less efficient (Drukker, 2003). For this purpose, Durbin-Watson test was applied on the panel data to check for autocorrelation. The below given table shows that there is the problem of autocorrelation in the model as the value of Durbin-Watson test is less than 2.

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin-Watson Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 01 (OTE)</td>
<td>0.79743</td>
</tr>
</tbody>
</table>

3.4 Model Specification
This study uses panel data to examine the effect of corporate level governance on firm efficiency, for this purpose, some model specification tests were carried out to select the best model among pooled, fixed and random effect models for regression analysis. These model specification tests were Chow test for selection among pooled and fixed effect model, Hausman test for selection among fixed effect and random effect model, and Breusch-Pagan LM test for selection among random and pooled regression models. (see Hausman, 1978; Gujarati, 2003; Breusch and Pagan, 1979). Below table shows the summary of all models specification test for regression panel models.

<table>
<thead>
<tr>
<th>Model Specification Tests</th>
<th>Model 01 (OTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chow test for pooled versus Fixed effect model if ≤ 0.05 → Fixed effect</td>
<td>Prob&gt;chi2= 0.0000</td>
</tr>
<tr>
<td>Hausman test for Fixed versus Random effect model if ≤ 0.05 → Fixed effect</td>
<td>Prob&gt;chi2= 0.0000</td>
</tr>
<tr>
<td>Breusch-Pagan LM test for Pooled versus Random effect model if ≤ 0.05 → Fixed effect</td>
<td>-------</td>
</tr>
<tr>
<td>Decision</td>
<td>Fixed effect model</td>
</tr>
</tbody>
</table>
Table 7 Results of Fixed Effect Model with Dependent Variable (Overall Technical Efficiency).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.098</td>
<td>0.0408</td>
<td>-2.396</td>
<td>0.017</td>
</tr>
<tr>
<td>CGI</td>
<td>0.001</td>
<td>0.0004</td>
<td>3.549</td>
<td>0.000</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.004</td>
<td>0.0026</td>
<td>1.735</td>
<td>0.083</td>
</tr>
<tr>
<td>LEV</td>
<td>-0.012</td>
<td>0.0024</td>
<td>-5.026</td>
<td>0.000</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.014</td>
<td>0.0019</td>
<td>7.263</td>
<td>0.000</td>
</tr>
<tr>
<td>F_CRISES</td>
<td>-0.011</td>
<td>0.0067</td>
<td>-1.717</td>
<td>0.086</td>
</tr>
<tr>
<td>OCF</td>
<td>0.000</td>
<td>0.0001</td>
<td>3.338</td>
<td>0.001</td>
</tr>
<tr>
<td>GDPG</td>
<td>0.002</td>
<td>0.0027</td>
<td>0.714</td>
<td>0.475</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.505</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.458</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>22.624</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.5 Main regression results

Table 7 depicts the results of fixed effect models of regression analysis showing the effect of corporate governance on firm efficiency (overall Technical Efficiency) during the period from 2008 to 2017. All the variables were evaluated statistically by looking into its P-values, variable at 1% significance level were considered highly significant, significant at 5% and marginally significant at 10%. On the other hand, the coefficient values of each variable represent change in dependent variable due to unit change in independent variable holding all other variables constant.

Table 7 depicts that there is significant positive association between corporate governance index and efficiency score calculated through DEA under Constant return to scale (CRS) model at the significance level of 1%, where 0.1% change in corporate governance index practices brings 1% change in firm efficiency. These results confirm the first hypothesis of the study and was consistent with prior studies on performance (firm efficiency) and corporate governance (see Klapper and Love, 2004; Thomsen, Pedersen and Kvist, 2006; Huang Hsiao and Lai, 2007; Ponnu and Karthigeyan, 2010; Le and Buck, 2011; Dedu and Chitan, 2013; Andreou, Louca and Panayides, 2014; Gupta and Sharma, 2014; Yoo and Jung, 2014).

4. Conclusion of the study

This research study is an attempt to check the association among corporate governance and firm efficiency. Firms efficiencies were estimated through Data Envelopment Analysis (DEA) developed by Charnes, Cooper and Rhodes (1978). Firms overall technical efficiencies (OTE) were calculated through DEA under constant return to scale model. After estimating the firm efficiencies, corporate governance was estimated as corporate governance index (CGI) developed by Attiya Javed (2010). Some control variables were added to the regression model to better predict the effect of corporate governance on firm overall technical efficiency. These control variables were firm size (logarithm of total assets), leverage (ratio of debts to equity) firm growth (change in sales) GDP growth (change in GDP), a dummy variable for world financial crises of 2007-09 and operating cash flows. The regression results show that good corporate governance significant positively affect the firm overall technical efficiency. Leverage and period of financial crises has significant negatively affect the firm efficiency while firm size, growth and operating cash flows have significant positively affected the firm efficiency. GDP growth has shown no relationship with firm efficiency.

References


Teacher in Promoting Quality Education: Head Teachers Perception

Mohammad Nabi, Muhammad Javed Iqbal, Rahat Mand, Intzar Hussain Butt

1PhD scholar Sarhad University of Science and Information technology Peshawar, Pakistan. mohammadnabi71@gmail.com
2Director Mass education Sarhad University of Science and information technology Peshawar, Pakistan. javed1iqbal1941@yahoo.com
3PhD scholar Sarhad University of Science and Information technology Peshawar, Pakistan. rahatmand70@gmail.com
Assistant Professor, University of Education, Lahore, Pakistan.

ARTICLE DETAILS

History
Revised format: October 2018
Available Online: December 2018

Keywords
Quality, Quality Education, Quality Teacher, Pedagogical skill, Professional Commitment, Teacher Effectiveness, Command over subject matter

JEL Classification:
I20, I21, J44, P36

ABSTRACT

This research was carried out to study the head teachers’ perception in terms of teacher in the promotion of quality education and about those characteristics which make them different from other facilities that bring quality in education. Quality of education is the major concern of any country and preparing quality teachers is the prime importance in many countries. In this connection quality of teacher cannot be ignored. This study explores the quality characteristics of teachers through literature review that influence the quality of education. In response to the need of quality teacher, Government of Khyber Pakhtunkhwa review and developed Teacher Education Strategy (TES 2013-2018) to improve the quality of teacher in the province. In this regard two districts were taken to know the perception of head teachers of primary public schools in the province. A five point likert scale questionnaire was developed to know the perception of 108 head teachers in two districts Swat and Tank of Khyber Pakhtunkhwa Pakistan.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: mohammadnabi71@gmail.com
DOI: 10.26710/reads.v4i2.385

1. Introduction

Education has substantial role in the development of an individual as well as serves the nation in particular. Education is the improvement of the human body, soul, intellect, emotion, will and physical health. Quality of education is elaborated in widen and with diverse meaning. It may mention to elevated standard of managerial skills, teaching, learning and achievements of learner. Zaki and Rashidi (2013) point out the parameters of quality in higher education which are institutional design, educational policies and practices, teaching staff, institutional leadership, curriculum, resources and learners.

The Quality of education contains on these ingredient, quality of management, quality of teacher, physical facilities and textbook quality. Heads of the schools are the managers of their institutions know their teaching staffs very well and know how to achieve the objectives of quality education. Teachers are the backbones of any educational institutions. They play an important role in the development of a child and impart quality education to their pupil. Quality education is the need of the day. Every country wants to improve the quality of education especially
developing countries like Pakistan. The objectives of the Study are (i) to identify characteristics of teacher that affects the quality of education and (ii) to know the perception of teachers about the main component in quality education. The Research Questions of the study are (i) What are those characteristics of teachers which promote quality in education?, (ii) What is that prominent component which brings quality in education?

2. Literature Review

2.1 Quality education

It is difficult to define quality because it is a dynamic concept. Sallis (2002, p. 1) argued that no any two person agree upon one definition but they are in a state of opposition when discussing quality. So many researcher defined quality. Alexander (2008, p. 11) defines that it “can mean a degree of excellence”. Another definition equalizes quality with the ability to satisfy human needs. ISO define quality as “The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs”. The product/service will be then the quality product/service that have total amount of excellence and features which fulfill human needs.

In educational setting quality is attained by services that satisfy the learner needs. Fredriksson (2004, p. 4) defines Quality education “that best fits the present and future needs of the particular learners”. It is concluded by the Fredriksson definition that education is a service which must fulfill the present and future requirements of the learner (customer). Chisholm (2004, p. 14) concluded that the quality of education is connected to teachers, textbooks and the values raised in schools by curriculum. Teachers, content, textbooks, environment are all the ingredients of quality education but “The quality of an education system cannot exceed the quality of its teachers” (Barber & Mourshed, 2007, p.7). A quality teacher contributes in the promotion of quality education. Quality of education is mostly linked with student outcomes and teacher is the one who can delivers the lesson with effective teaching methodology. Quality teacher have the following characteristics which are the essential tools for quality education.

2.2 Subject Matter Command

Command over the subject matter is the most successful characteristics of the teachers which pays share in the enhancement of quality education and improves students learning. This ability of teacher accomplishes the aim of fitness in the subject is essential for quality of education. Command on the subject matter of teacher makes the learners to understand well. Subject and content knowledge of the teacher, and to apprehend that how students learn that subject and how to transport that knowledge to students in the class are the needed tools (Wray, Medwell, Poulson, & Fox, 2002). This teachers’ proficiency lay a deep foundation of teachers knowledge as Smittle (2013, p. 3) describes “Proficiency in subject matter is critical for developmental education teachers”. Command on the subject is useful tool in the various aspects of teaching process as Alexander, Rose and Woodhead (1992) who stated that subject knowledge is a crucial procedure at every pace in the teaching process: in assessing and diagnosing, in planning task setting, explaining, questioning and giving feedback. "Teachers’ command on the subject matter indicates quality teaching which add more to the students’ knowledge. It is certain that teachers' subject knowledge encapsulate exceedingly more than only their knowledge of the content which they will communicate in the class (Wray, Medwell, Poulson, & Fox, 2002). The characteristic of teachers command on the subject matter is the path way to quality of teaching that leads to the great deal of students’ achievements to quality education. Lacking of this reality is equal to nothing and to achieve nothing is the wastage of time and financial resources. Command on the subject matter is most important but it is ineffective without pedagogical skill because this skill give them expertise that how to teach.

2.3 Pedagogical skills

Pedagogy is defined “As the art and science of teaching” (Professional Support and Curriculum Directorate, 2003, p. 4). Pedagogical skill is of a great importance which no one can ignore because without pedagogical skill one can not imagine quality outcomes. Zammit et al. (2007) defined quality teaching as teaching that produces an improvement in learner outcomes. Obviously teacher knows the pedagogical skill well which helps him in the classroom and students’ outcomes. According to Bhowmik, and Banerjee, (2013, p.4) “(i) Teaching should be carried out as smoothly as possible and (ii) It should result into the maximum output in terms of the expected better teaching outcomes”. Pedagogical skill improve the quality of teacher and maximize the expected outcomes as according to Professional Support and Curriculum Directorate (2003, p. 4) quality pedagogy influences the quality of learning powerfully and directly which affects the students’ outcomes. Pedagogical skill makes the teacher expert by having the powerful influence to engage and motivate students during delivering quality teaching. Zammit et al. ( 2007, p.10) stated that many researchers point out significance of pedagogies which have the ability to motivate, engage and involve students in learning and develop students’ strategies for learning. Committed
teacher is using various pedagogical skill for effective learning. Bhowmik, and Banerjee (2013, p.1) argued that pedagogy, integrating an array of teaching strategies, shaping community confidence in the quality of learning and teaching in educational institutions. The effect of pedagogy builds confidence and makes the learner confident for the survival in society. According to the Scottish Executive (2005, p.7) we believe that we need to understand that how students learn and how to teach them that learning experiences leave them confident and competent. To achieve the purpose of students’ confidence and competitiveness “Quality teachers apply a various teaching and meta-cognitive learning strategies that meet the needs of different level of students and the demands of different instructional goals, methods and topics”. (Zammit et al. 2007, p.10). The skill “Pedagogy makes a teacher: how to work as facilitators, coaches, models, evaluators, managers, and advocates” (Bhowmik and Banerjee, 2013, p.5) and make the teachers skillful in their role. To play a role in the promotion of quality education, professional commitment is vital.

2.4 Professional Commitment
Commitment is considered loyalty with a job and loyalty is the potent property of teacher which in case of lacking is a big loss to the quality of education. Teacher’s commitment is a dedication to the teaching profession and giving first priority to teaching over others. Teacher’s professional commitment is a crucial dimension of teachers towards the quality of education. According to Razak, Darmawan and Keeves (2010) the concept of committed teachers has been used as synonym for quality teacher. To improve quality education is to maintain quality teachers for student’s quality achievements. Maintaining teachers in their jobs in the school is crucial to keep standards and enhancing school performance especially in terms of student academic outcomes (Shah & Abualrob, 2012). Students’ academic achievements are connected to the teachers performance which enhance school effectiveness, as Fredriksson (2004) that teachers have the responsibilities to improve the school performance because they have real power to make a difference in learners’ capital enhancement while teaching. Thus students realize their interest as Obot . Obi. Essien. Uko and Akpan, (2012, p.136 ) remark that “students’ perception of teachers’ level of professional commitment has a significant influence on their interest”. This influence of teacher’s performance is the result of attrition tendency towards quality education. According to Choi and Tantg (2011) teacher commitment has been studied to expect teachers’ attrition tendency and approaches towards class performance or quality of education.

2.5 Teachers effectiveness
Effectiveness of teacher is great characteristic as well as slogan for quality education. Where there is effective teacher there will be quality education because “effective teachers consistently achieve goals that focus on desired outcomes for their students and teacher effectiveness is encompassed in knowledge, attitudes, and performance” (Hunt, 2009, p. 30). It is true that “the effective teacher is very systematic in the preparation for and execution of each lesson” (McBer, 2000, p. 12) which is pointing to the enhancement of quality teaching. Similarly Bill and Mallinda Gates Foundation (2010) concluded that dramatically enhancing education is to ensure that every pupil has an effective educator in every classroom for every school session. But what will be included in teacher effectiveness Cheong, Mong and Tang (2002, p. 2) elaborate that “teacher effectiveness should include the quality of teacher competence and performance in various domains such as the behavioral domain, the affective domain, and the cognitive domain” These domains strongly affect the students outcomes. In the same vein “teacher effectiveness was measured in terms of the academic gains of students” (Duckworth, Quinn & Seligman, 2009, p. 540). Hunt (2009, p. 30) further describes that teacher effectiveness is broadly used in terms of pool of characteristics, competencies, and behaviors of teachers at every educational levels that enable learner to reach desired achievements. To achieve the desired goal effective teachers know the pedagogical skills as well as have the command on the subject matter as concluded by Byrd and Rasberry (2011, p. 5) that greater numbers of English language learners as well as special education pupil need educators who understand their subjects and different teaching strategies to transport the concepts and thoughts effectively. Delaney, Johnson, Johnson and Treslan (2010, p. iii) added that “Instructors who are effective teachers are respectful to students, knowledgeable, approachable, engaging, communicative, organized, responsive, professional and humorous”

3. Methodology
3.1 Research Design
This study was descriptive survey design included in quantitative data. According to Ary, Jacobs, Razavieh and Sorensen (2010) survey research is also known as descriptive research practices tools such as questionnaires to collect information from groups of persons. In this study quantitative data comprises a questionnaire which was structured for head teacher.
3.2 Population and Sample of the Study
Population of this study includes of head teachers of government male primary schools of two districts. In this survey the researcher selected multiple stage sampling technique. In the first stage two districts of Khyber Pakhtunkhwa, Pakistan were chosen as stratified sample. In the second stage head teachers were randomly taken from every stratum. The sample of the study was 108 (10% of the population).

3.3 Statistical Analysis
The data was analyzed with help of SPSS software. The results of questionnaire were analyzed on frequency percentage and graphs were drawn. The responses of questionnaire were gained through five point likert scale from strongly agreed (SA) to strongly disagreed (SDA)

4. Data Analysis
Table 1

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>DA</th>
<th>SDA</th>
<th>Mean</th>
<th>S.Div</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students achieves competency if teachers have command over subject matter.</td>
<td>68</td>
<td>29</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>4.52</td>
<td>0.67</td>
</tr>
<tr>
<td>2. Teachers’ subject knowledge embodies a good deal more than their knowledge of the content.</td>
<td>-</td>
<td>76</td>
<td>23</td>
<td>09</td>
<td>-</td>
<td>3.62</td>
<td>0.63</td>
</tr>
<tr>
<td>3. Teacher uses pedagogical skill for effective learning to improve students’ outcomes.</td>
<td>-</td>
<td>96</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>3.55</td>
<td>0.83</td>
</tr>
<tr>
<td>4. Teacher’s commitment is loyalty to profession affect the result of students.</td>
<td>-</td>
<td>89</td>
<td>11</td>
<td>08</td>
<td>-</td>
<td>3.95</td>
<td>0.63</td>
</tr>
<tr>
<td>5. To keep a committed teacher in school is to improve the quality of education.</td>
<td>84</td>
<td>16</td>
<td>08</td>
<td>-</td>
<td>-</td>
<td>4.70</td>
<td>0.59</td>
</tr>
<tr>
<td>6. Committed teachers have a great interest to improve students’ achievement.</td>
<td>-</td>
<td>93</td>
<td>-</td>
<td>15</td>
<td>-</td>
<td>3.72</td>
<td>0.69</td>
</tr>
<tr>
<td>7. Effective teachers are approachable, responsive communicative, organized knowledgeable and humorous.</td>
<td>11</td>
<td>92</td>
<td>05</td>
<td>-</td>
<td>-</td>
<td>4.05</td>
<td>0.38</td>
</tr>
<tr>
<td>8. Effective teachers consistently focus on students’ academic achievements.</td>
<td>86</td>
<td>-</td>
<td>-</td>
<td>22</td>
<td>-</td>
<td>4.38</td>
<td>1.21</td>
</tr>
<tr>
<td>9. Effective teachers prepare lesson plan that deliver it effectively.</td>
<td>83</td>
<td>12</td>
<td>-</td>
<td>13</td>
<td>-</td>
<td>3.64</td>
<td>0.68</td>
</tr>
<tr>
<td>10. Effective teachers participate in the improvement of student outcomes.</td>
<td>15</td>
<td>83</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>4.04</td>
<td>0.48</td>
</tr>
</tbody>
</table>
Table 1 statement 1 indicates that 90% respondents gave agreement that Students achieve competency if teachers have command over subject matter. Statement 2 reveals that 70% respondents agreed that teachers’ subject knowledge embodies a good deal more than their knowledge of the content of what they will teach. Statement 3 point out that 78% of the respondents agreed teacher uses pedagogical skill for effective learning to improve students’ outcomes. 93% respondents favoured statement 4 that teacher’s commitment is loyalty to profession affect the result of students. Statement 5 shows 93% respondent agreed that to keep a committed teacher in school is to improve the quality of education while 86% agreed with statement 6 that committed teachers have a great interest to improve students’ achievement. Statement 7 reveals 95% of the respondent agreed that effective teachers are approachable, responsive, communicative, knowledgeable, organized and humorous. Statement 8 shows that 80% of the respondents agreed that effective teachers consistently focus on students’ academic achievements and achieve the goals. Statement 9 indicates that 77% respondents favoured that effective teachers prepare lesson plan and deliver it effectively. Statement 10 shows that 91% of the respondents agreed that effective teachers participate in the improvement of student outcomes.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>DA</th>
<th>SDA</th>
<th>Mean</th>
<th>S.Div</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Physical facilities play a role in promoting quality education.</td>
<td>-</td>
<td>92</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>3.85</td>
<td>0.35</td>
</tr>
<tr>
<td>12. Physical facilities play a more role than teacher in promoting quality education.</td>
<td>-</td>
<td>13</td>
<td>-</td>
<td>95</td>
<td>-</td>
<td>2.24</td>
<td>0.65</td>
</tr>
<tr>
<td>13. Text book plays a role in promoting quality education.</td>
<td>92</td>
<td>-</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>4.70</td>
<td>0.71</td>
</tr>
<tr>
<td>14. Text book plays a more role than teacher in promoting quality education.</td>
<td>-</td>
<td>18</td>
<td>-</td>
<td>90</td>
<td>-</td>
<td>2.33</td>
<td>0.74</td>
</tr>
<tr>
<td>15. Head teachers’ management participates in promoting quality education.</td>
<td>-</td>
<td>95</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>3.87</td>
<td>0.32</td>
</tr>
<tr>
<td>16. Head teachers’ management participate more than teacher in promoting quality education.</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>83</td>
<td>-</td>
<td>2.46</td>
<td>0.84</td>
</tr>
<tr>
<td>17. Quality of education cannot exceed the quality of teacher.</td>
<td>-</td>
<td>89</td>
<td>09</td>
<td>10</td>
<td>-</td>
<td>3.73</td>
<td>0.62</td>
</tr>
<tr>
<td>18. Quality teachers are the strongest source to improve quality education.</td>
<td>-</td>
<td>100</td>
<td>08</td>
<td>-</td>
<td>-</td>
<td>3.92</td>
<td>0.26</td>
</tr>
<tr>
<td>19. Teachers’ quality improves the students’ outcomes</td>
<td>-</td>
<td>101</td>
<td>07</td>
<td>-</td>
<td>-</td>
<td>3.93</td>
<td>0.24</td>
</tr>
</tbody>
</table>
Table 2 statement 11 shows that 85% of the respondents agreed that physical facilities play a role in promoting quality education. Statement 12 indicates that 88% disagreed while 12% of the respondents agreed that physical facilities play a more role than teacher in promoting quality education. Statement 13 point out that 85% of the respondents agreed that text book plays a role in promoting quality education. Statement 14 reveals that 83% disagreed while 17% of the respondents agreed that text book plays a more role than teacher in promoting quality education. Statement 15 indicates that 88% of the respondents agreed that head teachers’ management participates in promoting quality education. Statement 16 shows that 77% disagreed while 23% of the respondents agreed that head teachers’ management participates more than teacher in promoting quality education. Statement 17 shows that 82% of the respondents agreed that quality of education cannot exceed the quality of teacher. Statement 18 shows that 93% of the respondents agreed that quality teachers are the strongest source to improve quality education. Statement 19 indicates that 94% of the respondents agreed that teachers’ quality improves the students’ outcomes.

5. Conclusion
The perceptions of head teachers about the quality of teachers in the promotion of quality education reveal positivity. Head teachers positively support that the main component in quality education is a teacher who has a strong role in the promotion of quality education than other facilities. Head teachers have the perception that teachers’ command over subject matter, pedagogical skill, professional commitment and teacher’s effectiveness are those characteristics or tools which indicate the teachers’ efficiency and quality service that lead to the promotion of quality education. These characteristics make a quality teacher which is substantial to bring quality in education.

6. Discussion
The promotion of quality education for young generation sharply brings questions related to the role of the teacher and their education, their recruitment and their training. Among others indicators which bring quality in education teachers are the most valuable asset that can bring quality education. It is cleared that an adequate number of quality teachers is required in order to improve the quality of educational processes.

The question arises that all teachers can bring quality in education. The teacher perception is given importance that how they see the matter. They asked about quality of education and quality of teacher. They were agreed that quality teacher improve the students’ outcomes and quality teacher is the strongest source for quality education than any other physical facilities which can not be ignored. They shape the minds of the new generation for the future and come across all the boundaries of challenging world facing difficulties.

They were agreed about the teachers’ command over subject matter which is crucial for delivering the content of the subject to the students effectively when they understand it well. They agreed that teachers’ subject knowledge embodies more than their knowledge of content and makes the students competent in the subject.

They have an agreement that pedagogical skill is consider the most evident characteristic of quality teacher. Without the pedagogical skill and only understanding the content well will run the well dry. Using an array of pedagogy makes the lesson easy and effective for students. Professional qualification inculcates pedagogical skill but more training in pedagogy is needed.

Professional commitment of teacher is a characteristic which improve students’ achievements and teachers were agreed that they are committed to their profession. They showed an agreement that lacking in professional commitment is equal to lacking in quality of education. They perceived that committed teacher improve the quality of education.

Quality teacher has the characteristic of effectiveness. They perceived that effective teacher prepare lesson plan, deliver it effectively, engage students in the class, motivate them for learning and satisfy students with the teaching. They were agreed that effective teacher consistently focus on students to achieve the goals and struggle to improve the quality of education.
Reference


ISO Definition of quality. Retrieved from [www.fao.org/docrep/w7295e/w7295e03.htm](http://www.fao.org/docrep/w7295e/w7295e03.htm)


Effect of Board Independence on Earning Response Coefficient (ERC): Evidence from Pakistan

Wahid Raza, Anjum Ihsan, Shahid Jan

1Ph.D Scholar, Department of Management Sciences, Islamia College Peshawar, Pakistan. wrkhattak287@yahoo.com

2Assistant Professor, Department of Management Sciences, Islamia College Peshawar, Pakistan. searchanjum@yahoo.com

3Chairman, Department of Management Sciences, Islamia College Peshawar, Pakistan. shahidjan@icp.edu.pk

ABSTRACT

This study investigates whether board independence plays a significant role to enhance the Earning Response Coefficient (ERC) while controlling the established determinants of Earning Response Coefficient (Beta, Growth, Size and Earning Persistence). The study selected 250 non-financial firms of different sectors on the basis of purposive sampling technique which are enlisted in Pakistan stock exchange (PSX) for the time periods of eight years ranging from 2008 to 2015. Using reverse regression, it has been observed through statistical analysis that Beta is negatively related to ERC while others determinants (Growth, Size and Earning Persistence) are positively related to earning response coefficient (ERC). Moreover, the analysis result also suggested that corporate governance facet (Board independence) plays a significant role to enhance the earning response coefficient, because as per Pakistan Code of Corporate Governance (2012), the independent directors include those who are not connected to the companies, have no relationship with the companies and are free to exercise their judgment without any pressure. The important contribution for literature is that before making investment decision in stock market, investors should evaluate the corporate governance variables (Board independence) of the firms which can boost earning response coefficient (ERC). Secondly, previous studies (Shah, 2017; and Collins & Kothari, 2004) and others researchers mostly worked on developed countries in the same area, but this research study is limited to emerging economy of Pakistan, that’s why it has great contribution for literature.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction

The available literature mainly classifies directors of the companies’ as outside directors, inside directors and grey directors. Those directors who are working currently as managers or executives are called inside directors, and
outside directors are those directors who represent such outside parties who have closely association with the companies and such nature of directors are also named as grey directors and those directors having no relation or affiliation with a company or business is called independent directors.

According to Pakistan corporate governance code (2012), the independent directors include those who are not connected to the companies, have no relationship with the companies and are free to exercise their judgment without any pressure.

The effective board can only be ensured when all the authority and responsibility are under the control of independent directors and not it the disposal of high authority i.e chief executive Officer (CEO) and some others top authorities who can distort the board independence (Farooq & Kimani; 2015; Fama, 1981; Fama & Jensan, 1983; M.C. Jensen & Mecklings, 1976; and Pearce & Zahra , 1989). Balatbat, Taylor and Walter (2004) based on a study conducted on Australian firms documented that outside ownership is not closely associated with the firm performance while independent directors may be considered an important variable to improve the firm performance.

Zakaria (2014) argued that market volatility and earning fluctuation mostly happen an emerging market. It has been observed by previous studies (Cheng & Nasir, 2011) that earnings response coefficient research is scarce an emerging market. The drive and influence of ERC has been explored a bite while comprehensive literature is still under process. So the main object of the study is to fill the gap in context of Pakistani market which has not been exposed yet.

Information plays a vital role for investment decision. The published information can attracts the investors to make right decision if the announced or published information has great values for investors. It has been noticed that market will react accordingly as per the announced information. These all needed information are available on company own sites. Moreover, Investors can get thorough and accurate information through annual reports which describe financial position and performance of the firm. One other option is financial statement through which Investors make investment decision for the sake of earning profit is earning response coefficient(Saleem & khurshid, 2014; Hartono, 2003).

It has been introduced by the capital market researchers that ERC has four significant determinants including beta, firm growth, earning persistence and firm size (Bernard and Rulands, 1987; Easton and Zmejeweski, 1989; Collins and Kothari, 1990; Biddle and Seaowe, 1991; Cho and Jungs, 1992; Dhaliwal and Reynolds, 1995; Kai, 2003; Kim, 2004; Cheng and Nasir, 2011, Zakaria et al; 2014). Stobars (1990) stated that ERC determinants are considered an important tool to predict the returns of securities.

It has been investigated through equally weighted index model and found that beta is considered as measure of systematic risk (Collins and Kothari, 1990). They used reverse regression analysis and found that the relationship between beta and ERC is negative and significant. The same work of Collin and Kothari were further extended by other studies (Huson, Scot and Wiere, 1999) and found that reverse relation exist between beta and ERC which means that as beta increase ERC will decrease and vice versa. Moreover, Collins and Kothari, (1990) also investigated and found that companies whose profit margin is high, will positively affect the growth opportunities which will ultimately increase the ERC. The earning persistence shows that how long time the earning remain or persist in the future as well. Kormendi and Lip (1987) argued that high returns are associated with earning persistence, which means that there a positive relationship between ERC and earning persistence. Brigham and Houstan (2012) argued that firm size can be categorized through different scales like total income, total assets or capital. Its common perception is that big companies share information on their sites which can decrease the uncertainty of the future cash flow of the company.

2. Literature Review
2.1 Board Independence / Independent directors
Literature has broadly classified directors into outside directors, inside and grey directors. Those directors who working as managers or executive is termed as inside directors, while outside directors are those who linked with such parties having business relation with the company and such directors may also called grey directors and independent directors are those who has no relation or affiliation with the company.

Comparatively, the outside independent directors are more responsible and have integrity than the inside directors
to better handle the misappropriation of funds and other corporate affairs. The inside directors are more influential and try their best to serve for own and shareholder interest (Fama, 1980; and Fama & Jensen, 1983) and implement strategies when organization feel some risks (Judge & Zaithaml, 1992). However, if the numbers of inside directors are in large, then possibility of firm performance will be low. Hill and Snell (1988) argued that presence of outside directors has positive impact on firm performance. The same results are also documented in other studies (Baysinger & Buttler, 1985; Choi, Park & You, 2009; Pearce & Zahra, 1993; Schellenger, wood & Tashekori, 1990; and Jeng & Pengs, 2008).

In addition, the abnormal stock return is associated with independent outside directors in the board and the chance of price reaction goes up in their presence, thus enhancing the owner wealth (Rosenstein and Wyat, 1991). Furthermore, Hermalin and Weisbach (1989) argued that independent outside directors’ plays an important role to enhance the performance of the poor firms by protecting them in hard time when firm are going to failure. Moreover, Beasley (1999) stated that independent outside directors in the board is an important tool to curb the fraudulent activities in the firm which will ultimately increase the firm performance.

The corporate board is responsible to keep keen interest in the shareholder wealth and management activities which is considered the prime duty of the board. According to Fama (1983) and Fama & Jensen (1987), if outside independent directors performance is poor then the chances increase that corporation will incur the reputation cost which is bad sign for the company. Different researchers described the importance of independent outside directors in different time. For example its common perception that board can increase the ERC and shareholder wealth (Wang & Ali, 2013; Rosenstein & Wyat, 1991), while other perception is that outside independent directors enhance the shareholder wealth during tender offer which is considered an important function for the firms(Cotter, Shivdaseni, & Zener, 1999). Though, other opinion prevails that outside directors might not be performing well up to the mark because overall board culture discourages the divergence (Mace 1996; and Jensen 1993). Therefore, in general it’s still ambiguous to find positive correlation between independent outside directors and firm performance (Yermack, 1997 and Bhagat and Black, 1999).

2.2 Earning Response Coefficient

The most important element of firm performance is earning profit which is considered the entity as a whole. Ball and Brown (1969) conducted research and found that investors make investment decision on the basis of profit information. It has been observed that company share price and return are closely associated with one another, which shows that stock return and share prices are directly proportion. ERC shows the investment decisions that depend on account profit and investors try their best to invest such securities which has better chances of return in future.

Collins and Kothari (1989) define ERC as a measure of magnitude of securities abnormal gains in response to the unexpected profit components. The declaration of low ERC indicates that the information regarding profit is not sufficient and it’s hard for investors to make right economic decision. The response of investors is high when earning information and profit announcement is marked or publicized well in time.

According to (Shah & Hussain,2016; and Sandi,2013) ERC plays an important role to analyze or calculate stock value while using financial data of the companies, moreover, investors can easily access through these financial information that which company is more profitable and bearing less risk in future.

ERC is influenced by several factors which describe the characteristic or qualities of the companies, these factors are classified as beta, growth, size and earning persistence (Susilawati, 2008).

2.3 Beta

A study conducted by Collins and Kothari (1990) and found that beta is an important variable and considered as measure of a systematic risk, moreover, they also found that relation between beta and ERC is negative and significant while applying the reverse regression model of unexpected earnings on returns. Additionally, Huson, Scot and Wiere (2000) expended the work of Collins and Kothari (1990) and argued that there exist negative relation between beta and ERC, means when beta increases ERC will decreases and vice versa.

2.4 Growth

Collins and Khotari, (1999) stated that profit is directly linked with growth opportunities and ERC, because profit information is most attractive factors for investor which will ultimately increase the growth opportunities and ERC.
This shows that earning announcement and ERC are directly linked to one another. On the other hand, one perception is that profit and growth opportunities have no linked with one another and consequently no effect to enhance ERC (Palupi, 2006).

Collins and Kothari (1990) argued that growth opportunities is calculated by market to book ratio and this measure is alos used as a proxy for growth expectation. The mathematical expression of growth opportunities (GO) are as under.

\[
\text{Growth Opportunity} = \frac{P_{ij}}{Bv_{ij}}
\]

Here \(P_{ij}\) and \(Bv_{ij}\) represent book value and market value of equity. The above formula indicates that as the growth opportunities increases, the stock return will also increase and vice versa. It’s also found that growth opportunities greatly influence the `ERC which is positive sign for investors.

### 2.5 Earning Persistence

The most important factor of ERC is earning persistence which indicates that how long the earning will remain consistent and persistence in the coming future. Previous researchers (Kormendi and Lipe, 1987; Collins and Kothari, 1990; Lip, 1991 investigated and concluded that stock return and earning persistence are associated with one another, if stock return remain constant for long time so earning persistence will also persist in future. This shows and ERC and earning persistence are positivel linked to one another.

### 2.6 Firm size

Brigham and Houston (2012) argued that size of a firm indicates that how much one firm is larger than the other and for this purpose size of the firm is classified on the basis of total income, total capital and total assets of the firms. Its general perception that big companies share information on company site and investors can easily interpret this shared information and decrease the uncertainty of future cash flow of the companies. This indicates that those companies who are big in size will have higher ERC (Naimah and Siddhartha, 2006). Conversely, some studies (Usman, 2015; & zahoor, 2013) have been conducted and their results show that firm size has no effect to increase or decrease the ERC. In this study, most of the firms were large in size, but the investors did not take into account the size of the firm while taking investment decision (Laila, 2013).

### 2.7 Board independence and Earning Response Coefficient (ERC)

As per Pakistan Code of Corporate Governance (2012), the independent directors include those who are not connected to the companies, have no relationship with the companies and are free to exercise their judgment without any pressure.

The effective board can only be ensured by the presence of independent outside directors who have control on the line of authority and are not at the disposal of the Chief Executive Officer (CEO) or some upper hand distorting the board independence (Fama, 1981; Fama & Jensan, 1983; M.C. Jensen & Meckling, 1977; and Zahra & Pearce, 1990). Balatbat, Taylor and Walter (2004) based on a study conducted on Australian firms documented that outside ownership is not closely associated with the firm performance while independent directors may be considered an important variable to improve the firm performance and ERC.

Comparatively, the outside independent directors are more responsible and have integrity than the inside directors to better handle the misappropriation of funds and other corporate affairs. The inside directors are more influential and try their best to serve for own and shareholder interest (Fama, 1980; and Fama & Jensan, 1983) and implement strategies when organization feel some risks (Judge & Zaithaml, 1992). However, if the numbers of inside directors are in large, then possibility of firm performance will be low. Hill and Snell (1988) noted the positive effect of outside directors on the firm performance and ERC. The same results are also documented in other studies (Baysinger & Buttler, 1988; Choi, Park & Yoo, 2009; & Pearce & Zahra, 1992)

The abnormal stock return increases due to increase of independent outside directors, moreover the price reaction greatly depend on their presence, which play a vital role to enhance the wealth of shareholders (Rosenstein and Wyat, 1999). Furthermore, Hermalin and Weisbaich (1989) argued that its necessary to increase the numbers of independent outside directors to increase the performance of poor firms, because the presence of outside directors protect the firm from hard time while firm is going to failure. Additionally, Imran & Malik (2015) and Beasley (1996) noted that we can reduce the frauds and increase ERC while increasing the numbers of independent outside
directors in the board because it’s considered an important tool to control the fraudulent activities in the company.

Kulkarni (2007) conducted a study who argued that independent outside director and firm growth are interlinked to each other which improves different areas or decrease the chances of default risk which will ultimately increase the ERC. So independent outside director is important facet of corporate governance which can positively affects the ERC and firm performance and decrease the exposure of firm for default risk.

Dunstan, Keeper, Truong and Van Zijl (2012) conducted a survey base research to find out that whether any relation exists between the board independence, firm’s growth and ERC. For this purpose, they selected sample of 543 firms listed on the New Zealand Stock Exchange. They found that the independent directors, board size and audit committee independence play an important role to increase ERC and firm’s growth.

H1: A significant relationship exists between board independence and earning response coefficient (ERC).
H0: Insignificant relationship exists between board independence and earning response coefficient (ERC).

In order to test the hypothesis, it’s mandatory to control other variables which also determine ERC. The name of these control variables are Beta, Growth, size and earning Persistence.

3. Research Methodology

3.1 Study Period and Sample Selection
All non-financial firms are the study population. The study selected 250 firms of different sectors on the basis of purposive sampling technique for the period of 2008 to 2015, which can fulfill all the required data of the research. The data gathered from balance sheet analysis, annual reports and companies own sites.

3.2 Statistical Tool for Data Analysis
The collective data has been passed away through various statistical tool and technique like Descriptive Statistics, Correlational Analysis and Multiple Regression Analysis.

3.3 Model Specification

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

Variables n i.e x1.x2…xn which actually represent ERC

Then

\[ UR = (x1, x2…xn) \times (UX/P) \]

In the UR regressions, the mathematical expression of the Coefficient Xi*(UX/P) on {Xi*(UX/P)} represents the Xi effect on ERC. Moreover, a significant measurement error exist, it’s clearly indicates that reverse regression will be used instead of direct regression. In this aspect, owing to the significant measurement error in UR, in this study for estimation purpose reverse regression is adopted instead of the direct regressions (Collins and Kothari, 1989). Other scholars also have applied it with the same rational making strong the argument of using this method in this study (Chao and Jung, 1992; Dhaliwal and Reynolds, 1994; Cready, Hurt and Saida, 2000; and Gunny, Jacob and Jorgensan (2009). Through regressions, the {Xi} effect is tested which is base on the below technique.

\[ UX/P = [1/ (x1,x2, …, xn)]/UR \]

The above expression represents the regressions equation.

\[ UX/P = a_0 + a_1 \times UR + a_2 \times UR \times X1 + a_3UR \times X2 + \ldots + an+1UR \times Xn + \epsilon \]

By applying reverse regression, the tests of coefficient is now reverse to the ERC and therefore it becomes Returns Response Coefficient (RRC). Its mean that the regressions results will react oppositely. For example, if a positive and significant relation found amongst coefficient of Xi*UR, so it will indicates that the coefficient Xi is negatively associated to ERC and vice versa.

As we discussed above that Coefficient {Xi} represent the effect of Xi on ERC, for this purpose this study will run
regression to investigate the effect of Beta, Firm Size, Earning Persistence and Growth with these variables as the \{Xi\}. The hypothesis of the study is, a significant relation exists between board independence and its effects on ERC. The researcher has used Board Independence (BI) in this regression equation to set of \{Xi\}. After adding the measure of Board Independence in a set of \{Xi\}, the below regression equation was intended.

\[
UX/P = a_0 + a1UR + a2UR * BI + a3UR * BETA + a4UR * GRTH + a5UR * EPRS + a6UR * SZ + \varepsilon
\]

Thus when the value of \(a^2 < 0\) and also significant will show that Board Independence significantly effect on Earning Response Coefficient (ERC).

3.4 Measurement of Variables

3.4.1 Control Variables
Beta, growth, size and earning persistence are determinants of ERC and act as control variables in this research study.

3.4.2 Unexpected Earnings
Unexpected earning is calculated by taking difference between current years earning per share (EPS) minus previous year EPS. Moreover the unexpected earning is then deflated by previous years stocks prices.

3.4.3 Unexpected Returns
The CAR (Cumulative Abnormal Return) is actually proxy of unexpected return (UR) which is obtained from annual report of the firms. Abnormal return is actually measured by differences between actual return and expected return, while sharp market model (1963) is used to obtain estimated expected return.

4. Data Analysis

4.1 Descriptive Statistics
The sample size of this study consists of 250 non-financial companies listed on Pakistan Stock Exchange (PSX). The secondary data of these companies have been collected from their websites and official document issued by the State Bank of Pakistan namely the “Financial Statement Analysis”. Initially there were 2000 observations but outliers were found which were dropped through the statistical tests i.e. Winsorization and Cook’s Distance test and finally 1697 observations were left which were used to estimate the results.

<p>| Table 1: Descriptive Statistic of Earning Response Coefficient and Board Independence |
|--------------------------|--------|----------------|--------|---------|--------|</p>
<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>UXP</td>
<td>1696</td>
<td>0.16853</td>
<td>1.42202</td>
<td>-4.4595</td>
<td>9.36208</td>
</tr>
<tr>
<td>Beta</td>
<td>1697</td>
<td>0.5916</td>
<td>0.47862</td>
<td>-0.1684</td>
<td>1.90629</td>
</tr>
<tr>
<td>SZ</td>
<td>1697</td>
<td>15.1934</td>
<td>1.56921</td>
<td>11.3189</td>
<td>19.2532</td>
</tr>
<tr>
<td>GRTH</td>
<td>1697</td>
<td>0.90628</td>
<td>0.94755</td>
<td>-1.8798</td>
<td>4.91669</td>
</tr>
<tr>
<td>EPRS</td>
<td>1697</td>
<td>2.69677</td>
<td>9.35632</td>
<td>-34.9720</td>
<td>34.6436</td>
</tr>
<tr>
<td>CAR</td>
<td>1697</td>
<td>0.06011</td>
<td>0.87625</td>
<td>-1.1231</td>
<td>4.40488</td>
</tr>
<tr>
<td>BI</td>
<td>1697</td>
<td>0.60399</td>
<td>0.20245</td>
<td>0.1250</td>
<td>0.91667</td>
</tr>
</tbody>
</table>

The descriptive statistics of Earnings Response Coefficient (ERC), Board independence and control variables are presented in Table 1. The table shows that the mean value of Uxp (Unexpected Earnings to price) is 0.16853 and the standard deviation is 1.42202. Similarly, beta has the mean value of 0.5961 which is almost half of the market beta value of 1.0. This implies that selected companies in the sample are not financially geared substantially and the same companies have on average low level of systematic risk in comparison to the entire market. The standard deviation of beta is 0.47862 which highlights low dispersion in the distribution of beta values. The mean value of firm size is 15.1934 and the standard deviation is 1.56921. Similarly, the mean value of firm growth is 0.90628 which is favorable as the market is willing to pay on average high price for the selected companies’ stock due to the high growth potential. The average value of earnings persistence is 2.69677 and its standard deviation is 9.35632. The CAR (cumulated abnormal return) mean value is 0.06011 and its standard deviation is 0.87625.

The mean value of BI (independent non-executive directors) is 0.60399 which depicts the average percentage of independent non-executive directors in the board of selected companies in comparison to the lowest and highest values of 12% and 91% respectively.
4.2 Correlation analysis
To test all the variables of the study, correlation analysis was performed. Pearson correlation coefficient is shown amongst all the variables in the table. As pearson correlation represent the strength of linear relationship between two variables. The below table shows that board Independence(bi), beta, growth (grth), size(sz), cumulative abnormal return(car) and earning persistence(eprs) are significantly correlated with the ratio of unexpected earning to price(UX/P). However the relation among all the variables is moderate and statistically significant. The table of correlation indicates that there is no serious issue of multicollinearity amongst all the independent variables because none of the pearson coefficient exceeds 0.7 (pallat, 1996).

Table 2: Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>Uxp</th>
<th>Bi</th>
<th>Beta</th>
<th>Grth</th>
<th>Sz</th>
<th>Car</th>
<th>Eprs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uxp</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bi</td>
<td>-0.040</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beta</td>
<td>0.021</td>
<td>0.166**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grth</td>
<td>-0.04</td>
<td>0.203**</td>
<td>0.028</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sz</td>
<td>-0.056*</td>
<td>0.366**</td>
<td>0.199**</td>
<td>0.199**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td>0.045</td>
<td>-0.026</td>
<td>0.116**</td>
<td>-0.0173</td>
<td>0.0447</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Eprs</td>
<td>-0.33**</td>
<td>-0.0244</td>
<td>-0.160**</td>
<td>-0.091**</td>
<td>-0.311**</td>
<td>-0.130**</td>
<td>1</td>
</tr>
</tbody>
</table>

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

4.3 Ordinary Least Square (OLS) Assumptions
Before performing the regression analysis, OLS assumptions have been tested to determine. The first assumption tested was the normally that whether data is following the normal distribution or not. In this regard, Wensorization and Cook’s Distance test were used after which outliers were dropped and then the normality assumption was tested through the Shapiro-Wilk test. Another problem was multicollinearity which was also needed to be addressed. To check the multicollinearity, Variance Inflation Factor (VIF) test has been used which showed that there is no serious issue of multicollinearity amongst the explanatory variables as all the test values are less than critical the value of 10 (Gujrati, 2005). The VIF values are provided in the respective tables given below. In panel data analysis one of the main problems is heteroskedasticity which was tested through the Breusch-Pagan / Cook Weisberg test for heteroskedasticity. The test results show that the pertinent p-values are 0.05 which showed existence of heteroskedasticity in the data. To tackle this issue the robust standard error was used. To check the autocorrelation, Durbin Watson test was used. As a rule of thumb, the values between 1.5 and 2.5 are relatively acceptable (Koksal & Kettaneh, 2011). There is no serious autocorrelation as test values are in the range (1.5-2.5) given in table of the econometric models. Moreover, Hausman Test was used to select random or fixed effects model, the test results indicated that fixed effect model (FEM) is the appropriate model which was used to run the econometric models / equations.

Now the board independence and its effect on ERC Determinants, the following two econometric models are used to show the effect of these two variables. The estimation of two regressions equation are as follows.

\[ UXit/Pit = \alpha_0 + a1\text{CARit} + a2\text{CAR*BETAit} + a3\text{CAR*GRTHit} + a4\text{CAR*EPRSIt} + a5\text{CAR*SZ} + \text{it \ + \ Year \ fixed effect + } \varepsilon it \] (1)

\[ UXit/Pit = \alpha_0 + a1\text{CARit} + a2\text{CAR*BIIat} + f \text{(control variables)} + \varepsilon it \] (2)

4.4 ERC and its determinants results

\[ UXit/Pit = \alpha_0 + a1\text{CARit} + a2\text{CAR*BETAit} + a3\text{CAR*GRTHit} + a4\text{CAR*EPRSIt} + a5\text{CAR*SZ} + \text{it \ + \ Year \ fixed effect + } \varepsilon it \] (1)
Table 3: Dependent Variable UX/P

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS Regression DV=UX/P</th>
<th>Robust Pool</th>
<th>RE</th>
<th>FE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>beta 2.1594 0.0000</td>
<td>beta 2.1594 P-value 0.0010</td>
<td>beta 2.1594 P-value 0.0000</td>
<td>beta 1.9078 P-value 0.0000</td>
</tr>
<tr>
<td>Carbeta</td>
<td>0.3644 0.0000</td>
<td>0.3644 0.0640 0.3644 0.0000</td>
<td>0.3644 0.0000</td>
<td>0.3155 0.0020</td>
</tr>
<tr>
<td>Cargrth</td>
<td>-0.095 0.0400</td>
<td>-0.095 0.2070 -0.095 0.0600</td>
<td>-0.0974 0.0500</td>
<td>-0.0974 0.0500</td>
</tr>
<tr>
<td>Careprs</td>
<td>-0.019 0.0000</td>
<td>-0.0192 0.0200 -0.0192 0.0000</td>
<td>-0.0201 0.0010</td>
<td>-0.0021 0.0010</td>
</tr>
<tr>
<td>Carsz</td>
<td>-0.1410 0.0000</td>
<td>-0.1410 0.0010 -0.1410 0.0000</td>
<td>-0.1221 0.0000</td>
<td>-0.1221 0.0000</td>
</tr>
<tr>
<td>_cons</td>
<td>0.1466 0.0100</td>
<td>0.1466 0.0000 0.1466 0.0000</td>
<td>0.1466 0.0000</td>
<td>0.1469 0.0000</td>
</tr>
</tbody>
</table>

R2 | 0.0342 | 0.0342 | 0.0342 | 0.0337 |
Adjusted R2 | 0.0308 |
F-value | 9.9700 | 3.2500 | 59.8500 | 7.8100 |
P-value | 0.0000 | 0.0035 | 0.0000 | 0.0000 |

Lamgre | 0.0000 | 1.0000 |
Hausman test | 5.74 (0.04525) |
Breusch–pagan | 2.39 (0.53) |
Swilk | 1.66 (0.78) |
Durbin Watson | 2.175 |

4.5 Effect of Board Independence on ERC

UXit/Pit = a0 + a1CARit + a2CAR* Blit + f (control variables) + eit

The above table shows the CAR and Beta relationship while using the Fixed Effect Model. As can be seen from the respective test values, all assumptions of multiple regression are being fulfilled. The results presents that interaction of CAR and coefficient of Beta is positively and significantly which means that the relationship between Beta and ERC is negative and significant. These tests are similar to the previous studies (e.g., Zakaria, 2013; Dhaliwal et al., 1992; Dhaliwal and Reynolds, 1997; Billings, 1999; and Shanguan, 2007). The previous researchers have investigated and suggested that Beta has negative relation with ERC. Similarly, the relation between the interaction of CAR and Beta is negatively and significant which means that according to reverse regression, the firm growth is insignificantly and positively related with ERC. These results are similar to other pertinent studies (Zakaria, 2013; Kormendi and Lipe, 1987; Collins and Kothari, 1989; and Dhaliwal and Reynolds, 1994). As regards CAR and firm size, their relation is also negative and significant which means that the firm size has significant and positive relation with ERC. These results are consistent with Billings (1999) and Vafeas (2000). However, Martikainen (1997) found that the firm size and ERC has no relation which means that for large and small firms, the ERC will remain the same. Similarly, Walker (1995) also noted that the firm size is not a significant determinant of ERC. Nevertheless, Shangguan (2007) found the consistent results that the firm size is positive and extremely significant determinants of ERC which shows that for large size firms, the ERC will be high.

The below regression result shows the effect of Board independence on ERC. The test values depict that there is no violation of assumptions of multiple regression. After statistical results the above table presents that the coefficient of interaction term of CAR and Board Independence is found negative and significant which mean (referring to reverse regression) that the interaction of coefficient of CAR with board independence has significant and positive relationship with ERC. On the basis of this result it accepts the alternative hypothesis that board independence and ERC are significantly linked to each other. These results are consistent with other studies (Zakaria, 2013; Bhoyraj and Sengupta, 2005). The results also highlight that large number of independent outside director in a board are favorable for the firms, because different directors have the potential of multi skill, ability to monitors and control all sort of company activities specifically related to the debt obligations in an efficient way in order to mitigate the impact of firms’ default risk on ERC. Therefore, it is concluded that the results support the hypothesis H1: Board independence has positive and significant relationship with ERC. In other words, companies with large number of independent directors in the boards may be less exposed to the default risk through better corporate
governance to positively affect the ERC.

Table 4: Dependent Variable UX/P

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS Regression DV=UX/P</th>
<th>Robust Pool</th>
<th>RE</th>
<th>FE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>beta</td>
<td>P-value</td>
<td>beta</td>
<td>P-value</td>
</tr>
<tr>
<td>Car</td>
<td>0.067</td>
<td>0.117</td>
<td>0.067</td>
<td>0.345</td>
</tr>
<tr>
<td>Carbi</td>
<td>-0.142</td>
<td>0.043</td>
<td>-0.142</td>
<td>0.066</td>
</tr>
<tr>
<td>Beta</td>
<td>0.207</td>
<td>0.004</td>
<td>0.207</td>
<td>0.030</td>
</tr>
<tr>
<td>Grth</td>
<td>-0.120</td>
<td>0.001</td>
<td>-0.120</td>
<td>0.001</td>
</tr>
<tr>
<td>Eprs</td>
<td>-0.054</td>
<td>0.000</td>
<td>-0.054</td>
<td>0.000</td>
</tr>
<tr>
<td>Sz</td>
<td>-0.083</td>
<td>0.000</td>
<td>-0.083</td>
<td>0.000</td>
</tr>
<tr>
<td>R2</td>
<td>0.133</td>
<td>0.133</td>
<td>0.133</td>
<td>0.058</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td>37.130</td>
<td>24.170</td>
<td>259.910</td>
<td>42.810</td>
</tr>
<tr>
<td>P-value</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Hausman test</td>
<td>62.81 (0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breusch-pagan</td>
<td>1.23 (0.29)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swilk</td>
<td>1.21 (0.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durbin Watson</td>
<td>2.112</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Conclusion

This study explored the effect of Board independence on Earnings Response Coefficient (ERC) while controlling the established determinants of ERC (Beta, Firm Growth, Firm Size and Earnings Persistence). The results indicate that there exists negative and significant relationship between Beta and ERC supporting the view that Beta is a partial measure of risk specific to ERC. These results are in line with other previous studies (Zakaria, 2013; Dhaliwal et al., 1991; Dhaliwal and Reynold, 1995; Billings, 1999; Shanguan, 2007) which also documented that Beta is a measure of systematic risk and has negative relation with ERC. The relationship of firm growth with ERC is significant and positive which is also similar to results of other studies (Zakaria, 2013; Collin and Kothari, 1990; Martikainen, 1997; & Billings, 1999). According to Palupi (2006) who argued that high growth companies has greater possibilities to earn high profit in the coming future. Likewise, the results pertaining to earnings persistence with ERC are also significant and positive. Other studies also have documented the similar results like Zakaria, 2013; Kormendi and Lipe, 1987, Collins and Kothari, 1989; and Dhaliwal and Reynolds, 1994. These studies highlighted that earnings persistence is concerned with firms’ profits, as long as earnings persist, firms will get more and more profit and termination of earnings persistence will directly affect the earnings and ERC. Thus, overall there may be a positive link between earnings persistence and ERC. As regards the firm size it was found that it also has positive and significant relation with ERC which implies for large firms the magnitude of ERC will be high. These results are consistent with Billings (1999) and Vafeas (2000) who argued that big companies being having a sound reporting system are in a better position to publicized the company information on their sites which is good sign for investors to interpret these information to decrease the uncertainty of future cash flow. This mean that those firms whose size is high will have higher ERC.

Similarly, results also support the hypothesis that Board independence positively and significantly effect the ERC. These results are consistent with Zakaria, 2014 and Bhojraj and Sengupta, 2003 who also have supported the view that the presence of independent directors in the board provides multi-skills and improves the broad ability to better monitor and control the use of debt without undue pressure so that exposure to the default risk may be reduced and in turn affect the ERC. Moreover this research study is conducted in emerging economy of Pakistan where corporate governance and capital market is not well developed and fluctuation in stock prices occurs due to different circumstances i.e. political instability, war and terror etc but still the statistical results are same as found in developed countries, that’s why this study has great literature contribution an emerging economies. The finding of this study highlights some ideas to others researchers in capital market in the area of corporate governance and earning response coefficient (ERC).
5.1 Recommendations
Recommendations are provided to suggest desired course of actions in light of findings of the study whereas future directions are provided to support the study findings. The relevant recommendations are as under:-

- Steps should be taken at board level such as better asset allocation strategy to manage the systematic risk.
- The results pertaining to the firm size have the policy implications which may call measures by the regulators such as the Securities and Exchange Commission of Pakistan (SECP) to consider firm size as an important factor to be a part of listing requirements so that only large size firms may be eligible to be listed.
- Similarly, companies should also consider the role of corporate governance facets to reduce exposure to the default risk by monitoring and productively using the corporate debt to improve the ERC.
- The policy implications by the regulators also call for improving the board independence by increasing independent directors in in the boards. The regulators should also take into account the role of board independence.

5.2 Future Directions
The current research study provides basis for the researchers to test all the tested and remaining constructs related to the corporate governance facets and ERC.

- It is suggested that future researches may be conducted with large sample sizes covering and longer time frame.
- Similar studies may be conducted in settings of other emerging economies to validate results of this study.
- It is also suggested that further studies may be undertaken with more determinants of ERC along with considering additional variables of corporate governance. This will further refine results of this study and contribute towards the pertinent literature.
- Comparison of emerging and developing economies may also be done considering the inter-relationship of variables used in this study to enhance overall undertaking of this relationship.

References
research reveals. *Journal of Applied Corporate Finance, 16*(2-3), 29-41


Effect of Service Quality on Customers Satisfaction: An Application of HEdPERF Model

Nisar Muhammad, Shah Jan Kakakhel, Fayaz Ali Shah

1PhD Research Scholar, Islamia College Peshawar, Pakistan. nisar.afridi20@yahoo.com
2Associate Professor, Chairman, Department of Management Sciences, Islamia College Peshawar, Pakistan. rahamkarya@hotmail.com
3Assistant Professor, Department of Management Sciences, Islamia College Peshawar, Pakistan. fayaz@icp.edu.pk

ARTICLE DETAILS
History
Revised format: October 2018
Available Online: December 2018

Keywords
Customer Satisfaction, HEdPERF, Service Quality, Higher Education

JEL Classification:
F23, I23, L15

ABSTRACT
The aim of this study was to measure the effect of service quality on customer satisfaction. There are 384 respondents were selected from 19 universities of Khyber Pakhtunkhwa (Pakistan). The proportionate stratified sampling method was used for the collection of data. The collected data was analysed using SPSS and AMOS packages. Exploratory Factor, Confirmatory Analysis and Parallel Analysis were also performed. Structural Equation Modelling technique was used to investigate the relationship among variables under investigation. Findings of the research reveals that majority of the respondents were satisfied with the dimensions of HEdPERF model in universities of Khyber Pakhtunkhwa (Pakistan). The dimension academic was ranked the most important dimension of service quality. Thus, this unique finding implies that universities should nurture the academic quality rigorously in order to enhance students’ satisfaction without ignoring the remaining dimension of service quality.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction
Higher education sector in Pakistan is one of the most developing sectors in the South Asian region, 192 public and private sector universities, with a total enrolment of 12951780 (HEC, 2015). In the modern challenging and competitive academic environment, service quality is considered the most powerful competitive weapon that determining marketing and business strategy (Datta & Vardhan, 2017; Eurydice, 2017). Similarly, customers’ satisfaction is also a major challenge for universities and it is also one of the main sources of competitive advantage and customer retention (Razali et al., 2017; Saravanan, 2018). One common challenge faced by every education institution is how to service its students better. Delivering excellent quality service is vibrant and significant for the success and growth of the organization (Ali et al., 2016; Saravanan, 2018). The higher education sector has not been exempted from higher competition and demand for excellent service quality (Felix, 2017; Kawshalya, 2016). Currently, students have a wide range of universities services to pick from it. (Datta & Vardhan, 2017; Eurydice,
Service quality is considered an essential element for higher education institutions. However, most of the research studies has been conducted in Malaysia (Razali et al., 2017; Ali et al., 2016), India (Saravanan, 2018; Krishnamoorthy et al., 2016), UAE (Datta & Vardhan, 2017; Ibraheem, 2016), UK (Kawshalya, 2016; Douglas et al., 2006), and Africa (Felix, 2017; Liben, 2017), and very few studies has been undertaken to measure service quality of universities in Pakistan. Hence, it is very important for organizations to possess knowledge about the students’ behaviour and satisfaction in order to deliver better service quality to its customers.

2. Review of Literature

The increasing interest of researchers in service quality have made the development of different tools to investigate service quality (Cumhur & Aydinli, 2016; Datta & Vardhan 2017; Ibraheem, 2016; Khurana, 2017; Minh & Huu, 2016; Razali et al., 2017; Truong et al., 2016). There is a substantial body of evidence available in the literature that measures the service quality and customer satisfaction in higher education industry. (Asaduzzaman, Hossain, & Rahman, 2013; Bharwana et al., 2013; Choudhury, 2014; Cerri, 2012; Chopra, Chawla, & Sharma, 2014; Cheruiyot & Maru, 2013; Datta & Vardhan, 2017; Donlagic & Fazlić, 2015; Esther-R., 2015; Gallifa & Battle, 2010; Ghotbabadi, Feiz, & Bahar, 2015; Green, 2014; Govender & Ramroop, 2012; Hill, 1995; Ibraheem, 2016; Kanakana, 2014; Khan, Ahmed & Nawaz, 2011; Khodayari & Khodayari, 2011; Kiran, 2010; Koni, Zainal, & Ibrahim, 2013; Malik, 2010; Mosahab, Mahamad, & Ramayah, 2010; Naidoo, 2014; Oliveira, 2009; Rasli et al., 2012; Shah, 2013; Shaari, 2014; Truong et al., 2016; Twaissi & Al-Kilani, 2015; Vaz & Mansori, 2013; Yousapronpaiboom, 2014). Beside the SERVQUAL various others models have been introduced and applied in higher education sector. Cronin and Taylor (1992) derived performance based model (SERVPERF) from the SERVQUAL model. This model was only concentrating on perception aspects of the SERVQUAL model and ignoring expectations aspects of the model. Ho & Wearn (1996) introduced higher education total quality management model of excellence called HETQMEX. This model basically focused on innovative technique rather than traditional one to maintain quality in higher education institutions. In 2016 HESQUAL model was introduced by Teerovoengadum et al., to measures service quality in higher education sector (Teerovoengadum et al., 2016) This model was consists of administrative quality, core educational quality, support facilities quality, physical quality and transformative quality.

Similarly, various researchers suggested various dimensions of service quality that mostly influence the satisfaction of the customers in higher education industry. Such as Reliability (Cronin & Taylor, 1992; Parasuraman et al. 1988), academic (Abdullah, 2005; Randheer, 2015), Programme quality (Osman et al. 2017), Tangibility (Asefi et al., 2017; Parasuraman et al. 1988), Non-academic (Abdullah, 2005), Culture (Randheer, 2015), Programme issues (Abdullah, 2005; Randheer, 2015), Understanding (Abdullah, 2005), empathy (Asefi et al., 2017; Parasuraman et al. 1988), Access (Abdullah, 2005), responsiveness (Cronin & Taylor, 1992, Mwiya et al. 2017) Reputation (Abdullah, 2005), knowledge (Jiewanto et al. 2012), and Assurance (Asefi et al., 2017; Parasuraman et. 1985), Osman et al. (2017) conducted a study to examine the association between service quality and students satisfaction. The finding of the study revealed that program quality has strong significant effect on students’ satisfaction. Sultan & Wong (2012) found that reliability influence students satisfaction more than other dimensions. On the other hand the study of Twaissi & Al-Kilani (2015) concluded that dimension tangibility has strong effect on students’ satisfaction in higher education industry. According to Saravanan (2018) factors that can increases the satisfaction level of customers are knowledgeable employees, friendly employees, helpful employees, better service quality and quick service. Mwiya et al. (2017) recommended that quick and timely response of the employees can increase the level of customers’ satisfaction. Jiewanto et al., (2012) found that employees’ knowledge and courtesy can inspire trust and confidence of the students which has a significant effect on level of satisfaction. The study of Sultan and Wong (2012) suggested that dimension reliability is the most important dimension of service that significantly affects the satisfaction of the customers. According to Osman et al. (2017) all the dimension of service quality has a significant connection satisfaction of the customers. The study further recommended that dimension programme quality has higher effect on satisfaction in higher education industry. Various researchers suggested that dimension tangibility are significantly associated with customer satisfaction (Asaduzzaman et al. 2013; Bharwana, Bashir, & Mohsin 2013; Datta and Vardhan 2017; Mangin 2013; Truong et al. 2016). On the other hand, researchers recommended that dimension reliability have a significant effect on customer satisfaction (Diab et al. 2016; Chopra, Chawla & Sharma 2014; Khan, Ahmed & Nawaz 2011; Shah 2013).

Yusoff et al., (2015) suggested that physical appearance and fee structure were the main determinants of students’
satisfaction. The findings of Onditi et al. (2017), recommended that dimensions academic and non-academic should be incorporated for effective estimation of service quality and students satisfaction in higher education top agenda. The study further suggested that universities should be aware of the important aspects of service quality which are determined by the feedback of the students. SERVQUAL is the most widely used and acceptable model for measuring service quality although higher education industry specific model HEdPERF should be tested in various countries to validate it (Onditi et al., 2017). According to Randheer (2015) academic, non-academic, access, programme issues, reputation, understanding and culture were the most significant dimension of service quality in higher education industry. Brochado (2009) also recommended that HEdPERF scale is a best measurement instrument to measure higher education industry service quality. Various researchers recommended that industry specific model should be used in higher education industry (Kara, 2016; Khalifa & Mahmoud, 2016; Krishnamoorthy et al. 2016; Liben et al., 2017; Osman et al., 2017). Therefore, the current selected the HEdPERF model to use in the current study.

Abdullah (2005) proposed a performance based new measurement scale known is HEdPERF model. This scale was consists of 41 indicators, containing of 13 items adapted from SERVPERF scale and 28 items derived from the literature. HEdPERF model was consists of six dimensions namely, non-academic aspect, academic, access, programme issue and understanding. The objective of HEdPERF model was to develop a scale that measures the service quality of higher education industry. The most important dimension of HEdPERF scale was dimension access (Abdullah, 2005). The study found that students perceived access was the most influential variable to measure service quality, which is related to the approachability, ease of contact, and availability. Later on the HEdPERF scale was modified into five dimensions with 38 items. Non-academic aspects: This dimension related to the duties carried out by the non-academic staffs that fulfil the needs and requirements of the study in the institutions (Abdullah, 2005). Academic aspects: The dimension academic aspect refers to the duties and responsibilities of the academics (Abdullah, 2005). The main duty of academic staff is transmitting of knowledge through research and producing of knowledge through research (Eurydice, 2017). Access: Dimension access relate to the ease of contact, approachability and availability of items (Abdullah, 2005). Programme issues: The dimension programme issue concentrating the importance of specialization offered by the higher education institutions (Abdullah, 2005). Reputation: Reputation denotes the image of the institution perceived by the students (Abdullah, 2005). The Objectives of the study are (i) To investigate the effect of academic aspects on customer satisfaction (ii) To investigate the effect of non-academic aspects on customer satisfaction (iii) To investigate the effect of access on customer satisfaction (iv) To investigate the effect of reputation on customer satisfaction (v) To investigate the effect of programme issues on customer satisfaction. The Hypotheses of the Study are as follows:

H1: Academic aspects has a significant effect on customer satisfaction
H2: Non-academic aspects has a significant effect on customer satisfaction
H3: Access has a significant effect on customer satisfaction
H4: Reputation has a significant effect on customer satisfaction
H5: Programme issues has a significant effect of customer satisfaction

3. Conceptual Framework
Figure 1: Conceptual frame work
4. Research Methodology
Public and private sector universities of Khyber Pakhtunkhwa (KP) were the target population of the study. According to HEC (2018) there are 36 universities imparting education in KP out of which 19 universities were selected for data collection on personal judgement. The present study takes into consideration only those universities which are established before 30th June 2010. There are 384 respondents were selected as a sample for the present study. The adequate sample size for the analysis of the data would have a ratio of 10 to 1. In first phase of the sample size only 19 universities were selected for data collection. In second phase of the sample sized proportional allocation technique was applied, where the size of the sample from universities were kept proportional to the sizes of the population. The third phase was consisting of systematic sampling technique with the aim to draw sample from departments and faculties.

According to Hair et al., (2006) specific item would be selected on the basis of random sampling technique in systematic sampling technique. In present study the first item was selected randomly in the class and the remaining unit of sample were selected at fixed interval. The randomly selected unit was every 3rd student in the class row. The adapted questionnaire of Abdullah (2005) was used in the current study. The questionnaire was reliable and already tested by Abdullah (2005) to measure higher education industry performance. Confirmatory Factor analysis was also performed for the item reduction. Firstly construct wise CFA was done and then overall model CFA was performed.

Table 1: Demographic Profile of the Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>273</td>
<td>71.4</td>
</tr>
<tr>
<td>Female</td>
<td>111</td>
<td>28.6</td>
</tr>
<tr>
<td>Total</td>
<td>384</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>106</td>
<td>27.6</td>
</tr>
<tr>
<td>21-25</td>
<td>202</td>
<td>52.6</td>
</tr>
<tr>
<td>26-30</td>
<td>57</td>
<td>14.8</td>
</tr>
<tr>
<td>31-35</td>
<td>17</td>
<td>4.4</td>
</tr>
<tr>
<td>36+</td>
<td>2</td>
<td>.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>151</td>
<td>39.3</td>
</tr>
<tr>
<td>Master</td>
<td>173</td>
<td>45.1</td>
</tr>
<tr>
<td>M.Phil./MS</td>
<td>43</td>
<td>11.2</td>
</tr>
<tr>
<td>PhD</td>
<td>17</td>
<td>4.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>123</td>
<td>32</td>
</tr>
<tr>
<td>1-2 Years</td>
<td>143</td>
<td>37.2</td>
</tr>
<tr>
<td>2-3 Years</td>
<td>90</td>
<td>23.4</td>
</tr>
<tr>
<td>3-4 Years</td>
<td>28</td>
<td>7.3</td>
</tr>
</tbody>
</table>

4.1 CFA for Academic
Figure 2 represents the original measurement model for the dimension academic. The value of Chi square 29.99 with degree of freedom was statistically significant at p<0.001 level. The other fit indices showed that model was not acceptable (RMSEA = 0.135, GFI = 0.89, CFI = 0.89 and SRMR = 0.021). Thus the model was further investigated in the light of modification indices suggested by different researchers. The error of AD2 and AD5 were highly found correlated with other indicators. Therefore, the AD2 and AD5 were deleted. Table 2 provides the final CFA for the dimension Academic with four indicators.
Figure 2: Dimension Academic

Table 2: Confirmatory Factor Analysis for Academic

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD1</td>
<td>0.81</td>
<td>0.731</td>
<td>0.39</td>
</tr>
<tr>
<td>AD3</td>
<td>0.79</td>
<td>0.821</td>
<td>0.44</td>
</tr>
<tr>
<td>AD4</td>
<td>0.62</td>
<td>0.762</td>
<td>0.51</td>
</tr>
<tr>
<td>AD6</td>
<td>0.66</td>
<td>0.837</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Fit indices
Chi-square = 5.13, df = 2, p = 0.11, RMSEA = 0.058,
SRMR = 0.082, CFI = 0.952, GFI = 0.973.
Note: All t-values were significant at p<0.05

4.2 CFA for Access

Figure 3: Dimension Access

Table 3: Confirmatory Factor Analysis for Access

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>0.72</td>
<td>0.892</td>
<td>0.23</td>
</tr>
<tr>
<td>AC3</td>
<td>0.67</td>
<td>0.793</td>
<td>0.37</td>
</tr>
<tr>
<td>AC4</td>
<td>0.80</td>
<td>0.642</td>
<td>0.46</td>
</tr>
<tr>
<td>AC6</td>
<td>0.78</td>
<td>0.811</td>
<td>0.51</td>
</tr>
</tbody>
</table>

Fit indices
Chi-square = 6.39, p = 0.04, RMSEA = 0.063,
SRMR = 0.072, CFI = 0.932, GFI = 0.881.
Note: All t-values were significant at p<0.05

Figure 3 represents the original measurement model for the dimension academic. The Chi square value of 31.54 with degree of freedom was statistically significant at p<0.001 level. The other fit indices showed that model was not acceptable (RMSEA = 0.151, GFI = 0.90, CFI = 0.84 and SRMR = 0.019). Thus the model was further
investigated in the light of modification indices suggested by different researchers. The error of AC2 and AC5 were highly found correlated with other indicators. Therefore, the AC2 and AC5 were deleted. Table 3 provides the final CFA for the dimension Access with four indicators.

4.3 CFA for Non-Academic

Figure 4 represents the original measurement model for the dimension academic. The Chi square value of 31.55 with degree of freedom was statistically significant at p<0.001 level. The other fit indices showed that model was not acceptable (RMSEA = 0.176, GFI = 0.89, CFI = 0.91 and SRMR = 0.018). Thus the model was further investigated in the light of modification indices suggested by different researchers. The error of NA1, NA3, NA5 and NA6 were highly found correlated with other indicators. Therefore, the NA1, NA3, NA5 and NA6 were dropped. Table 4 provides the final CFA for the dimension non-academic with four indicators.

**Figure 4: dimension Non-Academic**

![Non-Academic Diagram]

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA2</td>
<td>0.91</td>
<td>0.821</td>
<td>0.29</td>
</tr>
<tr>
<td>NA4</td>
<td>0.86</td>
<td>0.683</td>
<td>0.28</td>
</tr>
<tr>
<td>NA7</td>
<td>0.64</td>
<td>0.765</td>
<td>0.38</td>
</tr>
<tr>
<td>NA8</td>
<td>0.72</td>
<td>0.775</td>
<td>0.42</td>
</tr>
</tbody>
</table>

**Fit indices**

Chi-square = 4.88, p = 0.03, RMSEA = 0.043  
SRMR = 0.114, CFI = 0.964, GFI = 0.921  
Note: All t-values were significant at p<0.05

4.4 CFA for Programme

**Figure 5: Dimension Programme**

![Programme Diagram]
Figure 5 represents the original measurement model for the dimension academic. The Chi square value of 21.76 with degree of freedom was statistically significant at p<0.001 level. The other fit indices showed that model was not acceptable (RMSEA = 0.234, GFI = 0.85, CFI = 0.89 and SRMR = 0.075). Thus the model was further investigated in the light of modification indices suggested by different researchers. The error of PR1 and PR3 were highly found correlated with other indicators. Therefore, the PR1 and PR3 were deleted. Table 5 provides the final CFA for the dimension Programme with four indicators.

Table 5: Confirmatory Factor Analysis for Programme

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR2</td>
<td>0.88</td>
<td>0.751</td>
<td>0.48</td>
</tr>
<tr>
<td>PR4</td>
<td>0.76</td>
<td>0.861</td>
<td>0.25</td>
</tr>
<tr>
<td>PR5</td>
<td>0.64</td>
<td>0.679</td>
<td>0.31</td>
</tr>
<tr>
<td>PR6</td>
<td>0.80</td>
<td>0.743</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Fit indices
Chi-square = 6.28, p = 0.05, RMSEA = 0.047
SRMR = 0.035, CFI = 0.932, GFI = 0.910
Note: All t-values were significant at p<0.05

4.5 CFA for Reputation

Figure 6 represents the original measurement model for the dimension academic. The Chi square value of 25.84 with degree of freedom was statistically significant at p<0.001 level. The other fit indices showed that model was not acceptable (RMSEA = 0.201, GFI = 0.89, CFI = 0.90 and SRMR = 0.120). Thus the model was further investigated in the light of modification indices suggested by different researchers. The error of RU3 and RU4 were highly found correlated with other indicators. Therefore, the RU3 and RU4 were deleted. Table 6 provides the final CFA for the dimension Reputation with four indicators.

Table 6: Confirmatory Factor Analysis for Reputation

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RU1</td>
<td>0.83</td>
<td>0.791</td>
<td>0.44</td>
</tr>
<tr>
<td>RU2</td>
<td>0.74</td>
<td>0.835</td>
<td>0.51</td>
</tr>
<tr>
<td>RU5</td>
<td>0.71</td>
<td>0.731</td>
<td>0.33</td>
</tr>
<tr>
<td>RU6</td>
<td>0.84</td>
<td>0.658</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Fit indices
Chi-square = 4.12, p = 0.05, RMSEA = 0.065
SRMR = 0.062, CFI = 0.912, GFI = 0.951
Note: All t-values were significant at p<0.05

4.6 CFA for Customer Satisfaction

Figure 7 represents the original measurement model of customer satisfaction. The model was examined in the light of various indices suggested by various researchers. The error of CS2, CS7, CS8 and CS9 were found correlated
with other indicators. Therefore, the above mentioned indicators were dropped.

**Figure 7: Customer Satisfaction**

![Customer Satisfaction diagram]

**Table 7: CFA for Customer Satisfaction**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Loading</th>
<th>Reliability</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS1</td>
<td>0.79</td>
<td>0.712</td>
<td>0.22</td>
</tr>
<tr>
<td>CS3</td>
<td>0.83</td>
<td>0.697</td>
<td>0.32</td>
</tr>
<tr>
<td>CS4</td>
<td>0.80</td>
<td>0.871</td>
<td>0.44</td>
</tr>
<tr>
<td>CS5</td>
<td>0.75</td>
<td>0.893</td>
<td>0.27</td>
</tr>
<tr>
<td>CS6</td>
<td>0.88</td>
<td>0.756</td>
<td>0.39</td>
</tr>
<tr>
<td>CS10</td>
<td>0.72</td>
<td>0.684</td>
<td>0.20</td>
</tr>
<tr>
<td>CS11</td>
<td>0.91</td>
<td>0.734</td>
<td>0.35</td>
</tr>
<tr>
<td>CS12</td>
<td>0.82</td>
<td>0.712</td>
<td>0.19</td>
</tr>
</tbody>
</table>

**Fit indices**
Chi-square = 5.33, p = 0.05, RMSEA = 0.512
SRMR = 0.063, CFI = 0.957, GFI = 0.932
Note: All t-values were significant at p<0.05

**Table 8: Parallel Analysis**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Random Eigenvalue</th>
<th>Eigenvalue from PCA</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>1.0196</td>
<td>1.0763</td>
<td>Retained</td>
</tr>
<tr>
<td>Non-academic</td>
<td>1.0176</td>
<td>1.0682</td>
<td>Retained</td>
</tr>
<tr>
<td>Access</td>
<td>1.0082</td>
<td>1.0132</td>
<td>Retained</td>
</tr>
<tr>
<td>Reputation</td>
<td>0.0871</td>
<td>0.0911</td>
<td>Retained</td>
</tr>
<tr>
<td>Programme</td>
<td>0.0785</td>
<td>0.0853</td>
<td>Retained</td>
</tr>
<tr>
<td>Understanding</td>
<td>0.0654</td>
<td>0.0701</td>
<td>Dropped</td>
</tr>
</tbody>
</table>

**Overall model Fit indices**
Chi-square = 3.22, p = 0.04, RMSEA = 0.034
SRMR = 0.071, CFI = 0.932, GFI = 0.943
Note: All t-values were significant at p<0.05
Figure 8: Overall model

Table 9: Summary of Hypotheses Testing

<table>
<thead>
<tr>
<th>Dependent</th>
<th>Independent</th>
<th>Hypotheses</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction</td>
<td>Academic</td>
<td>H1</td>
<td>.336</td>
<td>.033</td>
<td>10.234</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Non-academic</td>
<td>H2</td>
<td>.069</td>
<td>.025</td>
<td>2.768</td>
<td>.006</td>
<td>Accepted</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Access</td>
<td>H3</td>
<td>.466</td>
<td>.052</td>
<td>8.894</td>
<td>***</td>
<td>Accepted</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Programme</td>
<td>H5</td>
<td>-.232</td>
<td>.117</td>
<td>-1.978</td>
<td>.068</td>
<td>Rejected</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>Reputetion</td>
<td>H4</td>
<td>.352</td>
<td>.036</td>
<td>9.717</td>
<td>***</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Hypothesis 1: Academic aspects has a significant effect on customer satisfaction
Hypothesis 1 investigated the effect of academic aspects on customer satisfaction. The path coefficient of 0.36 and the p-value were significant, the hypothesis was accepted by the study.

Hypothesis 2: Non-academic aspects has a significant effect on customer satisfaction
Hypothesis 2 investigated the effect of non-academic aspects on customer satisfaction. Since the standardized path coefficient of 0.40 and the p-value were significant, indicating that non-academic aspects has strong effect on customer satisfaction. Therefore, the hypothesis was accepted by the study.

Hypothesis 3: Access has a significant effect on customer satisfaction
Hypothesis 3 investigated the effect on dimension access on customer satisfaction. The standardized path coefficient of 0.46 and the p-value were significant, the hypothesis was accepted by the study.
coefficient of 0.43 and the p-value were significant, indicating that access has positive effect on customer satisfaction. Therefore, hypothesis was accepted by the data.

**Hypothesis 4: Reputation has a significant effect on customer satisfaction**
Hypothesis 4 investigated the effect on dimension reputation on customer satisfaction. The standardized path coefficient of 0.33 and the p-value were significant, indicating that dimension reputation has a significant effect on customer satisfaction. Hence the hypothesis is supported.

**Hypothesis 5: Programme issues has a significant effect of customer satisfaction**
Hypothesis 5 investigated the effect of programme issues on customer satisfaction. The standardized path coefficient -0.32 and the p-value 0.068 were negatively insignificant, indicating that programme issues has slightly negative effect on customer satisfaction. Hence the hypothesis is not supported by the data.

5. Discussion and Conclusion
The overall model fit indices reveals that RMSEA 0.034 which is lower than the suggested value of 0.08 (Hair et al. 2010). The value of CFI 0.932 was greater than the suggested value of 0.9. Similarly, the Chi square value was 3.22 and which was significant at 0.04. According to Hair et al. (2010) at least one index must be satisfied the minimum acceptable level of goodness of fit. Hence, the present study presented a good model fit for the analysis of data. Table 8 indicates the statistically significant association between independent and dependent variables. In higher education sector faculty members and other supporting facilities are considered the most important significant indicators of customer satisfaction (Kara, 2016; Liben et al., 2017). According to Khalifa and Mahmood (2016) academic and non-academic aspects were the most influential dimensions of customer satisfaction in higher education industry. Krishnamoorthy, Aishwaryadevi and Bharathi (2016) added that bedsides the academic and non academic aspects the teaching material and curriculum were the key determinants of customer satisfaction. Farahmandian (2013) and Yusoff et al. (2017) also found that academic aspects, curriculum and teaching methods were the most significant dimension of customer satisfaction.

Table 9 highlights the statistically significant association between HEdPERF model and students satisfaction. The dimensions academic aspect (estimate, .336), reputation (estimate, .352), non-academic (estimate, .069) and access (estimate, .466) are significantly associated with the satisfaction of the students. On the other hand, the dimension programme has statistically insignificant relationship with students’ satisfaction, which estimate -.232 units. Therefore, the hypotheses H1, H3, H4, and H2 are accepted and H5 is rejected.

According to Kara (2016) quality of teaching and teaching facilities were the most significant dimensions of customer satisfaction. Teaching faculties and supporting facilities were considered the most influential variables of students’ satisfaction (Liben et al., 2017). On the other hand, Khalifa & Mahmoud (2016) found that non-academic staff helpfulness and academic staff individualized attention were positively associated with students’ satisfaction. Onditi et al. (2017) found that dimension academic aspects and non-academic aspects were the main predictor of customer satisfaction in higher education industry. Randheer (2015) suggested that dimension culture significantly affected the satisfaction of the customers.

In higher education industry students considered curriculum, staff competency, academic aspects and teaching methods were the most significant variables (Krishnamoorthy, Aishwaryadevi, & Bharathi, 2016). Various researchers considered the dimension academic aspects the most influential variable of students’ satisfaction (Liben et al., 2017; Kara, 2016; Osman et al., 2017). According to Farahmandian et al., (2013) academic aspects, teaching curriculum and teaching quality were significantly associated with students’ satisfaction. The study of Osman et al., (2017) revealed that programme quality was the most powerful dimension of students’ satisfaction in Bangladesh higher education industry. Garci a-Aracil (2009) found teaching quality, course outlines and teaching material were the most influential variables of students’ satisfaction in European countries. Similarly, Navarro, (2005) found academic staff and teaching techniques were highly significant association with satisfaction. Hence, better service quality and satisfied customer can bring competitive advantage (Chananoi, 2014), particularly building a brand name of the institution (Arpan, Raney, & Zivnuska, 2003; Dib & Alnazer 2013; Druteikiene, Feldman et al., 2014; Khalifa & Mahmoud, 2016; Kim & Periyayya, 2013; Kantenan, 2012; Stimac & Simic, 2012; Teo & Soutar, 2012).

Public and private sector higher education institutions should be aware of the importance of the education. Similarly, competition in the higher education sector is also getting tighter with the increase of private higher education institutions. Every university is trying their best to win the competition, therefore, it need continuous
service quality improvements including the academic aspects, reputation, non-academic, program and access. The current study found academic is the most important and influential dimension of service quality, that bring a big difference in the level of satisfaction of the students. Therefore, both sector universities should concentrate on all aspects of service quality and particularly on dimension academic.

References
Luxembourg: Education, Audiovisual and Culture Executive Agency (EACEA, Education and Youth Policy Analysis).

175


Student Evaluations of Teaching in Universities of Pakistan: Analysis from the Perspective of Closing the Feedback Loop

Hakim Ali, Bashir Hussain

1PhD Scholar, Department of Education, Bahauddin Zakariya University, Multan & Associate Professor, Government WHISL College, Multan, Pakistan hakimalimphil@gmail.com

2Assistant Professor, Department of Education, Bahauddin Zakariya University, Multan, Pakistan bashirhussain@bzu.edu.com

ARTICLE DETAILS

ABSTRACT

Internationally, centralized systems for collecting students’ feedback have become an increasingly common practice in higher education institutions [HEIs] for monitoring quality of teaching as well as for professional development of faculty members. The collection, analysis and reporting of evaluation results are carried out systematically in many HEIs across the globe. However, how to effectively close the feedback loop with students as well as teachers on the results of student evaluations of teaching [SETs] remain an issue to be addressed. Consistent with global trend, HEIs in Pakistan are also supposed to conduct SETs. In this context, the main intention of this study was to determine whether the cycle of teaching evaluation process is completed, and feedback loop proceeds effectively towards closing around the SETs or not in Pakistani HEIs. To achieve the objective, the triangulation design was used in which an online search was carried out in 130 Pakistani HEIs’ official websites to collect qualitative data. Concurrently, a questionnaire comprising 13 close-ended items, with “yes-and-no” scale, was administered in online format to collect quantitative data from a sample of 507 faculty members and 110 administrators from 130 Pakistani HEIs. Based on content analysis of documents and descriptive analysis of participants’ responses, this paper concludes that universities in Pakistan are bound by HEC to collect feedback from students using central system of Quality Enhancement Cells, but limited attention has been placed to close the feedback loop with students and teachers to inform improvements. Finally, this paper recommends the need for universities in Pakistan to genuinely listen to students’ voices and to act on their feedback as part of quality assurance.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: hakimalimphil@gmail.com


DOI: 10.26710/readsv4i2.402
1. Introduction and Literature Review

Formal systems of evaluating faculty teaching, typically comprising student feedback employing varied instruments and mechanisms, are common in higher education institutions [HEIs] across the globe. SETs are generally required by HEIs as a means to explore students’ perspectives on the faculty instruction (Hativa, 2013); to evaluate various aspects of faculty teaching quality and to “compare it across different courses, teachers, departments and institutions” (Goos & Salomons, 2016). Stein et al. (2013) have revealed that faculty members are usually supposed to support student evaluations of their teaching as a part of an institutional evaluation system. These studies, however, also indicate that a substantial difference exists in how institutions practically implement a formal evaluation system (Stein et al., 2013); how students, teachers and administrators engage with the practice of evaluation (Moskal, Stein & Golding, 2016) and use the evaluation results for closing the feedback loop.

The literature on SETs is extensive and wide-ranging which ranges from the variety of the experiences of different cohorts of students (Tucker, 2013) to effect of students’ feedback on teaching and learning (Hattie & Timperley, 2007); “the need for effective student engagement” (Krause & Coates, 2008) and on the importance of seeking experiences of first year students (Kift, Nelson, & Clarke, 2010). Furthermore, literature also reveals the “link between student satisfaction and student feedback” (Grebennikov & Skaines, 2009); procedures used and their effect on students’ satisfaction and response rates (Moskal et al., 2016) and the strategies used for improving students’ satisfaction (Nelson, Smith & Clarke, 2012).

Even though the substantial studies have been conducted formerly, there is paucity of knowledge about the practices that HEIs adopt in relation to the systematic use of students’ feedback for improving teaching, enhancing students’ experiences and renewing course designs (Tucker, 2013). A number of scholars (i.e., Leckey & Neill 2001; Nair, Mertova, & Pawley, 2010; Shah & Nair, 2009; Watson, 2003) found that students are disinclined to take part in upcoming SETs surveys, if they do not see any improvements ensuing from their feedback. Earlier scholars argued that failure of universities in systematically closing the SETs feedback loop leads to various hazards comprising decreasing response rates from students (Leckey & Neill, 2001); their disinterest in the feedback process (Nair et al., 2010; Shah & Nair, 2009) and lack of trust between students, academics and universities on improvements owing to their voice (Tucker et al., 2008; Watson, 2003). This failure to close the feedback loop on SETs creates such environment that students do not provide their feedback seriously and can also result in frustrating students, rather than providing constructive feedback (Tucker, Jones & Straker, 2008). Moreover, “failing to close the loop on feedback questions the quality assurance framework in institutions and the extent to which they are used to enhance educational quality” (Shah, Cheng & Fitzgerald, 2017).

The concept of ‘closing the loop’ is based on the notion that there is a cycle of feedback and action. Figure 1 presents the generic feedback cycle with allied key moments illustrated eloquently by Harvey (2003).

Figure 1: The cycle of feedback

Note: Adapted from Harvey, L. 2003, ‘Editorial’, Quality in Higher Education, 9(1), 3-20

Student feedback is viewed as a significant measure for assurance of teaching as well as institutional quality (Goos & Salomons, 2016) and majority of the HEIs worldwide consider it vital to their annual monitoring and periodic
review processes. However, simply collecting and analyzing such feedback is unlikely to lead to improvements (Shah & Nair, 2009) unless its results are communicated in a way that is informative to stakeholders, mainly students and teachers i.e., closing the loop. Symons (2006) emphasized that universities need to complete the feedback cycle not only with students but strategies should also be developed for ensuring the successful closing of the loop with teachers. Writing in the same vein, Scott (2006) advocates that simply collecting students comments and providing each faculty member a list of these comments would not be sufficient to provide them with adequate information on experiences of students. Vital to the dissemination of student feedback comments to stakeholders, is their “analysis into meaningful data” (Symons, 2006) and timely provision of feedback results.

‘Closing the feedback loop’ is the term, generally, refers to the “process of informing respondents about what happens to the results of any survey” (Watson, 2003). In this article, closing the feedback loop refers to systematic processes in collecting, analyzing, reporting and sharing the student feedback results with stakeholders particularly students and faculty members; and “timely actions taken...as a direct result of student feedback” (Shah et al., 2017) as well as implementing and “monitoring the effectiveness of actioned improvements” (Shah et al., 2017). How to close this loop effectively has been an issue that universities have struggled with since the 1990s (Watson, 2003).

The rationale behind this paper is that universities/HEIs worldwide are using surveys at institutional and national level to assess students’ experiences regarding faculty’s teaching effectiveness. For example, the National Student Survey (NSS) is employed in the UK, the Course Experience Questionnaire (CEQ) in Australia and the National Survey of Student Engagement (NSSE) is employed in the USA and Canada (Price & Baker, 2012). In the context of international scenario, Higher Education Commission [HEC] of Pakistan also introduced a system for monitoring and carrying out periodic teaching evaluations of university faculty through students to assess faculty’s teaching effectiveness as well as students’ engagement in learning (Batoool, Qureshi & Raouf, 2010). Institutions, using the results of SETs surveys, identify their weak and strong areas and advertise their strengths for marketing themselves to prospective students. Furthermore, these results are used for recognizing, rewarding and reviewing teachers and in some instances “distributing internal funding” (Shah & Nair, 2013). Likewise, there is also evidence of using student feedback results for making decisions about institutional rankings and appraising institutional performance (Johnson, 2000).

However, how HEIs effectively use students’ feedback to improve teachers’ professional practices and students’ learning outcomes remains an area to be explored, specifically in the context of expansion and diversification of higher education as well as higher students’ expectations. Furthermore, there is lack of evidence concerning effective engagement of stakeholders in communicating feedback results and in taking actions for improvement i.e., closing the feedback loop effectively; despite the fact, this is an important strategy to enhance students’ response rates and to identify areas in need of improvement (Grebennikov & Shah, 2013).

1.1 The Present Study
The literature demonstrates that the cycle of closing the loop on SETs involves four key aspects i.e., data collection, analysis, reporting and finally providing feedback to stakeholders. Based on international practices, this paper analyzes SETs practice in universities of Pakistan from the perspective of closing the feedback loop and argues for the need to develop innovative ways to use feedback results for faculty professional development and engage academics as well as students in quality assurance activities. However, to date, there is limited research on the usage patterns of results of student feedback in Pakistan for improving faculty instructional practices and the students’ learning experience.

Keeping in view this background, present study mainly analyzed the practice of closing the feedback loop on SETs in Pakistani universities at policy and practice level to genuinely know that how results from student feedback have been utilized for improving students’ learning as well as faculty instructional practices. The rationale behind this research work was also the emphasis of Pakistani higher education sector on quality assurance mechanism, management of academic quality, the enhancement in faculty professional development as well as improving learning experiences of students.

1.2 Research Questions
The major purpose of this study was to determine whether teaching evaluation process is completed from holistic perspective and feedback loop proceeds effectively towards closing around SETs or not in Pakistani HEIs. Following research questions were formulated for analyzing practice of Pakistani universities regarding closing the feedback loop around SETs:
a. Do policies of HEIs provide any guidelines for reporting of results to various stakeholders and closing the feedback loop on SETs?

b. What is the nature of data collection process in HEIs of Pakistan in relation to closing the feedback loop on SETs?

c. Are the data analyzed in meaningful format to report the stakeholders?

d. Are the results of analysis reported to all the stakeholders?

e. Is the feedback resulting from SETs survey communicated to teachers and students to effectively close the loop on SETs in HEIs of Pakistan?

2. Design and Methods

To achieve the objective, concurrent triangulation approach (Creswell, 2009) was used in this study. The key objective of this design is to use qualitative and quantitative approaches simultaneously to explore in depth the same aspects of the research problem (Creswell, 2009). The major benefits of this traditional mixed methods design include: the shorter data collection time and well-validated findings (Creswell, 2009).

The population for this study, both for qualitative and quantitative components, comprised such 130 Pakistani HEIs in which Quality Enhancement Cells [QECs] have been established before 2014. For qualitative data collection, the researchers carried out an online search in all the 130 HEIs’ official websites to collect publicly accessible documents (QUAL) related to key aspects of SETs process to gain as full a picture as possible about closing the loop on SETs. For quantitative component, a questionnaire (QUAN) was administered with faculty members and administrators to further confirm and triangulate the results of content analysis of documents.

The participants from all the 130 HEIs were invited to complete the survey in online format using a ‘census approach’. From the 6933 email invitations that were sent to obtain informed consent of teachers and administrators including staff members of QECs, 1783 (25.7%) participants (1417 teachers and 366 administrators) from 91 universities across Pakistan agreed to participate. Finally, link to online survey questionnaire, administered via Google forms, was e-mailed to these 1783 potential participants. After 2 to 5 reminders with the interval of 10 days, total 617 completed questionnaires were received from 507 teachers and 110 administrators including QEC staff members. Respondents were representative from the general, engineering, agriculture, medical, business and arts HEIs with a range of positions. The response rate was about 36% and 30% respectively which is reasonable for a voluntary survey. Table 1 presents the demographic information of all the participants who participated in this study.

<table>
<thead>
<tr>
<th>Position</th>
<th>Percentages</th>
<th>University Category</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecturer</td>
<td>34.2</td>
<td>General</td>
<td>64.2</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>40.4</td>
<td>Engineering</td>
<td>19.6</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>4.5</td>
<td>Agriculture</td>
<td>7.3</td>
</tr>
<tr>
<td>Professor</td>
<td>2.6</td>
<td>Medical</td>
<td>0.8</td>
</tr>
<tr>
<td>Chairman/HoD</td>
<td>7.8</td>
<td>Business</td>
<td>7.9</td>
</tr>
<tr>
<td>Dean</td>
<td>1.8</td>
<td>Arts</td>
<td>0.2</td>
</tr>
<tr>
<td>Director/Registrar</td>
<td>8.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A self-developed questionnaire comprising 13 close-ended items, with “yes-and-no” scale, was used to elicit perceptions of the participants. Section A of the questionnaire asked for demographic information while section B explored current practices (Q1–13). The questionnaire was piloted with 17 participants from the five faculties of one public university i.e., social sciences, natural sciences, commerce and business management, engineering, agriculture and veterinary along with registrar and director quality enhancement cell (QEC). A number of changes were incorporated on the bases of respondents’ feedback to make the language and format of items more understandable and for ensuring the alignment of items with research questions. Expert opinion was also sought for improving the questionnaire items’ content validity.

For the analysis of qualitative data (i.e., online accessible documents), a summative approach to qualitative content analysis (Hsieh & Shannon, 2005) was used. This approach involves both the ‘manifest content analysis’ and ‘latent content analysis’ aspects. ‘Manifest content analysis’ quantifies the particular concepts in textual material and deals with the descriptive and objective overview of the “surface meaning of the data” (Dornyei, 2007, p. 246).
Latent content analysis refers to the process of interpretation of content (Hsieh & Shannon, 2005). As the details of targeted concepts and key words were unavailable in accessible documents, the analysis could not proceed to ‘latent’ level and stopped at ‘manifest’ level (Kondracki & Wellman, 2002). Participants’ responses on close-ended questionnaire were analyzed by applying descriptive statistics (i.e., Frequency Counts and Percentage) and the results were presented in Table 3, Table 4 and Table 5.

3. Findings

3.1 Findings regarding Manifest Content Analysis

In total, 47 online accessible documents and consolidated teaching evaluation reports were examined. The analysis specifically focused on searching key words related to all the aspects of SETs process i.e., data collection, analysis, reporting, use of results and provision of feedback with a specific focus on exploring the existence of policy guidelines for closing the loop on feedback. It is worth noting that even a trivial indication of some evaluation activity was considered as an evidence/example of the existence of SETs process and frequency of occurrences was presented in Table 2.

<table>
<thead>
<tr>
<th>Aspects of SETs Process</th>
<th>Number of documents mentioning a specific aspect</th>
<th>Documents mentioning detailed procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Collection</td>
<td>47</td>
<td>4</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Reporting and use of Results</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Use of Results</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Provision of Feedback</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The analysis of documents displayed in Table 2 revealed that all the HEIs in Pakistan were bound to conduct SETs as mandatory policy by HEC and instrument for evaluation of faculty teaching by students was available on the websites of all the 130 HEIs. The content analysis of documents further showed that detailed information and policy guidelines regarding all the aspects of SETs process as well as about the process of closing the feedback loop with students and faculty members was unavailable in documents obtained through search of institutional websites.

3.2 Findings regarding Participants’ Perceptions

The participants were asked to respond in ‘yes’ or ‘no’ to key aspects of the SETs process (i.e., data collection, analysis, reporting and provision of feedback) to determine the extent to which these aspects are effectively and efficiently attended during SETs. The other intent of this section was to determine whether SETs process is completed and feedback loop proceeds effectively towards closing around student evaluations or not. Table 3 summarizes the frequency counts and percentages of “yes” responses concerning the process of data collection; Table 4 related to the process of data analysis and reporting of results while Table 5 about provision of feedback.

<table>
<thead>
<tr>
<th>Aspects of Process</th>
<th>“yes”</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regularity of use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever experienced/used student evaluations of teaching?</td>
<td>416</td>
<td>67.4</td>
</tr>
<tr>
<td>Methods of Data collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student evaluations of teaching (through questionnaire)</td>
<td>383</td>
<td>92.1</td>
</tr>
<tr>
<td>Course evaluations by students</td>
<td>236</td>
<td>56.7</td>
</tr>
<tr>
<td>Student interviews</td>
<td>37</td>
<td>8.9</td>
</tr>
<tr>
<td>Informal student opinions</td>
<td>86</td>
<td>20.7</td>
</tr>
<tr>
<td>Students as observers</td>
<td>41</td>
<td>9.8</td>
</tr>
<tr>
<td>Nature of Instrument Used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEC Prescribed/Developed</td>
<td>177</td>
<td>42.5</td>
</tr>
<tr>
<td>Self-developed by the university</td>
<td>103</td>
<td>24.8</td>
</tr>
<tr>
<td>Not Known</td>
<td>136</td>
<td>32.7</td>
</tr>
<tr>
<td>Frequency of Using</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed at the end of the each semester</td>
<td>366</td>
<td>88.1</td>
</tr>
<tr>
<td>Twice per semester</td>
<td>15</td>
<td>3.6</td>
</tr>
<tr>
<td>Completed Annually</td>
<td>27</td>
<td>6.5</td>
</tr>
<tr>
<td>Completed as required by the teacher</td>
<td>13</td>
<td>3.1</td>
</tr>
<tr>
<td>Completed as required by the administration</td>
<td>48</td>
<td>11.5</td>
</tr>
</tbody>
</table>
In response to the question (Have you ever experienced/used student evaluation of teaching?) asked to assess the actual practice/regularity in the use of SETs, the analysis of data in Table 3 revealed that majority of the respondents (i.e., 67.4%) believe that SETs are conducted on regular basis in their institutions. It shows, however, almost one third (32.6%) of the participants perceive that this practice is still missing in their institutions and not being actually done regularly though exist in documented policy.

The less than half of the participants (42.5%) reported that their universities use HEC prescribed/developed student evaluation of teaching instrument, 24.8%, the lowest number of participants, also claimed that they use self-developed/adapted as per format of HEC student evaluation form while a considerable number of participants (32.7%) reported that they have no knowledge about the nature of instrument used. This result suggests that all the stakeholders either not involved/ consulted or do not take interest in development/selection of instrument. Analysis further revealed with 88.1% responses that almost all the HEIs in Pakistan use student evaluation instrument at the end of each semester.

The percentage of ‘yes’ responses for the delivery of instrument depicts that there is general consistency across the country that faculty members are kept away/at arms-length from the process of data collection during SETs. Most often, QEC staff administers the student evaluation instrument for collection of data either manually (41.8%) or online (56%). Majority of the participants (9.6+44.7%) reported response rate below 50%.

Table 4: Summary of Perceived Process for Analysis of Data and Reporting of Results

<table>
<thead>
<tr>
<th>Aspects of Process</th>
<th>‘yes’</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analyzed by</td>
<td>Teacher</td>
<td>06</td>
</tr>
<tr>
<td></td>
<td>Department representative</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Staff of QEC</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td>Not Sure</td>
<td>40</td>
</tr>
<tr>
<td>Reporting of Data</td>
<td>Is the aggregated data reported to stakeholders?</td>
<td>173</td>
</tr>
<tr>
<td>Mode of Reporting of Aggregated Data</td>
<td>Means</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>Standard Deviation</td>
<td>08</td>
</tr>
<tr>
<td></td>
<td>Graphic form</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>05</td>
</tr>
</tbody>
</table>

Table 4 reveals that collected data is analyzed by staff of QEC and teachers as well as departments are mostly kept away from the teaching evaluation process at this step also in majority of the HEIs. The question regarding reporting of data attracted 41.6% ‘yes’ responses which indicates that aggregated and analyzed data is not reported to stakeholders in majority of the HEIs in which student evaluation is actually conducted. Further analysis revealed that data is mostly reported in the form of mean scores (86.1% yes), graphic form (6.4% yes) or in standard deviation (4.6% yes).
Table 5: Summary of Perceived Process for Provision of Feedback on Evaluation Results

<table>
<thead>
<tr>
<th>Aspects of Process</th>
<th>‘yes’</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to Students’ Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>157</td>
<td>37.7</td>
</tr>
<tr>
<td>Department Chair</td>
<td>261</td>
<td>62.7</td>
</tr>
<tr>
<td>QEC Staff</td>
<td>291</td>
<td>69.9</td>
</tr>
<tr>
<td>Not Provided</td>
<td>48</td>
<td>11.5</td>
</tr>
<tr>
<td>Access to End Results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>12</td>
<td>2.9</td>
</tr>
<tr>
<td>Teacher</td>
<td>204</td>
<td>49.0</td>
</tr>
<tr>
<td>Department Chair</td>
<td>249</td>
<td>59.9</td>
</tr>
<tr>
<td>QEC Staff</td>
<td>210</td>
<td>50.5</td>
</tr>
<tr>
<td>Not Provided</td>
<td>89</td>
<td>21.5</td>
</tr>
<tr>
<td>Provision of Feedback on Evaluation Results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To students</td>
<td>23</td>
<td>5.5</td>
</tr>
<tr>
<td>To teacher</td>
<td>137</td>
<td>33.0</td>
</tr>
<tr>
<td>Not Provided</td>
<td>256</td>
<td>61.5</td>
</tr>
</tbody>
</table>

Table 5 indicates that often students’ comments are available to chair (62.7% yes) and staff of QEC (69.9% yes) and teachers (37.7% yes + not provided 11.5% yes) are rarely provided access to students’ comments. Almost same situation can be observed regarding access to end results of student evaluations. These results point out a big weakness in the existing SETs process i.e., no access to students’ comments and end results to all the faculty members which is the most frequent and effective source of formative feedback to teachers.

Analysis in Table 5 further revealed that evaluation results are never fed back to students (5.5% yes) and rarely to their teachers (33.0% yes). This result suggests that the results are simply filed away and not disseminated to those who could use them at both faculty and institutional level. It means that the time and energy spent in the collection and analysis of this valuable information is wasted and that reports on the student feedback results do not reach to students and faculty members who are the most relevant stakeholders in university community.

4. Discussion

This mixed method study analyzed the Pakistani universities’ practices of closing the feedback loop on SETs. A number of scholars (i.e., Hattie & Timperley, 2007; Shah & Nair, 2013) argue that universities ought to develop and disseminate detailed guidelines for all the stakeholders regarding their roles and responsibilities in SETs process, use of evaluation reports; interpretation of results as well as provision of feedback for effective implementation of institutional teaching evaluation system. Writing in the same vein, Shah and Nair (2013) emphasize that similar guidelines should also be developed for members of promotion panels regarding the use of SETs results. The results of content analysis of documents in this study, however, revealed that clear-cut policies and detailed guidelines are unavailable in accessible documents regarding all the aspects of SETs process i.e., closing the feedback loop. Limited evidence is available in documents on systematic usage of feedback from SETs surveys by academics in Pakistani universities to review curriculum content, assessment designs and teaching methods in a timely manner. The analysis of participants’ responses also confirms the results of content analysis.

Moreover, provision of feedback resulting from SETs is increasingly being considered essential across the globe as a means to guide teaching practice, (Hattie & Timperley, 2007), to enhance faculty professional development (Blair & Noel, 2014), to improve students’ learning and to strengthen faculty development policies and practices (Catano & Harvey, 2011). However, the findings herein suggest that Pakistani universities do not make systematic usage of the student feedback results to inform improvements. The results of this study further postulate that SETs process in Pakistani HEIs, is generally limited to the collection and analysis of data, and results are filed away, not fed back and communicated to stakeholders particularly students and teachers.

Overall, the results of this study are aligned well with the studies conducted by (Scott, 2006; Shah & Nair, 2009; Symons, 2006) who concluded that generally universities simply collect and analyze SETs data and do not complete feedback cycle with stakeholders. But these results contradict with the suggestions of Harvey (2003) who advocates that “views of students should be integrated into a regular and continuous cycle of analysis, reporting, action and feedback” to make an effective contribution to quality improvement in HEIs. Harvey (2003) further
stressed that ensuring an appropriate action; providing feedback in transparent, objective as well as consistent manner and making reports publicly available to all the stakeholders is more important to gain support and trust from all the stakeholders than only concentrating on having mechanisms for data collection.

5. Conclusion
The results of content analysis of documents and survey responses evidently suggest that closing the feedback loop is an area which requires improvement in Pakistani HEIs. Although, all the universities in Pakistan are bound by HEC for collecting, analyzing and reporting student survey results, but there is limited evidence of effective use of student feedback to enhance faculty professional development and improve students’ learning experiences. It was concluded that though SETs exist in Pakistani HEIs as a documented policy but the extent of their actual use was notably low and there were problems/challenges of actual implementation on regular basis. There also appears to be little meaningful feedback of student evaluation results to students and faculty members, mainly because universities have not developed clear-cut policies and detailed guidelines for execution of SETs process. Universities in Pakistan conduct SETs only to fulfill HEC administrative requirements not with any formative or summative intention. It was also concluded that HEIs in Pakistan are experiencing low response rates on SETs, which is worldwide concern of HEIs (Smithson et al., 2015). The matter of low response is reflective of the skepticism of the students regarding the surveys and feedback. This aspect of low response, therefore, should be examined. This situation calls for the development and implementation of innovative ways by universities to listen to the students’ voices because students, being fee payers, are constantly demanding that their opinions should be heard and acted upon.

References


Muhammad Waqas Idrees, Muhammad Bashir Khan

1PhD Scholar, Government and Public Policy Department, National Defence University, Islamabad, Pakistan. waqasidreesmughal@gmail.com

2Assistant Professor, Government and Public Policy Department, National Defence University, Islamabad, Pakistan. bashirkhan@ndu.edu.pk

ARTICLE DETAILS

ABSTRACT

Azad Jammu and Kashmir is among the major disaster-prone areas of Pakistan. Disasters largely affect people resulting in loss of economy. Therefore, disaster risk reduction mechanism at community level is essential to minimize damage. The objective of this paper is two folds. Firstly, it analyzes the institutional framework in Pakistan for disaster management and specific disaster management policies. Secondly, this paper was designed to develop an in-depth understanding of the key challenges that the communities of Azad Jammu & Kashmir, Pakistan face in the wake of constantly reoccurring disasters. This paper is based on field visits. House-hold surveys, observations, key informant interviews and group discussions were conducted to analyze the preparedness, both at community and organizational levels. The findings point out that disaster management policies and mechanisms regarding preparedness are not implemented by both federal and state authorities at local level. Further, the local communities of AJK, Pakistan are susceptible to different kind of hazards related to disasters. The paper reveals that available federal/state mechanism of disasters do not meet the needs of community. All of the stakeholders that include federal government institutions, state government institutions and local communities are not prepared. Thus, communities are continuously getting affected by natural disasters. The paper suggests that there is a dire need to improve the coordination between state and national agencies. Further, there is need to enhance community preparedness specifically in AJK, Pakistan to upgrade community’s defensive and awareness mechanism to safeguard citizens’ lives in response to seismic emergency.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: waqasidreesmughal@gmail.com


DOI: 10.26710/reads.v4i2.403
1. Introduction

Disaster is the adverse event that causes damages to humans, plants and animals (Gilbert, 1995). Disasters happen indiscriminately, rapidly and instantaneously. Disasters can both be man induced and natural. These events usually exceed bearable magnitude that results in loss of lives, properties and wealth resulting in paralyzing the life (Quarantelli, 2005). Disaster is defined as the grave disruptions of the functioning of communities triggering widespread environmental, economic, material and human fatalities. The disasters happen from the amalgamation of vulnerabilities, inadequate capacities and hazards. The disasters occur when hazards impact the vulnerable population resulting into disruption, causalities and damage. Pakistan is facing many hydro metrological disasters reason being climate change and other environmental factors. The Hyogo Framework for Action (HFA) provided an opportunity to promote strategic and systematic approach to reducing vulnerabilities, susceptibilities and risks. Apart from innovation and education, the HFA states that all countries must use knowledge to build a culture of safety and resilience at all levels. Disaster management relies on communities’ knowledge or local population as they are the first available sources to tackle with disaster (Paton, 2007). Involving local communities in risk reduction or disaster management activities cannot be implemented easily in most countries (Hosseini et al; 2014). Many interventions by the authorities ignore local inputs in reducing vulnerabilities (Mercer, 2010). This widespread lack of coordination in community-based disaster risk management is mentioned throughout the literature as a source of failure in disaster management (Combaz, 2013). For Pakistan, enhancing local knowledge is crucial because of existing gaps in the disaster agencies response to the sudden onset of floods (Deen, 2015). This paper was designed to develop an in-depth understanding of the key challenges that the communities of Azad Jammu & Kashmir, Pakistan face in the wake of constantly reoccurring disasters. Further this paper explores the reasons behind these challenges, existing coping mechanisms and particular needs that can be identified for further external support through different organizations. The next section explains the phenomenon of natural hazards in Pakistan.

2. Literature Review

2.1 Natural Hazards in Pakistan

Pakistan is situated in hazard prone region of the world. Different disasters such as epidemics, tsunamis, landslides, droughts, glacier outbursts, floods, earthquakes and cyclones occur in Pakistan. Since 1954, Pakistan has suffered mostly from floods followed by earthquakes and storms (NDMA, 2007). The undermentioned Table gives an overview of the hazards in Pakistan.

Table 1: Major geophysical and hydro-meteorological hazards in Pakistan

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>Year</th>
<th>No. of events</th>
<th>Persons killed</th>
<th>Affected People</th>
<th>Affected Villages</th>
<th>Damage in million rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquakes</td>
<td>1990</td>
<td>1 (magnitude 6.1)</td>
<td>15</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>1 (magnitude 6)</td>
<td>20</td>
<td>456</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>1 (magnitude 7.6)</td>
<td>86,000</td>
<td>108,000+</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2008</td>
<td>1 (magnitude 6.4)</td>
<td>166</td>
<td>68,200</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Drought</td>
<td>1999</td>
<td>1</td>
<td>143</td>
<td>2,200,000</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Flood</td>
<td>1992</td>
<td>1</td>
<td>1,008</td>
<td>na</td>
<td>13,207</td>
<td>69,580</td>
</tr>
<tr>
<td></td>
<td>1995</td>
<td>1</td>
<td>591</td>
<td>na</td>
<td>6,852</td>
<td>8,698</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>1</td>
<td>219</td>
<td>na</td>
<td>50</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>1</td>
<td>484</td>
<td>na</td>
<td>4,376</td>
<td>5,175</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>1</td>
<td>85</td>
<td>na</td>
<td>47</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>1</td>
<td>59</td>
<td>na</td>
<td>1,931</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2006</td>
<td>1</td>
<td>541</td>
<td>na</td>
<td>2,477</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>1</td>
<td>586</td>
<td>na</td>
<td>6,498</td>
<td>na</td>
</tr>
<tr>
<td>Storms</td>
<td>1999</td>
<td>2</td>
<td>258</td>
<td>657,566</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2001</td>
<td>1</td>
<td>4</td>
<td>500</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2003</td>
<td>1</td>
<td>51</td>
<td>2,557</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td></td>
<td>2005</td>
<td>1</td>
<td>57</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

Note: na, data not available, Sources: Federal Flood Commission (2007), Haider (2006), CRED (2010),
How the Pakistan is responding to the natural hazards and if the communities have the ability to resist against the disaster management is still subject to a long debate. In this wake, next section will give an over-view of the institutional framework of disaster management in Pakistan to understand the disaster management policies in Pakistan till-date.

2.2 Institutional framework in Pakistan (For Disaster Management)
The Commission of National Disaster Management was established in Pakistan after the earthquake of Kashmir in 2005. The Commission is the apex and higher most decision-making body of Pakistan. Basically, NDMA was designed to act as central body to implement disaster strategies. Further, Provincial authorities had their own autonomous bodies for disaster management head by respective heads of provinces. Union councils and local governments are the lowest tiers. This third tier of government has the most important role to allocate the resources for the developmental work. They can play a vital role to advocate the needs and demands of communities from disaster risk reduction authorities and other related bodies. Up till 2014, Pakistan has faced the losses more than US$39bn only from floods (Guha-Sapir et al., 2015). Different disaster management policies, events and plans were discussed by Cheema et al (2016), Mustafa and Wrathall (2011) and Wescoat et al (2000). In addition to this, analysis of post 2005 policies on disaster show that the available approaches that are being implementing are based on short term relief and response efforts. There is very minute focus on capacity building, disaster preparedness and prevention. Legislative and regulatory gaps and weaknesses of disaster related institutions persist in term of mitigating susceptibilities and improvement livelihood (Deen, 2015; Fair et al., 2014). Keep in view these loopholes, this paper has assessed the impacts of natural disasters (flash floods, earthquakes) on vulnerable groups, especially local rural and urban communities by taking the case study of AJK, Pakistan. More specifically, this paper finds out the preparedness and adaptation approaches at the community and institutional level in rural and urban settings of AJK, Pakistan. In particular, the paper has analyzed vulnerability of local communities and the local institutions. Further, the government policies on Disaster Risk Reduction, laws and strategies on risk reduction, preparedness response and climate adaptation have been analyzed to understand where the gaps lie. The next section explains the research methodology of the paper.

3. Methods
The paper is based on primary and secondary data. The data was collected through questionnaire and secondary sources such as DRM reports, policy papers and research materials. In order to conduct this study, fundamental steps of development research were applied. First off, the district selection was carried out. Out of the ten districts in AJK, five were chosen due to time and resource constraints. The most vulnerable and poor districts were selected through a thorough understanding of the region: topology leading to particular disasters, and the socio-economic conditions. This was done through historical data analysis and consultations in AJK. Through the process, the following districts were selected to carry out this study: Bagh, Bhimber, Hattian, Muzaffarabad, and Neelam. These districts have historically been hit by disasters such as flash floods, earthquakes, landslides and avalanche. Heavy rains and flash flooding has hit AJK in 1992, 2010 and 2014; heavy floods have caused extreme damage in these districts, particularly in 2010 and 2014 where most of the population, both urban and rural, was majorly affected. Additionally, the devastating earthquake of 2005 that led to a loss of approximately 80,000 people across Pakistan, also caused severe damages in these districts. For each of these 5 districts, the following Union Councils were selected.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>District</th>
<th>Selected UCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Muzaffarabad</td>
<td>Muzaffarabad UC + Town</td>
</tr>
<tr>
<td>2</td>
<td>Hattian</td>
<td>Leepa</td>
</tr>
<tr>
<td>3</td>
<td>Bagh</td>
<td>UC Bagh plus Urban</td>
</tr>
<tr>
<td>4</td>
<td>Bhimber</td>
<td>Patni</td>
</tr>
<tr>
<td>5</td>
<td>Neelum</td>
<td>KundalShahi</td>
</tr>
</tbody>
</table>

3.1 Data collection tools and application
Both qualitative and quantitative approaches were employed for data collection purposes of this study. First, a detailed questionnaire was prepared to carry out the quantitative household survey. In total, 450 households were interviewed for the purpose of this study. In order to triangulate the results, qualitative tools were applied to identify the themes, subthemes and nodes. Focus Group Discussions (FGDs) were carried out with different community groups such as teachers, shopkeepers, small traders, farmers, councilors and traders. A total of 12 FGDs
(6 each with male and female) were conducted, in 6 union councils of each of the 5 districts. In addition, 7 Key Informant Interviews (KIIs) were also conducted with district authorities, including the Local Government, municipality, health, agriculture, livestock, PHED and SDMA.

3.2 Fieldwork
Before heading out the field, a detailed assessment of the area was undertaken for the site selection, questionnaire preparation and the undertaking of existing institutional systems in place. Desk review of the following was carried out: National Disaster Risk Reduction (DRR) Policy, National Disaster Management Plan (NDMP), District Disaster Risk Management Plans, international Sendai Framework on Disaster Risk Reduction (SFDRR), assessment studies, baseline reports prepared by other agencies AJK. Following the desk review, the tools for data collection were developed. This included a high-quality questionnaire for the household survey and semi structured questions for the FGDs and the KIIs. Once a final draft of the tools was prepared, a round of pre-testing was carried out in the nearby communities of the 5 districts. This helped in removing any issues, and hence the questionnaire was finalized. Through the orientation, the enumerators were also taught the process of village selection and systematic random sampling for selecting household for each district. Once the field work was completed, data entry was processed through the SPSS and Nvivo. For quantitative data analysis, SPSS was used while nVivo was used for qualitative data analysis. The data validation features were applied through development of drop down menus to ensure accurate data entry. The information was then analyzed that refined the findings, and identified key DRM needs of AJK, presented in this study.

4. Findings
4.1 Demography
Out of the total respondents who filled the questionnaire, 56% were males and 44% were females. Most of the sample size was aged between 18 to 45. It was found that illiteracy rate amongst women was at 42.3%. Almost 75% of the women population had just completed until middle school, whereas about 7% of the men had masters degrees as well.

4.2 Status of disasters
Most of the respondents during household survey, FGDs and KIIs also asserted that heavy rains are the most common and constantly occurring hazard. Secondly, earthquake was the most frequent disaster while thirdly, land sliding was pointed out as a constant threat. The corresponding table 4 also provides a hazard index which is measured by the frequency of the disaster and the level of impact it has on the people of the area. Heavy rains have the highest index of 88.1%. Table 4 gives an over-view of the frequency of the disaster and the level of impact.

Table 4: Frequency of the disaster and the level of impact

<table>
<thead>
<tr>
<th>Hazards</th>
<th>Frequency</th>
<th></th>
<th></th>
<th>Impacts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High%</td>
<td>Medium%</td>
<td>Low%</td>
<td>High%</td>
<td>Medium%</td>
</tr>
<tr>
<td>Flood</td>
<td>11.5</td>
<td>24.2</td>
<td>1.3</td>
<td>20.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Heavy Rain</td>
<td>69.4</td>
<td>22.6</td>
<td>0.7</td>
<td>37.5</td>
<td>49</td>
</tr>
<tr>
<td>Hailstorm</td>
<td>21.5</td>
<td>27.5</td>
<td>0.4</td>
<td>9.8</td>
<td>30.6</td>
</tr>
<tr>
<td>Earthquakes</td>
<td>18.8</td>
<td>53.9</td>
<td>0.4</td>
<td>41</td>
<td>25.9</td>
</tr>
<tr>
<td>Land Sliding</td>
<td>36.1</td>
<td>35.8</td>
<td>0</td>
<td>24.6</td>
<td>31.5</td>
</tr>
<tr>
<td>Avalanches</td>
<td>8.4</td>
<td>10.2</td>
<td>3.8</td>
<td>6.7</td>
<td>12</td>
</tr>
<tr>
<td>River Bank Soil Erosion</td>
<td>6</td>
<td>8.2</td>
<td>5.8</td>
<td>2.7</td>
<td>9.5</td>
</tr>
<tr>
<td>Forest fire</td>
<td>5.8</td>
<td>8.6</td>
<td>4.7</td>
<td>4</td>
<td>6.9</td>
</tr>
<tr>
<td>Cross border firing</td>
<td>2.2</td>
<td>1.1</td>
<td>1.1</td>
<td>3.1</td>
<td>0.7</td>
</tr>
</tbody>
</table>

4.3 Major impacts
This is established fact that every year, millions of people are affected by both human-caused and natural disasters. In AJK, Pakistan, it also impacts the lives of communities drastically. Out of total respondents, 21% of the respondents highlighted house damage as a major impact, followed by 18% of crops damage, and 15% resulted in loss of life from disasters.
4.4 Susceptibility and Vulnerability to disasters
This was found that communities in AJK, Pakistan are vulnerable to disasters. The major issues found were the non-availability of transportation, mobile facility, Water Sanitation, Health and Hygiene (WASH). The findings are presented below.

4.4.1 Transportation accessibility
During the FGDs and KIIs, it was found that inaccessibility of the remote areas and non-availability of transport facilities are the major issues for the vulnerability to disasters. The survey data also pointed out the same. The respondents also pointed out that inaccessibility of the surveyed households is a key issue for the region. This was found that 35.2% of the total surveyed area is accessible to every type of transport, a high percentage of 57% of the total areas are accessible only through 4x4 transport while 7.6% of the area is accessible only by foot. Figure 1 gives an overview.

Figure 1: Mode of transportation

4.4.2 Telephone/Mobile facility
Respondents were asked about the presence of telephone and mobile facilities for communication. 63 percent of the respondents answered that that their areas had the telephone and mobile phone facilities. Hattian and Bagh have maximum connectivity coverage of about 90 percent. Neelam and Bhimber are the least connected areas with 32% and 33% connectivity respectively.

4.4.3 Water Sanitation, Health & Hygiene (WASH)
An inquiry was made about source of water (inside their homes or fetching from far flung places). 55.3% have water source inside whereas the remaining 44.7%, had to fetch water from other sources. Those who have their source of water inside, 50.8% have water coming in through a pipe. Those who have to fetch water from outside, 33% used spring water as the major source. Impacts of disaster on the water source.

4.5 Disaster preparedness
To check out the readiness of local communities of AJK, Pakistan against the disasters and if the local, state and national government have prepared and trained the communities to minimize the disaster risk, in-depth interviews, FGDs and surveys were designed based on indicators that include rescue and emergency services, first Aid Kits, perception about safety from future disasters, information and resource deficit during disaster, actions taken to prepare better for the disasters, disaster preparedness training, availability of safe places, knowledge of Emergency Services, first responders, coping Mechanisms, measures for disaster resilient housing, strength of the community, existence and membership of disaster committees, willingness to work for DRR Activities and role of Women in disaster preparedness. Some of the major findings are discussed below.

4.5.1 Rescue and emergency services
During in-depth Interviews, KII's and the survey, the respondents were asked about the availability of ambulance service in the area. Almost 95% of the respondents answered that their areas did not have the requisite facility of ambulance or rescue services.
4.5.2 First Aid Kits
Further, it was found that nearly 76% of the respondents do not have any first aid kit at home. Likewise, 82 percent of those who responded that they have the kits further answered that government organizations were the main source of supply for such facilities.

4.5.3 Perception about safety from future disasters
This was found that, 41.4% strongly disagreed, and 49.9% disagreed with the statement ‘we feel safe against future disasters’. Within Districts, disagreement level was highest in the Neelam, followed by Bagh and Hattian.

4.5.4 Information and resource deficit during disaster
When asked about the lack of information and resources during the disasters, 22.1% felt there was an absence of a reliable source of Early Warning System (EWS), 19% shared that there is no safe place to move into, 14.3% considered lack of knowledge about evacuation routes as a hindrance to reducing losses in times of disasters.

4.5.5 Measures for disaster resilient housing
Respondents were asked whether they have taken any measures to make their houses disaster resilient. Nearly 60% of the total respondents stated that they had taken some measures to make their houses resilient against disasters. Among the districts statistics revealed that only 18.7% of the District Neelam and 29.5% of District Bhimber have taken some steps to make their houses resilient. District Hattian Bala and Bagh however, were on the highest strata in this regard with a percentage of 65.5% and 47.80% respectively.

Table 5: Measures for disaster resilient housing

<table>
<thead>
<tr>
<th>Measure</th>
<th>Neelam</th>
<th>Muzaffarabad</th>
<th>Hattian</th>
<th>Bagh</th>
<th>Bhimber</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design modification</td>
<td>27.80%</td>
<td>50.00%</td>
<td>71.70%</td>
<td>83.70%</td>
<td>44.16%</td>
<td>55.47%</td>
</tr>
<tr>
<td>Kit with essential documentation</td>
<td>11.10%</td>
<td>2.60%</td>
<td>1.70%</td>
<td>7.00%</td>
<td>0.00%</td>
<td>4.48%</td>
</tr>
<tr>
<td>Retrofitting</td>
<td>38.90%</td>
<td>47.40%</td>
<td>23.20%</td>
<td>4.70%</td>
<td>50.14%</td>
<td>32.87%</td>
</tr>
<tr>
<td>Raised platform</td>
<td>11.10%</td>
<td>0.00%</td>
<td>1.70%</td>
<td>2.30%</td>
<td>3.70%</td>
<td>3.76%</td>
</tr>
<tr>
<td>Safety wall</td>
<td>11.10%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.30%</td>
<td>0.00%</td>
<td>2.96%</td>
</tr>
<tr>
<td>Others</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>2.30%</td>
<td>0.00%</td>
<td>0.46%</td>
</tr>
</tbody>
</table>

The respondents who took measures were asked about the types of measures they have taken to make their houses resilient. About 55.4% of these respondents stated that they modified the design and structure of their houses, 32.8% retrofitted the house, 3.76% raised the platforms of their house and 2.96% constructed the safety walls. Details are given in the table 5.

4.5.6 Strength of the community
On responding the question of prime strength of the community, 35.36% of the total surveyed population stated that ‘Spirit of Self Help’ is the biggest strength of the community. 23.92% considered “youth”, while 12.44% stated that being well aware is the main strength. Figure 4 provides a district-wise breakdown.
5. Discussions & Conclusion

It can be argued that the role of government for disaster risk reduction and training the local communities to cope disasters is very minute. The implementation of government Policies both at state and national level is at loggerheads. Pakistan is a developing country facing severe issues such as poverty, education, health and defense which made it very difficult to invest in Disaster Risk Reduction and related planning. Further, the available institutions didn’t have capacity to implement or recommend needed policy changes and infrastructure. Pre-2005 analysis of disaster management in Pakistan shows that management structures and policies related to DRR were occupied by upper strata of government and involvement of local community, civil society and private sectors were minimal. Though, they always provided the relief activities independently. In addition, disaster policy making was considered as much serious business to discuss at local level (Easterly, 2003). To empower communities, civil societies and private sector to cope disasters was overlooked (Cheema et al., 2014; Mustafa, 2003; Ghaus et al., 2015). In comparison with Wisner et al.’s (2004) risk reduction objectives, this can be found that institutional mechanisms and government policies were not successful to address the specific issues involving the local community and civil society. While, this has also been found that post-2005 setup of provincial and national disaster management structure have severe economic, political and social issues such as increasing urbanization, environmental degradation, increase in population and institutional hierarchy (Ahmed, 2013; Halvorson and Hamilton, 2010). The National Disaster Management Commission (NDMC), the top body, have not hold a meeting since 2015 (Wasim, 2015). From this, we can analyze the seriousness of the situation. On top of that, government of Pakistan has not established a coherent and transparent mechanism of disaster risk financing (World Bank, 2015).

If we specifically look at the case study of AJK, Pakistan, following the in-depth process of fieldwork which included household surveys, key informant interviews and focus group discussion, a clear perspective of AJK’s DRM needs has emerged. Firstly, it was found that there is a clear lack of awareness about Disaster Risk Reduction practices. It was found that there is a very little support in terms of early warning systems, evacuation plans and follow-up support system at an institutional level that adds to substandard disaster management. Further in AJK, Pakistan, there is limited understanding about DRR practices, the focus at community level remains from one emergency to another. Most of the efforts are reactive in nature, only to respond to the disaster at hand, as opposed to developing preparedness plans at times when there are no emergency situations and actually planning better in order to reduce the impacts of future disasters. In addition, weak operational mechanisms were found to be the most crucial problem. Where data exists, it is not processed into useful information that could save lives. Where rules exist, they are not followed. For example, there are building codes set out by the government but these are not being followed by the community and neither are they being enforced by any department of the government. While everyone talks about the importance of early warning systems, no institutionalized mechanism exists. Similarly, while everyone talks about the importance of carrying out a multi-hazard vulnerability assessment, it has yet to happen.
In align, most of the support for disaster response or preparedness primarily comes from donors which is generally time bound and focuses on a portion of the population. The government is rarely allocating funds to such efforts which obviously results in long run unsustainability. As discussed earlier, there is a clear lack of clarity about institutional roles: following devolution as per the 18th amendment of the constitution, there is clear overlap of roles between the National Disaster Management Authority (NDMA), the Provincial Disaster Management Authorities (PDMA) and the State Disaster Management Authority (SDMA). This is a continuous reason for confusion and substandard support for communities before, during and after disasters. Moreover, there is no ownership for disaster management plans. This was found that plans have been prepared for a number of districts through international support, it is sad to find out that no one seems to own these plans. It is not clear whether these plans are to be used and owned by the communities, NGOs or the governments directly. Due to this reason, the planning exercises have not been utilized in the right way.

In conclusion, vulnerability assessments have ability to improve the responses regarding disaster events which reduces the impact on communities and societies. The study found that current mechanism of disaster risk reduction is compromised in Pakistan and lacks the basic capacity of prediction. This is recommended to apply more sophisticated tools both at state and national levels are needed to represent the multiple dimensionalities of vulnerability and support decision making.

References
Mercer, J. (2010), Disaster risk reduction or climate change adaptation: are we reinventing the wheel?. Journal of International Development, 22(2), 247-264.


Trade Reforms and Productivity Growth in Manufacturing Industries of Pakistan

1Ansa Nazli, 2Rehana Siddiqui, 3Imran Hanif

1PhD Scholar, School of Economic Sciences, Federal Urdu University of Arts Science & Technology, Islamabad, Pakistan.
azka06@gmail.com

2Head, Department of Environmental Economics, Pakistan Institute of Development Economics, Islamabad, Pakistan.
rehana@pide.org.pk

3Assistant Professor, Head of Economics Department, NUR International University, Model Town Lahore, Pakistan.
ihanif@gsu.edu

ARTICLE DETAILS

ABSTRACT

Trade has significant influence on total factor productivity (TFP) growth. There is lack of research at level in Pakistan. This paper investigates to what extent trade liberalization affects productivity growth employing endogenous growth model. Using DEA-Malmquist index to panel data in the first step we examine TFP growth, and decompose it into technological change and efficiency change. We found technological change is the key source of improvement in productivity growth. In the second step, we employ generalized method of moments (GMM) to assess the effect of trade liberalization on productivity growth and its components. We found trade liberalization, and other variables have substantial effect on productivity growth through the channels of learning by doing, knowledge spillovers, technology diffusion, and transformation. The results also support the hypothesis that human capital plays a crucial role in the creation, promotion, and absorption of technology. The study emphasis on the need to invest in human capital with the latest and scientific education to nurture human skills.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

JEL Classification:
B17, C30, D60, L60

1. Introduction

The role of international trade as an engine of growth has been at the center of trade policy debate over the past few decades. Trade is considered to enhance productivity growth through knowledge spillovers, learning by doing, and diffusion of technology. It offers better-quality products that boost access to international markets (Kemal et al., 2002). Trade liberalization leads to higher competition, which is in the long run met through higher TFP growth (GTFP). TFP growth the best overall measure of competitiveness reflects technological advancement. TFP indicates the enhancement in the quality of inputs with human resource development, and infrastructure.

Manufacturing sector plays a substantial role to meet domestic demand and to earn foreign exchange. Despite being
a key sector of Pakistan it is confronted by slow growth, poor infrastructure, unskilled labor, lack of up-to-date technology, and inconsistent policy. Nationalization of heavy industries, increased oil prices, and political uncertainty in the 1970s, led to high cost of production and loss of private investor’s confidence which still prevails in the economy. The World Trade Organization (2005) gave momentum to the process of trade liberalization, sustained by country’s export and import flows and the reduction in tariff. Pakistan also has liberalized its external sector since the 1990s under the structural / trade reforms. Despite these reforms, industries are still inefficient and, have poor infrastructure. Manufacturing industries are lacking behind in adaptation of advanced technology (Mahmood et al., 2007). However, the benefits from trade liberalization are not circulated uniformly. Trade liberalization is a key constituent of productivity growth through knowledge accumulation and transfer of technology (Sachs et al., 1995; Frankel &Romer, 1999; Goldar&Kumari, 2003; Jajri; 2007). Trade leads to more competent allocation of resources and stimulates efficiency (Edward, 1998; Dollar and Kraay, 2003). Whereas, the other group of studies declare that credit constraints hinder the adoption of foreign technology in emerging economies and technology gains may not be captivated by firms (Young, 1991); Pack, 1994; Topalova&Khandelwal, 2011). These diverse views about trade openness and growth have important policy implications and are source of motivation to attempt the current study.

The global market predictions for Pakistan industries have significantly induced private investment through technology upgradation. Adoption of advanced technology improves not only quality of products but also efficiency of production process. However, the current technology status is poor in Pakistan; therefore, the efficiency of production process has become an important element for the development of these industries. The frontier method (parametric and non-parametric) is important because it identifies the sources of TFP growth. The Data Envelopment Analysis (DEA) by Coelli et al. (1996) is justified because it can handle well with limited number of observations without requiring functional form.

A number of studies show favorable / unfavorable effect of trade reforms on productivity growth at firm level (see, Harrison, 1994; Edwards, 1998; Jajri, 2007; Mahmood&Talat, 2008). Yet such studies are seriously lacking in case of Pakistan. Most of research has utilized aggregate data to investigate the effect of trade reforms on productivity growth (which shows average of all subsectors) whereas each sector reacts distinctly (Kemal et al. 2002; Yasmin and Jehan 2006; Din et al. 2003; Mahmood& Siddiqui, 2000; Dutta and Ahmed 2006). So far, there exists little research on the association of trade reforms and productivity growth at firm level. Sheikh and Ahmed (2011) examined effect of trade reforms on efficiency of 11 agro-based industries for the period 1970-2006. Analyzing efficiency with DEA and SFA he also explores the effects of reforms on efficiency. Results show favorable effects of trade reforms on productivity growth. A similar result has been derived by Ahmed et al. (2015) investigating trade and productivity linkage using variant of Cobb-Douglas production function and OLS (pre and post liberalization) at firm level. They found positive influence of trade liberalization using excise duty on productivity growth for the period 1980-2006. Using DEA-Bootstrapped model and truncated regression Mujadad and Ahmad (2016) have estimated technical efficiency of manufacturing sub sectors and its determinants. The study found adverse bearings of trade reforms on technical efficiency of manufacturing sectors over the period 1980-2006. The role of human capital is not investigated in determining the efficiency and productivity in these studies. Whereas High productive and exporting firms are managed by highly educated managers and employ educated labor (Grossman and Helpman, 1991). Some of current studies employing panel data give estimates for the entire data period. More research is needed at firm level, to arrive at better practical solutions for policy makers.

Considering the deficiencies of previous studies, the current study aims to address these gaps in the literature carried in Pakistan. It provides a more comprehensive analysis of productivity and efficiency, employing DEA-Malmquist index to examine the variations in TFP growth between eighteen industrial groups over time (Malmquist, 1953). The study contributes to investigate trade liberalization impact on efficiency and productivity between the periods of 1980-2006, using better measures of inputs and output. This renewed perception on trade and growth will be helpful in framing appropriate policies. Assessment of trade liberalization impact on productivity growth is worthwhile to detect the mechanisms through which trade reforms affect growth.

The study is ordered as follows: Section 2 describes data and methodology, section 3 gives some empirical results. Finally, conclusions and policy suggestion are given in section 4.

2. Data and Methodology

To appraise the association between trade liberalization and productivity growth we use balanced panel data (time series) of 3- digit level according to Pakistan Standard Industrial Classification (PSIC) covering a period of 1980-
2006. The data on value added, labor, capital stock, investment, and worker’s wages have been collected from different issues of census of manufacturing industries (CMI) by Federal Bureau of Statistics (FBS), Government of Pakistan. CMI was conducted on the regular basis until 1990-91 but after that, it is being issued after every five years. The serious restraint of this study is the use of data up to 2005-06, as CMI 2010-11 is still in process. Due to this reason, the present study uses data with a gap of five years for each variable. CMI data for the year 2000-01 is different in classification from the data of 2005-06. Therefore, for comparability, some of industries are merged into one industry group based on major activities.

2.1 Methodology

2.1.1 Malmquist TFP Index

Data Envelopment analysis (DEA) by Charnes et al. (1978) measures performance of DMU/firms using data on input and output of group of industries. Given the limitation of reliable data on prices and quantities, Malmquist index at constant returns to scale technology is utilized. In analyzing the growth of certain set of industries, Malmquist index is a better way of deciding how much of this growth is caused by efficiency change / technological change.

Using the method established by Fare et al. (1994) the output–oriented DEA-Malmquist panel data is employed to focus on the expansion of output with given inputs, as firms aim to maximize profit (Raheman et al., 2008). Panel data captures the relevant connection amongst variables over time. TFP changes from one year to the next year as a result of change in technological change (TECHCH) and, efficiency change (EFFCH). We use DEAP software developed by Coelli (1996), which has the added benefit of flouting technical efficiency into pure efficiency and scale efficiency. Moreover, labor and capital as inputs and value-added as output are used. Efficiency measures are calculated relative to the frontier that represents an efficient technology. Technical efficiency of a firm can be the result of returns to scale or actual improvement in efficiency (Banker et al. 1984). Fare et al. (1994) also break technical efficiency into pure efficiency and scale efficiency however; their technical change measure is built on CRS technology.

The Malmquist index between period “t,” and the period “t+1” is given by,

\[ M_o (x^{t+1}, y^{t+1}, x^t, y^t) = \left[ \frac{D_o(x^{t+1}, y^{t+1})}{D_o(x^t, y^t)} \right] \times \left[ \frac{D_o(x^{t+1}, y^{t+1})}{D_o(x^t, y^t)} \right]^{\frac{1}{2}} \] (1)

We can distinguish between efficiency change and technical change.

\[ M_o (x^{t+1}, y^{t+1}, x^t, y^t) = \frac{D_o(x^{t+1}, y^{t+1})}{D_o(x^t, y^t)} \times \left[ \frac{D_o(x^{t+1}, y^{t+1})}{D_o(x^t, y^t)} \right]^{\frac{1}{2}} \] (2)

\[ MTFPI \ = \ Efficiency \ change \times Technical \ change \] (3)

Mo is Malmquist index; the term outside the brackets shows the change in technical efficiency (catching up). Whereas the geometric mean of the two ratios inside the brackets measures the shift in technology. The catching up effect measures how much a firm is close to the frontier by capturing extent of diffusion of technology / improved utilization of existing resources.

2.1.2 Estimating Impact of Trade Liberalization on TFP Growth using GMM

Following the previous studies of Mahmood and Talat (2008) and Jajri (2007), we gauge the relative significance of the mechanisms: trade reforms (average tariff), human capital, and investment on productivity growth. We employ system GMM regression technique by Arellano Bover (1995) Blundell and Bond (1998). More specifically, we adopt the following models in the second stage:

\[ GTFP_i = \gamma_0 + \gamma_1 HC_i + \gamma_2 IN_i + \gamma_3 TA_i + \varepsilon_{it} \] (4)

\[ TECHCH_i = \alpha_0 + \alpha_1 HC_i + \alpha_2 IN_i + \alpha_3 TA_i + \varepsilon_{it} \] (5)
It is expected that the elasticity parameters, $\gamma_0$, $\gamma_1$, $\gamma_2$, $\gamma_3 > 0$, $\gamma_3 < 0$. Where, TECHCH is technical change, EFFCH is efficiency change, GTFP is growth in overall TFP and $\gamma_0$, $\gamma_1$, $\gamma_2$, $\gamma_3$ are parameters of human capital, investment and average tariff, respectively. To handle the endogeneity in the explanatory variables of the dynamic growth model GMM is employed, by generating lagged values of the explanatory variables as internal instruments. GMM estimates are considered consistent as there is no second order correlation of the residual and have been applied in many empirical studies (Das and Paul, 2011).

3. Results and Discussion

3.1 Results for Total Factor Productivity Growth

Table 1 reveals that on average, productivity improved during the period of twenty-five years. The progress in TFP growth as given by the Malmquist productivity index at 3.2 percent. The comparison of the columns shows that growth in TFP is contributed mainly by technological invention (TECHCH), which improved by 2.7 percent. The efficiency change (EFFCH), stated in the third last column of the table shows a change of only 0.06 percent. Mahmood et al. (2007) found that manufacturing industries of Pakistan have lack of efficiency. This result is also in conformity with Mujaddad and Ahmad (2016) who suggest some improvement in efficiency caused by learning behavior in manufacturing industries for the period 1995-2006.

Table 1: Malmquist Index of Sectors Means (1980-2006)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Industries</th>
<th>TFP Change</th>
<th>TECH Change</th>
<th>EFF Change</th>
<th>PE Change</th>
<th>SE Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Food</td>
<td>1.051</td>
<td>1.033</td>
<td>1.016</td>
<td>1.000</td>
<td>1.016</td>
</tr>
<tr>
<td>2</td>
<td>Tobacco</td>
<td>1.060</td>
<td>1.034</td>
<td>1.025</td>
<td>1.000</td>
<td>1.025</td>
</tr>
<tr>
<td>3</td>
<td>Beverages</td>
<td>1.052</td>
<td>1.041</td>
<td>1.011</td>
<td>1.000</td>
<td>1.010</td>
</tr>
<tr>
<td>4</td>
<td>Petroleum</td>
<td>0.977</td>
<td>1.020</td>
<td>0.956</td>
<td>0.959</td>
<td>0.988</td>
</tr>
<tr>
<td>5</td>
<td>Drugs &amp;medicine</td>
<td>1.010</td>
<td>1.015</td>
<td>0.994</td>
<td>1.020</td>
<td>0.957</td>
</tr>
<tr>
<td>6</td>
<td>Electricals</td>
<td>1.035</td>
<td>1.029</td>
<td>1.005</td>
<td>1.354</td>
<td>0.742</td>
</tr>
<tr>
<td>7</td>
<td>Fabricated metal</td>
<td>1.021</td>
<td>1.011</td>
<td>1.010</td>
<td>1.000</td>
<td>1.010</td>
</tr>
<tr>
<td>8</td>
<td>Glass &amp; products</td>
<td>1.053</td>
<td>1.036</td>
<td>1.024</td>
<td>1.010</td>
<td>1.014</td>
</tr>
<tr>
<td>9</td>
<td>Industrial chemical</td>
<td>1.047</td>
<td>1.031</td>
<td>1.015</td>
<td>1.005</td>
<td>1.010</td>
</tr>
<tr>
<td>10</td>
<td>Iron &amp; Steel</td>
<td>1.036</td>
<td>1.018</td>
<td>1.024</td>
<td>1.004</td>
<td>1.020</td>
</tr>
<tr>
<td>11</td>
<td>Leather &amp;footwear</td>
<td>1.038</td>
<td>1.023</td>
<td>1.015</td>
<td>1.005</td>
<td>1.010</td>
</tr>
<tr>
<td>12</td>
<td>Machinery industry</td>
<td>1.011</td>
<td>1.029</td>
<td>0.981</td>
<td>0.995</td>
<td>0.896</td>
</tr>
<tr>
<td>13</td>
<td>Other chemicals</td>
<td>1.042</td>
<td>1.036</td>
<td>1.006</td>
<td>1.000</td>
<td>1.006</td>
</tr>
<tr>
<td>14</td>
<td>Wood, Paper, Publish</td>
<td>1.030</td>
<td>1.030</td>
<td>0.999</td>
<td>1.000</td>
<td>0.999</td>
</tr>
<tr>
<td>15</td>
<td>Rubber</td>
<td>0.947</td>
<td>0.973</td>
<td>0.974</td>
<td>0.938</td>
<td>0.977</td>
</tr>
<tr>
<td>16</td>
<td>Textile</td>
<td>1.063</td>
<td>1.049</td>
<td>1.014</td>
<td>1.010</td>
<td>1.004</td>
</tr>
<tr>
<td>17</td>
<td>Transport goods</td>
<td>1.060</td>
<td>1.039</td>
<td>1.020</td>
<td>1.005</td>
<td>1.015</td>
</tr>
<tr>
<td>18</td>
<td>Wearing apparel</td>
<td>1.058</td>
<td>1.039</td>
<td>1.018</td>
<td>1.010</td>
<td>1.008</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>1.032</td>
<td>1.027</td>
<td>1.006</td>
<td>1.011</td>
<td>0.989</td>
</tr>
</tbody>
</table>

Note. An index value greater than 1 indicates growth in productivity, and the value less than unity shows decline in TFP growth. Scale value > 1 shows increasing returns to scale.

The performance of each separate industry relative to the best practice in the sample is revealed in table 1. The results show u-shaped trend in most of the industries, which explains average productivity growth was higher in the 1980s. Nevertheless, most of the industries are showing falling trend in the 1990s, which is due to macro-economic imbalances, recurrent changes of regimes and fluctuating policies. Due to unfavorable external and internal environment the economy suffered by lack of private investment and high inflation which affected the growth of industrial sector. The industries improved in the decade of 2000-01 as the economy exhibited an average GDP
growth of 7% (World Bank report, 2002). Favorable external environment, removal of sanctions imposed, and high growth in remittances led to improved growth in manufacturing industries. These conclusions are in accordance with the empirical studies of Din et al. (2003) and Zaidi (2005).

Industry-by-industry results show that textile group on average has the highest TFP growth at 6.3% per annum, during the period. Tobacco (6.0%), transport goods (6.0%), wearing apparel (5.8%), glass & non-metallic mineral products (5.3%), and beverages (5.2%) follow the textile industry benchmark industry here). On the other hand, petroleum and rubber industries show negative trend in TFP growth accounting 0.977% and 0.947% respectively.

The overall technical change in all industries is found positive except in rubber industry (0.973%), which has poor technological adoption. Textile (4.9%), beverages (4.1%), and transport (3.9%) industries display highest technology adoption. Technical change have played major role in shifting the frontier outwards over the time. Efficiency change shows the maximum output production by utilizing the existing inputs. Table 1 in column 5 reports that on average tobacco, glass, non-metallic mineral products and steel & iron industries are highest performers in efficiency change. However, in the entire period, almost all industries performed poorly in terms of efficiency change.

3.2 Empirical Results: Impact of Trade Liberalization on TFP Growth using GMM
To examine the linkage between trade liberalization and productivity growth, system GMM is employed. It helps to avoid dynamic panel bias by instrumenting endogenous explanatory variables, using their own lag-values to account for endogeneity. Table 2 reports the findings of panel regression model; The substantial outcome of trade policy on productivity growth reflects that trade is a crucial factor of productivity growth. The result confirms the association of trade and growth in theoretical and empirical literature of growth (Dollar and Kraay, 2003; Jajri 2007). The finding is also in confirmation with the literature in the perspective of Pakistan (Dutta and Ahmed, 2000; Kemal, et al. 2002; Ahmed et al., 2015).

Table 2: Panel GMM results of explanatory variables on GTFP (1980-2005)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>HC</th>
<th>IN</th>
<th>TA</th>
<th>R2</th>
<th>P-J</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTFP</td>
<td>0.75</td>
<td>1.7</td>
<td>0.03</td>
<td>1.1</td>
<td>0.88</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>(2.26)</td>
<td>(4.3)***</td>
<td>(2.3)*</td>
<td>(2.1)*</td>
<td>0.88</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Source: Estimated by author, Notes: all values in parenthesis denote t-stat. show level of significance at***Significant at 1%, **significant at 5%, *Significant at 10%. TA (tariff), H (human capital), I (investment).

The favorable and momentous impact of human capital (HC) on TFP growth (coefficient is 2.2) suggests the critical importance of human capital in refining production technologies (confirms endogenous growth hypothesis). Quality aspect of human capital has greater potential in absorption and in explaining growth. Education is a critical determinant in taming techniques of production and achieving efficiency in developing countries (Haq, 2004). The model also displays the positive and statistically significant (5%) association of investment with productivity growth; however coefficient (0.03) shows weak effect. This is because investment levels fell down in Pakistan with the erosion of business confidence in private sector in the 1990s. We found favorable effect of trade reforms on productivity growth; with the reduction in import tariff rate, import price declines relative to export price, move resources from imports to exports.

3.3 Empirical Results: Impact of Trade Liberalization on Technical Change (TECHCH)
Table 3 reports the findings of the model 2 (row 1) that show positive and statistically significant association of trade liberalization and other determinants with technological change. Human capital (HC) has a key feature in adopting, absorbing, and enlightening production technologies. Human capital and knowledge capital have a significant role in utilization of technology apparatus (Mahmood& Siddiqui, 2000). The investment coefficient displays positive linkage with technical change. It also reflects low investment during that period caused by political instability, uncertain business conditions, and lack of investor's confidence. Due to neglect of social development by past regimes, and poor governance could not create favorable macroeconomics environment to benefit projects by trade reforms and FDI. These findings are in confirmation with empirical study of Khan and Khan(2011).

3.4 Trade Liberalization and Efficiency Change (EFFCH)
Table 3 (row 2) presents findings of the model 3 (efficiency change). Reduction in tariff positively but insignificantly effects efficiency growth. The coefficient (0.001) shows, low efficiency growth, observed in a weak
institutional setting. Industrial inefficiency prevails due to import substitution bias. High tariff protection still prevails in major sectors of Pakistan economy. However, government neoliberalism policies in fiscal year 2000 led to some improvement in industrial efficiency. Mahmood et al. (2007) also found some improvement in efficiency of Pakistan manufacturing.

Table 3: Panel GMM Results of Explanatory Variables on TECHCH and EFFCH

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>HC</th>
<th>IN</th>
<th>TA</th>
<th>R2</th>
<th>P-J</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECHCH</td>
<td>0.69</td>
<td>1.5</td>
<td>0.02</td>
<td>0.4</td>
<td>0.92</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>(2.79)</td>
<td>(2.9)***</td>
<td>(1.94)*</td>
<td>(1.89)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFFCH</td>
<td>0.96</td>
<td>-3.5</td>
<td>2.9</td>
<td>0.001</td>
<td>0.41</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>(2.6)</td>
<td>(2.2)*</td>
<td>(2.4)*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Estimated by author. Notes: all values in parenthesis denote t-value. Shows level of significance, at***Significant at 1%, **significant at 5%, *Significant at 10% Panel GMM, 1985-2006.

The negative and significant influence of human capital on efficiency change reveals the neglect of social development in the country. The result is in conformation with Awan et al., (2011) and among international research the study is in accordance with Bils & Klenow (2000), and Temple (2001). The existing status of human capital in Pakistan is not capable enough to absorb latest technology. There is immense need to invest in human capital with latest and scientific education to improve efficiency (Jadoon et al., 2015). The test of over-identifying restriction, the Sargen test fails to reject the null hypothesis and confirms the validity of instrumental variables.

4. Conclusion
In this paper we analyzed the implications of trade reforms, human capital and investment on productivity growth by employing endogenous growth model of Romer, (1990) and Lucas, (1988) with panel data at firm level. Our findings display trade liberalization has a favorable effect on industrial productivity. The result justify the implementation of substantial trade reforms in the 1990s and early 2000. All the estimated equations render support to the prediction that trade liberalization enhances productivity growth. Technological change is the key contributor of TFP growth in manufacturing industries however efficiency change has a negligible contribution. In light of the ongoing debate on the association of trade liberalization and productivity growth and its components. Trade affects growth through the channels of knowledge spillovers and technology transmission. However, these effects are weaker on efficiency change. Efficiency change is carefully connected to human skills and education. It highlights the deficiency of efficiency due to neglect of social sector in the country. The limitation of this study is the data availability until 2005-06. Growth evaluation of these industries with new dimension is of great importance for their relative position. The dynamics of our industrial sector are almost same and this renewed perception on growth will be helpful in framing appropriate policies. We can presume some policy implications, first outward oriented strategy should be continued to promote exports and imports. Education especially technical education and on the job training can equip the firms with efficient labor to adopt and benefit foreign technologies. Public sector enterprises can be privatized to flourish private sector. Foreign investors should be made to feel comfortable in the transfer of technology.

References


Appendix

Table A-1

<table>
<thead>
<tr>
<th>No. of Industries</th>
<th>No. of Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>All industries</td>
<td>All industries</td>
</tr>
<tr>
<td>1</td>
<td>Food</td>
</tr>
<tr>
<td>2</td>
<td>Tobacco</td>
</tr>
<tr>
<td>3</td>
<td>Beverages</td>
</tr>
<tr>
<td>4</td>
<td>Coal and Petroleum</td>
</tr>
<tr>
<td>5</td>
<td>Drugs and medicine industry</td>
</tr>
<tr>
<td>6</td>
<td>Electrical goods</td>
</tr>
<tr>
<td>7</td>
<td>Fabricated metal products</td>
</tr>
<tr>
<td>8</td>
<td>GLASS &amp; non-metallic products</td>
</tr>
<tr>
<td>9</td>
<td>Industrial Chemicals</td>
</tr>
</tbody>
</table>

Table A-2: Definitions and Construction of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Variable description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Stock(K)</td>
<td>Fixed asset. The value of capital stock (K) consists of the value of machinery and other assets.</td>
</tr>
<tr>
<td>Employment (L)</td>
<td>Average daily workers involved in manufacturing include employees, working proprietaries, home workers.</td>
</tr>
<tr>
<td>Average tariff rate(T)</td>
<td>It is constructed as the ratio of import duties to volume of imports.</td>
</tr>
<tr>
<td>Value-added (Y)</td>
<td>It is the total value of output minus the input costs.</td>
</tr>
<tr>
<td>Human capital(HC)</td>
<td>Average wage, calculated as employment cost(wages ,salaries plus benefits) divided by number of employees for each industry, is used for the proxy of human capital</td>
</tr>
<tr>
<td>Investment(I)</td>
<td>Gross fixed capital formation (GFCF) or fixed assets minus disposal of assets</td>
</tr>
</tbody>
</table>

Source: calculated by author
<table>
<thead>
<tr>
<th>Year</th>
<th>Average Tariff</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>40.0</td>
<td>189.22</td>
<td>155.32</td>
</tr>
<tr>
<td>1991</td>
<td>32.6</td>
<td>175.23</td>
<td>157.11</td>
</tr>
<tr>
<td>1992</td>
<td>35.3</td>
<td>179.77</td>
<td>159.43</td>
</tr>
<tr>
<td>1993</td>
<td>34.7</td>
<td>180.32</td>
<td>159.98</td>
</tr>
<tr>
<td>1994</td>
<td>33.5</td>
<td>180.23</td>
<td>160.55</td>
</tr>
<tr>
<td>1995</td>
<td>34.6</td>
<td>186.63</td>
<td>161.17</td>
</tr>
<tr>
<td>1996</td>
<td>22.9</td>
<td>199.88</td>
<td>198.76</td>
</tr>
<tr>
<td>1997</td>
<td>20.7</td>
<td>210.74</td>
<td>203.43</td>
</tr>
<tr>
<td>1998</td>
<td>17.7</td>
<td>267.89</td>
<td>220.74</td>
</tr>
<tr>
<td>1999</td>
<td>17.7</td>
<td>275.59</td>
<td>226.26</td>
</tr>
<tr>
<td>2000</td>
<td>17.0</td>
<td>266.96</td>
<td>224.61</td>
</tr>
<tr>
<td>2001</td>
<td>15.1</td>
<td>279.84</td>
<td>251.51</td>
</tr>
<tr>
<td>2002</td>
<td>15.6</td>
<td>281.83</td>
<td>224.97</td>
</tr>
<tr>
<td>2003</td>
<td>7.5</td>
<td>248.93</td>
<td>240.82</td>
</tr>
<tr>
<td>2004</td>
<td>13.3</td>
<td>274.02</td>
<td>287.81</td>
</tr>
<tr>
<td>2005</td>
<td>13.1</td>
<td>284.72</td>
<td>301.0</td>
</tr>
<tr>
<td>2006</td>
<td>13.1</td>
<td>289.58</td>
<td>340.71</td>
</tr>
<tr>
<td>2007</td>
<td>12.7</td>
<td>300.76</td>
<td>375.06</td>
</tr>
<tr>
<td>2008</td>
<td>11.7</td>
<td>318.97</td>
<td>427.0</td>
</tr>
<tr>
<td>2009</td>
<td>12.5</td>
<td>387.9</td>
<td>559.24</td>
</tr>
<tr>
<td>2010</td>
<td>12.7</td>
<td>411.0</td>
<td>612.7</td>
</tr>
<tr>
<td>2011</td>
<td>9.7</td>
<td>559.56</td>
<td>747.32</td>
</tr>
<tr>
<td>2012</td>
<td>10.0</td>
<td>641.15</td>
<td>823.33</td>
</tr>
</tbody>
</table>

Source: Statistical Bulletins, State Bank of Pakistan (1990-91=100)
Dilemmas of Adolescents: Dark Triad and Relational Aggression, Moderated by Economic Status

1Saima Riaz, 2Zakia Bano, 3Raheel Abbas, 4Muhammad Rizwan

1Lecturer, Department of Psychology, University of Gujrat, Pakistan.
2Department of Psychology, University of Gujrat, Pakistan.
3Assistant Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan. raheel.abbas@bzu.edu.pk
4PhD Scholar, School of Education Sciences, Nanjing Normal University Nanjing, China.

ARTICLE DETAILS

Objective of the present study was to find out the relationship between dark triad and relational aggression among adolescents. A sample of 612 adolescent students with age range 12-19 were selected from different educational institute of Gujrat, Pakistan. Dark triad personality scale short version and the Urdu version of diverse adolescent relational aggression scale were used to measure relational aggression. The findings of the current study revealed significant predictive relation of machiavellianism with relational aggression \[R^2 = .220; F (1, 607) = 171.340, p<.01\], narcissism with relational aggression \[R^2 = .189; F (1, 607) = 141.753, p<.01\] and psychopathy with relational aggression \[R^2 = .265; F (1, 607) = 218.635, p<.01\]. Conclusion: The present study supported the predictive relationship of dark triad with relational aggression. These findings may have implication in the future intervention and prevention procedure for adolescents.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Keywords: Dark triad, Machiavellianism, Narcissism, Psychopathy, Relational Aggression, Adolescents

JEL Classification:
A14, D91

1. Introduction

Human aggression is a social behavior. According to Baron and Richardson (1994) aggression is any conduct which is aimed at damaging another individual who does not want to be mistreated. Aggression usually appears in different forms such as physical violence which involves hurting others bodily like beating, jolting, shooting, or stabbing; and oral aggression includes hurting others by degrading words (like name calling, yelling, swearing, and screaming). One other form of aggression is relational aggression which is more damaging than physical aggression among adolescence. Relational aggression pertains to deliberately damaging another individual’s social relations, inclusion within a group, or feelings of acceptance (Crick & Grotpeter, 1995).

Relational aggression emphases on the utilization of one’s association to disturb the others relations. Efforts are made to damage the relationships and these relations are also a target for manipulating someone. The culprit exploits his or her links as a basis for attaining power, to gain the social approval, and to distribute violence. Victim’s relationships are tried to be managed by these manipulations. Violent conducts possibly would be evident
in real actions both physically or verbally. Different verbal means are used such as disseminating rumors, rolling eyes, overlooking, making faces, exclusion, gossip, and friendship removal (Cheng, 2009). Generally, relational aggression is the basis of psychological and emotive harm that is considered far more damaging as compared to physical harm (Young, Nelson, Hottle, Warburton, & Young, 2011). Moreover, relational aggression does not belong to a specific country or culture but can be observed across cultural restrictions (Bowie, 2007). In all terms, relational aggression damage others by destroying or threats to destroy the relationships by affecting their acceptance in group, friendship, or group insertion.

During the adolescence period social elements become very important. In adolescence era peer group have an impact on ones’ evaluation about his or her self. Relational aggression with teenagers is especially significant as they are passing through a transitory period (Siegel, La Greca, & Harrison, 2009). Emotions of anger, jealousy, and envy may be underlying children’s wish or need to use social aggression. Recognizing relational aggression in school settings is not very simple as relational aggression is not considered aggression by teachers and parents. Students who are involved in relational aggression deny that nothing has been done by them (Young, Boye, & Nelson, 2006).

Personality denotes to individual variations in distinctive forms of thinking, feeling, and acting. Personality has some bright aspects while others are dark. Three facets are the most prominent in this regard, machiavellianism, narcissism, and psychopathy. Grouping of these three aspects were proposed by Paulhus and Williams (2002) that capture discrete differences in malicious potentials. Further, these personality traits are called the “dark triad.” According to them the person’s moral judgments “fit” their personality. The judgments which a person put forth match the traits which he or she possesses. The dark triad expresses distinctive associates but share a common core of cold-hearted manipulation (Furnham, Richards, & Paulhus, 2013). Previously, the concepts of dark triad have captured extensive interests, as huge number of pragmatic studies realized their usefulness in forecasting human conduct (Kam & Zhou, 2016).

The first member of dark triad, machiavellianism represents the propensity to abuse others for one’s own benefit in a cynical, manipulative, and dishonest relational style (Wilson, Near, & Miller, 1996). People with high intensities of machiavellianism incline to engage in manipulative strategies by implementing tactics that maximize self-benefits (Ryckman, Thornton, & Butler, 1994). Further, machiavellianism are related with a disrespect for the significance of ethics and the practice of untruthfulness to follow and uphold control (Smith & Lilienfeld, 2013). Narcissism, one other notion of dark triad, is marked by magnificence, a sense of being privileged, and an absence of empathy (Smith & Lilienfeld, 2013). Extreme self-exaggeration is the symbol of narcissism, which comprises an overstated view of a person, imaginations of being a controller, sense of achievement and appreciation, and a wish for the endorsement of this self-love believes being reinforced by others (O’Boyle, Forsyth, Banks, & McDaniel, 2012). The third dimension of dark triad is psychopathy which is basically a personality issue that is about lessered remorse, weakened empathy, and significant antisocial conducts (Blair & Viding, 2008; Marsh, 2013). Being impulsive, non-empathetic, self-centered, with marginal emotional responsiveness to hostile stimuli are the key features of people who are high in psychopathy (Jones & Paulhus, 2017; Paulhus & Williams, 2002; Patrick, 1994). Furthermore, psychopathy is an individual’s absence of worry for other persons and societal monitoring mechanisms, impulsivity, and an absence of remorse when their activities damage others (O’Boyle et al., 2012).

Personalities with the traits of machiavellianism, narcissism, and psychopathy are in public aversive but still are within the normal range. Prosocial personality traits follow personal growth in the well-liked form as agreeableness and conscientiousness, but antisocial personality qualities achieve individual purpose through the ghastly form (Jonason & Webster, 2010). These three traits are conceptually distinct but empirically are not separated personality variables. Three sets of interconnected tenets are core to the machiavellian personality: an affirmed trust in the efficacy of manipulative strategies in working with other individuals, a pessimistic opinion of human nature, and an ethical viewpoint that places convenience and practicality above code of conduct (O’Boyle et al., 2012).

A study was conducted by Ghim, Choi, Lim, and Lim (2015) to check the causal relations within concealed narcissism, internalized humiliation, annoyance contemplation, and relational aggression. Results depicts that narcissistic anger was directly linked with relational aggression (Onishi, Kawabata, & Yoshida, 2012). Furthermore, research findings revealed that narcissism, and machiavellianism were associated to particular types of infantile aggression. Moreover, narcissistic qualities displayed the strong exceptional relationship with explicit aggression and relational aggression (Lau & Marsee, 2013). Hence, narcissism was directly linked with unconcealed aggression, and relational aggression (Lau, Marsee, Kunimatsu, & Fassnacht, 2011). Additionally, one study
demonstrated that narcissism was positively associated with physical aggression as well as relational aggression (Ojanen, Findley, & Fuller, 2012). Psychopathy, one of the units of dark triad also exhibits a positive link with relational aggression. Psychopathy has a protruding effect on how people justify their deceitful conducts. It was found that the dark triads act as influential psychological precursors to deceptive behaviors. (Harrison, Summers, &Mennecke, 2016). Relationship of psychopathic qualities with violence were also discovered in a research on the sample of grade five to grade nine school children. In addition, these qualities were gauged by both teacher as well as self-report evaluations. Association was found between psychopathic qualities and aggression (Marsee, Silverthorn, & Frick, 2005).

Adolescence is considered a period in which an individual goes through tremendous changes like physical, emotional and psychological. Present research would play a vigorous role to help out the parents and teachers so that they should stress on the development of healthy personality and minimizing the relational aggression consequences.

Narcissism, machiavellianism, and psychopathy predicted relational aggression (Knight, 2016). Besides, a research scrutinized the association amongst relational aggression and psychopathic qualities amongst a sample of confined adolescent females (Marotta, 2016).Economic status of an individuals is an important demographic indicator of different behavioral problems and is long established and well accepted (McGrath & Elgar, 2015).Like it has link with aggression (Tippett&Wolke, 2014).

The material conditions in which individuals develop and live have a long-term influence on their peculiar and social personalities. This influences both the way they think and feel about their social environment and key aspects of their social behavior. Moderated effect of economic status has also been investigated in the present research. Conceptual frame work has been depicted in the following figure

Figure 1: Conceptual framework of current research

2. Method
2.1 Participants
612 adolescent students with age ranges 12 to 19 years were randomly selected from different educational institutes of District Gujrat, Pakistan. Informed consent was assured before data collection. At the end respondent were thanked and acknowledged for their help and cooperation in the study. Besides, permission was also taken from the head of all institutes from where data were collected. Participation was voluntary and confidentially was assured.

2.2 Measures
2.2.1 Dark Triad of Personality (D3-Short)
Dark triad personality scale short version (D3-short), originally constructed by Paulhus (2013) and translated by Gul-E-Sehar and Fatimah (2016) was used to measure dark triad of personality. It is a 5 point Likert type scale with three subscales Machiavellianism, Narcissism and Psychopathy. Each sub-scale comprises of 9 items and total scale comprise of 27 items. Alpha reliabilities for the SD-3 subscales are .71, .77, and .80 for machiavellianism, narcissism, and psychopathy respectively.

2.2.2 The diverse adolescent relational aggression scale
The Urdu version of diverse adolescent relational aggression scale (Riaz, 2014) originally developed by Horton (2010) was used to measure relational aggression. The scale consisted of 27 items to illustrate relational aggression, acts and effects. There is no reversely scored item. All items are worded positively to rate the relational aggression. Responses have been rated on four-point Likert type format ranging from strongly disagree to strongly agree. Scale has a composite score; all the items are totaled for getting a score for relational aggression with high scores showing more relational aggression. Score range of the scale is 27-108. Cronbach’s Alpha reliability for the scale is
.78, and the split half reliability is .7.

3. Results
Linear regression was conducted to find out the predictive relationship between Moral disengagement and relational aggression. Results showed that all three members of dark triad are significant predictor of relational aggression.

Table 1: Summary of Linear Regression Analysis of Sub Dimensions of Dark Triad as Predictor of Relational aggression among Adolescent Students (N=612)

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>R²</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machiavellianism</td>
<td>.469</td>
<td>.220</td>
<td>7.690</td>
<td>.588</td>
<td>.469</td>
<td>171.340</td>
<td>.000</td>
</tr>
<tr>
<td>Narcissism</td>
<td>.435</td>
<td>.189</td>
<td>8.450</td>
<td>.710</td>
<td>.435</td>
<td>141.753</td>
<td>.000</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>.515</td>
<td>.265</td>
<td>8.445</td>
<td>.571</td>
<td>.515</td>
<td>218.635</td>
<td>.000</td>
</tr>
</tbody>
</table>

Finding of linear regression mentioned in above table revealed that machiavellianism explained the 22% variance in the relational aggression while one-unit increase in machiavellianism will increase score on relational aggression by .469. Narcissism is significant predictor of relational aggression. Narcissism explained the 18.9% variance in the relational aggression while one-unit increase in Narcissism will increase score on relational aggression by .435. Psychopathy is also a significant predictor of relational aggression in adolescent students. Psychopathy explained the 26.5% variance in the relational aggression while one-unit increase in Psychopathy will increase score on relational aggression by .515.

Table 2: Summary of Multiple Regression Analysis of Sub Dimensions of Dark Triad as Predictor of Relational aggression among Adolescent Students (N=612)

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machiavellianism, Narcissim, Psychopathy with relational Aggression</td>
<td>.654</td>
<td>.428</td>
<td>151.526</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 3: Coefficients of Multiple linear regression of Sub dimensions of Dark triad as Predictor of relational aggression in Adolescent Students (N=612)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Un standardedCoefficients</th>
<th>StandardizedCoefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Constant</td>
<td>.866</td>
<td>.099</td>
</tr>
<tr>
<td>Machiavellianism</td>
<td>.182</td>
<td>.020</td>
</tr>
<tr>
<td>Narcissim</td>
<td>.176</td>
<td>.024</td>
</tr>
<tr>
<td>Psychopathy</td>
<td>.218</td>
<td>.020</td>
</tr>
</tbody>
</table>

Finding of multiple linear regression mentioned in above table revealed that Machiavellianism, Narcissims and Psychopathy are significant predictor of relational aggression in adolescent students. All three collectively account for 42.3% variance in the relational aggression.

Table 4: Summary of Multiple Regression Analysis of Sub Dimensions of Dark Triad as Predictor of Relational Aggression Moderated by Economic Status in Adolescent Students (N=612)

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15,000</td>
<td>.751</td>
<td>.564</td>
<td>49.934</td>
<td>.000</td>
</tr>
<tr>
<td>15,000 to 30,000</td>
<td>.672</td>
<td>.451</td>
<td>57.607</td>
<td>.000</td>
</tr>
<tr>
<td>Above 30,000</td>
<td>.613</td>
<td>.375</td>
<td>52.872</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Dependent variable: Relational aggression, Predictors: Machiavellianism, Narcissism, Psychopathy

Results mentioned in table 3 and 4 revealed that economic status has a moderated effect on the relationship of dark triad and relational aggression among adolescent students.
er and Jonason (2013) document an average score of .208 for the Dark Triad. Stucky, Sawalani, and Little, in their study, found a significant relationship between the Dark Triad and relational aggression. A study by Webster and Jonason (2013) supported the current research findings that the Dark Triad is associated with relational aggression among adolescents. In this line of investigation, a varied array of current researches directs that relational aggression is associated with a multitude of undesirable progressive outcomes (Card, Stucky, Sawalani, & Little, 2008). Furthermore, there is a study which talked about the association between machiavellianism and indirect relational aggression.

### Table 4: Coefficients of Multiple Linear Regression of Sub Dimensions of Dark Triad as Predictor of Relational Aggression Moderated by Economic Status in Adolescent Students (N=612)

<table>
<thead>
<tr>
<th>Ranges</th>
<th>Variables</th>
<th>Un Standardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td>Less than 15,000</td>
<td>Machiavellian</td>
<td>.269</td>
<td>.042</td>
</tr>
<tr>
<td></td>
<td>Narcissism</td>
<td>.220</td>
<td>.046</td>
</tr>
<tr>
<td></td>
<td>Psychopathy</td>
<td>.218</td>
<td>.044</td>
</tr>
<tr>
<td>15,000 to 35,000</td>
<td>Machiavellian</td>
<td>.129</td>
<td>.033</td>
</tr>
<tr>
<td></td>
<td>Narcissism</td>
<td>.163</td>
<td>.042</td>
</tr>
<tr>
<td></td>
<td>Psychopathy</td>
<td>.237</td>
<td>.033</td>
</tr>
<tr>
<td>Above 35,000</td>
<td>Machiavellian</td>
<td>.204</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>Narcissism</td>
<td>.148</td>
<td>.039</td>
</tr>
<tr>
<td></td>
<td>Psychopathy</td>
<td>.219</td>
<td>.032</td>
</tr>
</tbody>
</table>

### 4. Discussion

Present research found out the association between dark triad and relational aggression among adolescents. Dark triad is a combination of attributes of machiavellianism, narcissism, and psychopathy that contain the propensity to pursue respect and unusual handling, to be heartless and indifferent and to regulate others. Dark Triad personalities have an unbalanced opinion of themselves which may depict the violence intrinsic in the dark triad. Dark triad personality traits are highly prevalent among adolescents. Webster and Jonason (2013) document an average score of 36 of college students on the dark triad while anyone scoring above 45 would be viewed as very high on the dark triad. It was hypothesized that machiavellianism would be a significant predictor of relational aggression among adolescents. According to the results of regression analysis, machiavellianism explained the 22% variance in the relational aggression $[R = .469; F (1, 607) = 171.340, p<.01]$ while one-unit increase in Machiavellianism will increase score on relational aggression by 7.69.

The reason of this significant finding was that the individual with machiavellian trait are unlikely to take unsafe probabilities as they have a more precise insight of their likelihoods of triumph. So, machiavellians are perhaps less probable to practice explicit violence to attain their objectives, and more probable to utilize indirect and concealed strategies, like relational aggression to acquire what they desire. As mentioned earlier, machiavellianism is a personality attribute that is categorized by scheming and abusive approach concerning others, absence of sympathy, and a cynical understanding of human nature, representing at least an immoral if not terrific way of operating on others to achieve one's goals (Calhoon, 1969). Machiavellianism preach that one of the primary methods for obtaining and maintaining power is to manipulate others with absolute disregard of emotions and moral principles (Makijaveli as cited in Simić et al. 2015). So, People with strong machiavellian attitudes utilize other individuals as an instrument to attain their personal objectives. Individuals who are high on machiavellianism, score low on conscientiousness as compared to persons with a low machiavellian mind set (Austin, Farrelly, Black, & Moore, 2007). Thus, people with machiavellians attributes are much more target concerned as compared to people-oriented. People high in machiavellian qualities recommend relational tactics that support self-centeredness, dishonesty and operating on others (Jakobwitz & Egan, 2006).

Further, the machiavellian resides high preference on money, authority, and rivalry (Stewart & Stewart, 2006). Due to self-centered behavior, extra concern for obtaining goals and less empathetic attitudes towards others machiavellians adolescents involved in relational aggression. A study findings supported the current research outcomes that machiavellianism showed positive association with relational aggression among youngsters (Kerig & Stellwagen, 2010). The reason of this positive association, may be that adolescence is an age of personality development, during this era teenager compare themselves with their peers, wants to be liked and be powerful, and for attaining desired aims they adapt some negative behaviors which leads to negative outcomes like relational aggression. An evolving line of investigation has been dedicated to the inspection of both positive and negative consequences of relational aggression. In this line a varied array of current researches directs that relational aggression is associated with a multitude of undesirable progressive outcomes (Card, Stucky, Sawalani, & Little, 2008). Furthermore, there is a study which talked about the association between machiavellianism and indirect relational aggression.
aggression (Knight, 2016). While other research has endorsed the notion that there is a direct relationship between machiavellianism and relational aggression (Pursoo, 2013). But one study conducted by Matt and Krawczyk (2017) has little bit different findings. According to them machiavellianism, did not have a significant impact on cyberbullying behavior.

Narcissism, the second member of dark triad, is also a significant predictor of relational aggression among adolescents. Narcissism explained the 18.9% variance in the relational aggression. Tracey and Robbins (2003) claim that they protect themselves against the sentiments of feeling inferior and disgrace by making external attributions for their letdowns, which leads to the sentiments of aggression and annoyance towards other persons. In the same line, Morf and Rhodewalt (2001) have stated that while the egotistical sense of personality is clearly exaggerated, which is also highly susceptible to unwanted conduct. Individuals with narcissism are continually worried and strive to uphold their exaggerated self-assurance by a range of personal and social tactics. Furthermore, narcissism is regarded as a detachment between an insentient sense of inadequacy and a conscious sensation of supremacy. Furthermore, narcissists are by means extremely self-centered people. They’re so principally absorbed on their individual wishes and worries that they give little consideration to the distresses of others.

As mentioned earlier, in adolescence period relationally aggressive behaviors is very common. Relational bullying includes an inequity of control, in which a student or a group of students oppresses another student who is incapable to efficiently protect him/herself (Raskauskas&Stoltz, 2004). The undesirable deeds that are combined in relational aggression can be verbal or nonverbal, and displayed openly or indirectly, and comprise of harmful intimate and social associations to upset one another. These deeds can comprise of wicked conversation, social segregation (Werner & Nixon, 2005) and can be one in which relational intimidation happens. Further in this age, formations of self and a solid purpose to hold self-esteem are pertinent to narcissism. Current study emphases on narcissism as a personality attribute on which persons in the common population differ (Raskin& Terry, 1988). Though, one investigation revealed that it is likely to consistently and meaningfully measure “normal narcissism” in children and teenagers (Thomaes, Bushman, Stegge, Olthof, 2008). Undeniably, a study has exposed that narcissists involve in diverse self-control policies to be able to retain their exaggerated self-opinion (Morf&Rhodewalt, 2001).

Early adolescents are conscious about themselves and their behavior is directed by a numberless behavioral standard, and their self-views are extremely dependent on other’s attitudes (Harter, 2006; Reimer, 1996; Rosenberg, 1965). Zimmer-Gembeck, Trevaskis, Nesdale, & Downey (2014) stated that indirect violence touches the heights in the period of late childhood and teenage years, owing to the developmental signs (i.e., the growth of higher oral abilities, social consciousness) practiced in this age.

Findings of the present research are consistence with preceding researches. Research findings revealed that narcissism was positively linked with relational aggression through domination goals for both genders, in youngsters (Ojanen, Findley & Fuller, 2012; Ghim, Choi, Lim, & Lim, 2015). In the same line another study conducted in japan on adolescent students revealed that narcissistic rage is positively associated with relational aggression (Onishi, Kawabata,Kurokawa& Yoshida, 2012). Furthermore, it has been revealed by other researchers that narcissism was directly associated with overt aggression, and relational aggression. (Lau &Masee, 2013; Lau, Masee, Kunimatsu, &Fassnacht, 2011). In nutshell, narcissists are highly driven to endure their individual and others insights of themselves as greater beings. They exhibit self-promotion and are disposed to imagine about infinite capability and control. (Hook, 200).

The third dimension of dark triad, psychopathy, is also found to be a significant predictor of relational aggression in adolescent students. Psychopathy explained the 26.5% variance in the relational aggression \( R = .515; \ F (1, 607) = 218.635, \ p<.01 \). According to Cleckley (1988), psychopathy as having both personality and behavioral characteristics that may include artificial appeal, superficial feelings, absence of empathy and regret, proneness to boredom, failure to prevent problematic behavior, and persistent desecration of social standards. In addition, insensitivity and coldness are considered a crucial feature of psychopathy (Frick & Hare, 2001). Another characteristic of psychopathy which is important with reference to adolescent that it has been shown to be fairly stable across teenage period in terms of constancy and level of felonious conduct (Lynam, Miller, Vachon, Loeber, &Stouthamer-Loeber, 2009).

Psychopathy is a severe personality disorder that first revealed itself early in life and continues during most of the lifetime. Most clinicians and investigators agree that psychopathy is related to a collection of emotional, relational,
and behavioral features, vital to which are a profound absence of regret or guilt and a cold-hearted neglect for the feelings, rights, and prosperity of others (Cleckley, 1988; Hare, 1996). Individuals with this condition are typically described as impulsive, self-centered, deceiving, sensation-seeking, and irresponsible. Given these characteristics, it is not astonishing that psychopaths commit a disproportionate amount of severe repetitive misconduct, violence and often come into interaction with the criminal justice system. Findings of previous researches are in line with the results of the present study that psychopathy is a significant predictor of relational aggression. (Holdship, 2015; Coyne, Nelson, Graham-Kevan, Keister, & David, 2010). Furthermore, a study on females endorse the positive relationship between relational aggression and psychopathic traits (Marotta, 2016). According to Czar, Dahlen, Bullock and Nicholson (2011) psychopathic traits are predictive of relational aggression. Further, specific personality traits inherent in psychopathy can help predict frequency of relational aggression (Holdship, 2012). In the same line a study conducted on Canadian teenagers longitudinally revealed that psychopathy predicted bullying throughout adolescence (Free, 2017).

According to the findings of present study economic status has a moderating effect on the relationship of dark triad and relational aggression (see table 3.4). Previous researched endorse this notion. Like a research supported the idea that economic status and economic activity have a part in determining the personality traits (Yang, & Lester, 2016). Another study supported the notion that socioeconomic status has impact on the adolescent aggression (Shameem, & Hamid, 2014).

In nutshell, machiavellianism, narcissism and psychopathy were found to be significant predictor of relation aggression in adolescents. Economic status has a moderating effect on the relationship of dark triad and relational aggression. The variance explained by them ranges from 18.9%-26.5%, psychopathy is found to be explaining more variance in relational aggression among adolescents as compared to the other two members of dark triad. Narcissism and machiavellianism were differently related with demonstrations of hostility amongst youngsters. Psychopathy was steadily linked to all types of aggression, however machiavellianism only foretold relational aggression (Paulhus, Curtis, & Jones, 2017). Finding of the present study revealed that dark triad is a significant determinant of undesirable behavior of relational aggression moderated by economic status of individuals so there is need to address these personality aspects of adolescents to lessen such negative behaviors. Information is worth implication for parents, educationists and counselors as well.

References


Social Exclusion, Entrepreneurship and Public Policy Challenges for Pakistan

1Saima Shafique, 2Abou Bakar, 3Fatima Farooq, 4Kishwar Perveen

1Associate Professor, Department of Economics, NUML, Islamabad, Pakistan. sshafique@numl.edu.pk
2Assistant Professor, Department of Management Sciences, The Islamia University of Bahawalpur, Bahawalnagar campus, Pakistan.
3Assistant Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan.
4PhD Scholar, School of Economics, Bahauddin Zakariya University, Multan, Pakistan.

ARTICLE DETAILS

ABSTRACT

Social exclusion is manifested in inability of the masses to eradicate its causes resulting in perpetual obstruction in attaining vital facilities of life. A level of human and social progress is directly linked with enabling populous to maintain sustained level of financial depth and development. Societies with sufficient supply of entrepreneurs comfortably sustain a balanced progression of societal goals especially in current global atmosphere. With weak institutional setting and vaguely defined goals, there is a need to change the orientation of public sector in developing countries like Pakistan. The public sector entrepreneurship is essential to create enabling environment for creating entrepreneur friendly policies. It is especially important for Pakistan with CPEC connecting most poor of the regions of the country with the main stream to create policies that can reduce the impact of social exclusion of people of these regions. Urban fringe and labor skills development with efficient institutions having participatory and modern outlook (e-governance) to cater for the needs of entrepreneurs are essentially required for creating a socially vibrant and thriving population in Pakistan.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: sshafique@numl.edu.pk
DOI: 10.26710/reads.v4i2.406

1. Introduction

Social exclusion occurs when people and/or regions suffer from reinforcing problems that are aggravated in intensity because of inherent inability to eradicate its causes. Domain of social exclusion includes: employment, education and skills, health, facilities for housing, transport, prevention of crimes, social support, and social interactions. It is a general perspective on exclusion/inclusion but it is not an exhaustive list of all the factors. For societies and regions having relatively higher levels of human development, the exclusion from financial, social and leisure services is also important aspect of social cohesion. The general policy initiatives to cater for such issues are: tax and transfers; spending on public services of health, education, housing etc.; unemployment benefits and jobs creation, and; safe city and neighborhood (Blattman et. al., 2017). But the process of policy creation is a sensitive task that demands ingenuity and high degree of commitment. At the same time the regional exclusion
plays a strong role in Pakistan as even after almost seven decades of independence populations in certain regions could not be supplied with basic rights in terms of health, education, political voice, financial liberty and social independence.

Although Pakistan has low level of vertical inequality but horizontal inequality and hostility is very high due to lingual, ethnic, regional, religious, sectarian, and gender based difference. Insurgency in Balochistan and Federally Administered Tribal Areas (FATA) is mainly because of regional exclusion, and high interference of state actors in day to day life affairs of the common people. Similarly, Karachi is torn in daily violence based on ethnicity and religious sects (Qadeer, 1996). All this is aggravated because of ‘unaccountable’ political elites and their supporting bureaucracy that has perpetuated the feeling of alienation and exclusion even in working classes having a good life support businesses, jobs and standard of living (Karagiannaki, 2017). The perpetual control of a small group of landowners, businessmen and military leaders seems to always serve the interest of few instead of all in public policy making (Kennedy, 1984). This is indicated in the vaguely defined policy objectives, prolonged time of policy formulation, weak accountability measures, and complex mechanism of implementation and feedback. The political voice of landless, minorities, women, unemployed, and small traders does not seem to have value. Most of the rural population (more than half of the household) is either have small or no land ownership whatsoever; therefore, their dependence on landowners is perpetual. Now with development of urban fringes in Punjab, the same population is employed in miserable conditions in small and large production units. Higher is the poverty, the higher is the horizontal division in society. Therefore, the dependence of downtrodden does not enable them to create horizontal networks to claim rights especially when it comes to cast votes (Leimgruber, 1994). The population in this segment of society is large that the middle class trying to organize in the urban areas is outnumbered and political elites easily make their way back to power corridors. It can be readily expected as Pakistan is ranked 146th according to Human Development Index, and 115th on the UN Gender Inequality index in the world.

Since 1950s, Planning Commission of Pakistan (PC) created five-year development plans till 1998. Due to political instability, ninth plan could not be launched in 1998, but later a three year poverty reduction strategy was announced for 2001-04. Along with these five year development plans, each ministry launched its own plans specific to its goals, but unfortunately, nothing concrete has been achieved due to coordination failure among different organs of the state. The politics of having a policy for each ministry for political face saving always lead to setting unclear over ambitious policy goals that were never achieved at federal as well as provincial levels of governments (Abbasi, 2011). The issue of governance and mass corruption at political and bureaucratic levels has never been resolved due to weak judicial system. The National Accountability Bureau (NAB) has yet to create an environment where corrupt will fear involvement in any wrong doing. Scholars like Spillance, Reiser and Reimer (2002) allocate a strong role of cognition as policy effect has to emerge from the grass root level. Therefore, involvement of the local community leaders and information about cost and taxes are necessary for inclusion, trust and interest of the masses in political activism of public policy making. Although the political participation seems to have improved over the years in Pakistan, but absence of local governments raises a lot of questions about the intention of the political elites when it comes to the issue of power sharing.

Table 1: Turnover in Election 2013

<table>
<thead>
<tr>
<th>Area</th>
<th>Turnout in 2013</th>
<th>25 Year Average</th>
<th>Gain over 25 year average</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Pakistan</td>
<td>53%</td>
<td>41%</td>
<td>12%</td>
</tr>
<tr>
<td>Punjab</td>
<td>57%</td>
<td>45%</td>
<td>12%</td>
</tr>
<tr>
<td>Sindh</td>
<td>53%</td>
<td>39%</td>
<td>14%</td>
</tr>
<tr>
<td>KPK</td>
<td>42%</td>
<td>32%</td>
<td>10%</td>
</tr>
<tr>
<td>Balochistan</td>
<td>36%</td>
<td>28%</td>
<td>8%</td>
</tr>
</tbody>
</table>

With all these local challenges, the initiation of China Pakistan Economic Corridor (CPEC) has opened new opportunities as well as challenges for Pakistan. On one end CPEC is connecting most neglected regions of Pakistan and on the other new business challenges have emerged that need genuine efforts of policy makers to reap the full benefits of this opportunity. Similarly, the creation of Special Economic Zones (SEZs) in mostly remote areas with low level of urban and human development is also a challenge in its own (i.e. Bannu, D I Khan, Gwadar, Haripur, Kalat, Karak, Khuzdar, KillasaiFullah, Kohat, Lasbella, Mansehra, Nowshera, Sibi, and Swabi).
2. Public Policy in Pakistan

It is necessary to understand the concept of Federalism and how Pakistan has tried to embrace it to create a society and a national state. Federalism creates a political organization where all the component units are represented despite pluralism and diversity in the society. The institutional arrangement offers autonomy to the participating units while at the same time cooperates with other units under the umbrella of federation ensuring political and social participation (Sommers, et. al., 1999). The participating units coordinate to attain joint goals of the federation by creating environment where differences and conflicts can be ironed out for collective socio-economic progress (Albareda, et. al., 2007). In Islamic history, Prophet Muhammad (peace be upon him) created the system of state with inward harmony between different segments of Muslims (i.e. Ansaar, Muhajirin, and Ajmi) and outward with followers of other religions (i.e. Jews and Christians). Without any discrimination and prejudice, property rights were enforced along with right to have a livelihood. The religious autonomy and protection of places of worship by the state created a unique mechanism of governance that was inclusive, stable and yet dynamic. Today there are 28 countries in the world having federal constitution managing over 40% of the population with diverse social and ethnic mix. Some of these countries are: Argentina, Australia, Austria, Brazil, Canada, Ethiopia, Germany, India, Iraq, Pakistan, Spain, South Africa, United States of American and Venezuela (Abbasi, 2011).

After its inception Pakistan took nine years to formally craft a constitution in 1954 which in itself was not as comprehensive as was expected to uphold and further the philosophical foundations of the new state. Later in it was replaced by the governance mechanism drafted in 1962 constitution that was authoritarian in nature. Although the new constitution was able to bring economic growth to the society but it could not maintain order in political and social spheres which resulted in seceding of province of Bengal (East Pakistan) from the federation. It was then replaced by constitution of 1973 that is based on federal parliamentary system with provincial autonomy and independence of state institutions especially the judiciary (Mushtaq, 2009).

The empirical literature assessing impact of political factors (i.e. democracy) on growth is not very explicit about the explanations based on numerous factors. For ‘compatibility school’ democracy ensures economic freedom and market mechanism enables the agents to make optimal decisions about resources utilization, allocation, investments and rewards generation. But on the other hand the ‘conflict school’ argues that the democracy empower certain groups to create political solutions for their specific benefits (Human Development Report on Nepal, UNDP, 2001). On one hand, the demand of middle and poor classes are for more redistributive policies due to need for immediate consumption, while on the other hand, the rent seeking behavior of politicians distort the market mechanism by creating monopolies. If one puts pressure for higher taxes and wages causing reduction in private profits and rewards, the other deprives the consumer of its surplus. Having said that, there is no denying that stronger the democracy, the better will be social protection and development networks for human development in the long run.

Figure 1: Social Indicators for Selected SEZ areas in Pakistan

![Social Indicators for Selected SEZ areas in Pakistan](image-url)
ers opportunity cost with minimal support to new entrants. The former leads to a competitive 
ue for them. It replaced the complicated fiscal system that 

The cluster analysis of 

China Kahan et.al. 2017) 
mponents of state responsible for bringing about economic change reveals that these are highly 
ristics of public services entrepreneurs are the same 
Brodwin, 2001) 

The public services entrepreneurship has internal and external manifestation. The internal or direct public 
access to res 

environment laden with political constraints. The regulatory and procedural environment also puts restriction on 
motivation for desire to create and achieve. Public sector entrepreneurs have to thrive within legal constitutional 
uncertainty. But the main difference between them is regarding institutional environment that 

A geographic region sustains its competitiveness by pioneer new combinations of available factor inputs and 
 replacing old obsolete economic structure with the new competitive ones (Boschma, 2004). This inherent ability of 
a region to foster entrepreneurship describes the differences that emerge over time in economics growth (Audretsch 
and Keilbach, 2004) as indicted in Figure 1. Essential characteristics of public services entrepreneurs are the same 
as the private-sector entrepreneur as they are also innovators willingly challenge the risk associated with 
uncertainty. But the main difference between them is regarding institutional environment that has impact on 
motivation for desire to create and achieve. Public sector entrepreneurs have to thrive within legal constitutional 
environment laden with political constraints. The regulatory and procedural environment also puts restriction on 
access to resources and ability to act freely to achieve goals (Wong et al. 2008). 

The public services entrepreneurship has internal and external manifestation. The internal or direct public-sector 
entrepreneurship is concerned with increasing public revenues, innovate to deliver public service with minimum 
opportunity cost, and enhance output of public service through novelty and innovation. On the other hand, external
or indirect public-sector entrepreneurship is to provide consultancy to promote private sector action for provision of services envisioned by the policy makers.

Figure 2: The Pyramidal Model of Regional Competitiveness (Lengyel, 2012)

E-Governance has been initiated by the government of Pakistan but it is still in its transition phase. The table below provides a logical sequence of depth and development of e-governance where Pakistan seems to be in the initial phase where government information is published on the web but so far it has not increased its quantity and quality that citizens may value for the sake of impartial performance assessment. The interactive features for users in most of the websites of government departments are unproductive.

Table 2: Basic Structure of e-Governance

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Presence</td>
<td>Information dissemination, usually government-to-citizen (G2C) e.g. publishing policy or tender documents, regulations, promoting transparent government. Effective content management is essential from Phase 1 through all phases.</td>
</tr>
<tr>
<td>Phase 2: Interaction</td>
<td>Moves from publishing to interaction with citizens and businesses, enabling communication and feedback and processing of forms. Uses electronic data interchange (EDI) and e-mail capability.</td>
</tr>
<tr>
<td>Phase 3: Transactions</td>
<td>Offers services and financial transactions capabilities, such as license renewals, payments of fines etc. Features include electronic filing, digital signature, information security etc. Requires interoperable technologies, typically internet based.</td>
</tr>
</tbody>
</table>
Phase 4: Integration

Services are integrated across departments and levels of government for multi-channel, ‘one-stop’ service delivery, enabling greater responsiveness from all parties. Requires the integration of back-office systems.

Phase 5: Political Participation

Promotion of channels for citizen participation, for example, voting online, public forums and opinion surveys.


4. Recommendations and Suggestions

The study proposes the following general policy recommendations:

- Create the opportunities for regional growth by empowering public-sector entrepreneurial and encourage them to expand their knowledge networks to private sector. Create the possibilities by allocating resources for promoting culture of innovation and creativity in entrepreneurial incubators with the help of Higher Education Commission (HEC) and universities. Create the ability by providing the authority to act on part of public as well as private sector entrepreneurs.
- Educate the public regarding benefits linked with innovations and newness, and enable information dissemination to create conducive environment to accept risks in the face of uncertainty
- Enact mechanism to ‘Listen to the Entrepreneur’, and map the Entrepreneurial Eco-system as per the needs of the region (community, resources, labor skills, communication etc.)
- Prepare for ‘crises’ and create social insurance environment for the businesses and workers. Also prepare skills based work force to cater for future needs of businesses and entrepreneurship
- Support fast-growing firms and their needs to access the resources and clients.
- Enact framework for Urban-Fringe Development by ensuring provision of services like: water, sewer, housing, roads & transit, city education, health, parks, protection of wildlife and habitats, fire and other services.

5. Conclusion

Wide spread social exclusion in developing countries like Pakistan puts a continuous pressure on governments to choose between sustaining the lives of most of populous and infrastructure development for economic growth. At the same time the weak institutions and poor governance also poses a challenge that retards returns to private investment as well as human capital formation. At the same time CPEC is connecting Pakistani markets to actors that are more efficient and competitive that exposes the abilities of institutions to create enabling environment for withstanding and sustaining to this situation. System revamp is a long process but public sector entrepreneurship is an immediate response through which existing potential can be harnessed along with future human capital formation. E-governance can improve communication and response to have efficient social outcomes of policy initiatives. At the same time entrepreneurial culture needs to be embedded in every tier of educational system to culminate the breed of future business developers and employer of resources for sustainable economic development and growth.

References


Knowledge Management, Emotional Capability, Teamwork, and Innovativeness: Mediating Role of Organizational Learning

1Syeda Rumaisa Khalil, 2Khawaja Khalid Mehmood

1Institute of Management Sciences, Bahauddin Zakariya University, Multan, Pakistan.
rumaisa.kazmi@yahoo.com
2Assistant Professor, Institute of Management Sciences, Bahauddin Zakariya University, Multan, Pakistan.
khawjakhalid@bzu.edu.pk

ARTICLE DETAILS
ABSTRACT

History
Revised format: November 2018
Available Online: December 2018

Innovation has become critical success factor in many industries today and numerous scholars approve that it could be achieved through learning in organizations. Despite the availability of numerous researches on innovativeness and organizational learning in international context, there are limited studies that analyze the effect of learning on innovativeness in context of Pakistan. Specifically, the research is limited regarding mediating role of organizational learning between knowledge management, teamwork, emotional capability, and innovativeness; and the main purpose of this study was to fill this research gap. This study draws its framework mainly from resource based view, knowledge based view, and dynamic capability perspective. For this research, data was obtained through survey from managers in Pakistani SMEs operating in multiple sectors. The study performed its analyses using SmartPLS 3.0 based on 149 responses. The study concludes that organizational learning significantly mediates the relationship between knowledge management, teamwork, emotional capability, and innovativeness. The study provides valuable information for Pakistani SMEs about how they could enhance their innovative capability through learning capability.

Keywords
Knowledge management, teamwork, emotional capability, organizational learning, Innovativeness, Pakistani SME’s

JEL Classification:
M10, D83, O31

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: khawjakhalid@bzu.edu.pk
DOI: 10.26710/reads.v4i2.407

1. Introduction

It is argued that in business, innovativeness plays a crucial role (Damanpour, 1991). It has been an important and obvious requirement to be competitive and successful as it enables an organization to be able to adjust according to market changes (Hult & Ferrell, 1997). Theoretically, innovation diffusion theory considers innovation as critical component of any business (Aragón-Correa, García-Morales, &Cordón-Pozo, 2007). On the other hand, organizational learning theory describes how an organization could enhance its innovativeness and performance. Zander and Kogut (1995) argue that organizational learning is based on resources (tangible and intangible) which are significant for an organization to be innovative and competitive. Scholars have suggested that number of factors could lead to innovativeness; however, some are more important, like organizational learning (Garcia-Morales, Llorens-Montes, &Verdú-Jover, 2006; Zander &Kogut, 1995). Further, it is argued that out of several
variables that create innovativeness through means of organizational learning, some of the crucial ones are emotional capability (Akgün, Keskin, & Byrne, 2009), knowledge management (Garratt, 1990; Su, Huang, & Hsieh, 2004), and teamwork (Boyatzis, 2009; Koman & Wolff, 2008). By the analyses of existing literature and past studies’ results, it is figured out that to increase the level of organizational learning, an organization, at different levels, need to develop a system based on knowledge management. Without proper knowledge management, it’s actually hard to attain a standardized and acceptable level of organizational learning among employees (Garratt, 1990; Su et al., 2004). Moreover, some studies show that knowledge management is related to innovativeness in a positive manner and it casts a great effect on innovativeness (Garcia-Morales et al., 2006; Nonaka & Takeuchi, 1995; Shani, Sena, & Olin, 2003). Therefore, knowledge based view provides a theory for this study.

As regards emotional capability, it is believed that it also makes organizational learning fast and effective. Enhanced emotional capability makes employees to learn with full devotion and understanding and to be more productive (Akgün et al., 2009). Furthermore, many researchers argued that if an employee is satisfied with his/her work, then there are higher chances that innovativeness would be higher as more quality ideas could be produced (Akgün et al., 2009; Huy, 2005). Along with that team based skills are also very important for an organization. It is believed that these skills enable organizations to enhance their learning and innovativeness (Ayiro, 2010; Boyatzis, 2009; Koman & Wolff, 2008). Business environment today has become very competitive characterized by increased level of competition, advance technology and higher expectations by the customers and other stakeholders. Hence, to catch up with the dynamic environment, it is important to choose and try effective ways to be innovative and attain superior performance for securing high position in the market. Teamwork is such an approach which contemporary businesses adopt today. It is considered as one of the ways to create innovative ideas and to try out new things (Bikfalvi, Jäger, & Lay, 2014). However, some suggest that in spite of number of researches, there are certain questions to be answered regarding teams and teamwork (Benders & Hootegem, 1999) and more and better studies could be conducted regarding teamwork.

Although there is a large volume of research on the above variables but one of the gap existing in the literature is about the role of organizational learning as mediator between knowledge management, teamwork, emotional capability, and innovativeness. Further, there has been comparatively less research in SME context in Pakistan for these variables which this study wanted to accomplish. This study is accomplished for SMEs in Pakistan due to their utmost importance for the country. Pakistan’s economy largely depends on SME sector. Around 3.2 million companies operate in the country, which engage 78% non-agriculture labor, and contribute 25% to manufacturing goods exports (Khan & Khalique, 2014). Notably, Pakistani SMEs do not stand in par with large corporations with respect to innovation. But innovation could be considered to be very important factor behind SMEs success (Ismail, Omar, Soehod, Senin, & Akhtar, 2013). Similarly, researchers have highlighted the importance of knowledge management, teamwork, learning, and emotional capability also for SMEs (Fu, Chang, & Wu, 2001; King, Marks, & McCoy, 2002; Piperopoulos, 2010). Through its framework, this study therefore, puts forwards useful set of suggestions for SMEs regarding these variables.

2. Literature Review

2.1 Mediating Role of Organization Learning between Knowledge Management and Innovativeness

Making the argument from knowledge based view, it could be suggested that in knowledge based economies today, knowledge management is important for SMEs to keep them well informed and address innovation. Scholars have also argued that level of innovativeness can be enhanced by the proper knowledge management (Chung-Jen, Jing-Wen, & Yung-Chang, 2010; Garcia-Morales et al., 2006). Knowledge need identification, its acquirement, and interpreting it to clear up the strategic purposes can help gear up innovativeness (Fugate, Stank, & Mentzer, 2009). In SMEs, effective knowledge management makes them capable to hold and share knowledge and thus innovate more (Argote, McEvily, & Reagans, 2003). Moreover, knowledge management is also related to organizational learning. Gunsel, Siachou, and Acar (2011) discussed knowledge management as a cyclic model that enhanced learning by applying new knowledge. In order to be innovative, SMEs should always be in a state of full awareness related to market competition and its emerging trends. The knowledge acquired about the customers, competitors and other stakeholders would facilitate learning in SMEs.

Organizational learning capability always plays a constructive role. Cefis and Marsili (2005) discuss that it is very important to enhance organizational learning because it can help every organization to compete more efficiently by introducing new product and services. So it can be said that learning capability is positively related to innovativeness (Lemon & Sahota, 2004). Organizational learning is all about acquisition of required knowledge and
then utilization of that knowledge to produce novel products and services. Organizational learning enables organizations to compete through the introduction of something new. It involves the generation of unique ideas and then implementing those ideas effectively (García, Ruiz, & Llorens, 2007; Salim & Sulaiman, 2011). The discussion leads to following hypothesis.

**H1:** Organizational learning mediates the relationship between knowledge management and innovativeness.

### 2.2 Mediating Role of Organization Learning between Emotional Capability and Innovativeness

Emotional capability is considered as an important competency of SMEs. Emotional capability could comprise of certain dimensions like dynamics of playfulness, dynamics of encouragement, dynamics of reconciliation, dynamics of identification, dynamics of display freedom, and dynamics of experiencing. (Huy, 1999). Kocoglu, Imamoglu, Akgun, Ince, & Keskin (2015) argue that for the increased level of innovativeness, it is important to pay attention to the emotional aspects of an organization, which can help to get long lasting positive results. Personal efficiency and potential can be increased at the organizational level by adopting certain measures and those measures include the management of emotions and taking care of employee’s identity. All this helps to enhance organizational learning capability by providing identity and shared vision (Huy, 1999). Overall, to support learning and innovation, it is important for upper management to do emotions management using shared vision, managerial commitment and high management support (Akgün et al., 2009). The discussion leads to following hypothesis.

**H2:** Organizational learning mediates the relationship between emotional capability and innovativeness.

### 2.3 Mediating Role of Organization Learning between Teamwork and Innovativeness

The business world is getting more complicated and the level of competition is increasing. To cope up with all the environmental changes and to compete in an efficient manner, a collective effort from employees is required. Thus, teamwork could positively contribute in this matter (Kozlowski & Bell, 2003; Marks, Mathieu, & Zaccaro, 2001). Learning could be enhanced by working in the form of teams (Offenbeek, 2001; Yost & Tucker, 2000) and team based capabilities could do wonders to attain high level of innovativeness along with learning (Ayiro, 2010; Boyatzis, 2009; Koman & Wolff, 2008). Teamwork acts as a link between employees’ competencies and organizational learning (Swieringa & Wierdsma, 1992) as it enables smooth flow of knowledge between employees (Marquardt, 1996). Previous studies indicate that teamwork and innovativeness could be connected through organizational learning. Learning individually may not be as efficient as learning in the form of groups in which knowledge is shared with more efficiency and ease (Jordan, Ashkanasy, Hartel, & Hooper, 2002). Collective learning process could be more effective because collaboration, cohesion and cooperation is enhanced through teamwork (Dyerson & Mueller, 1999). The discussion leads to following hypothesis.

**H3:** Organizational learning mediates the relationship between teamwork and innovativeness.

### 3. Methodology

This study used survey method for data collection. Almost 300 questionnaires were sent to senior executives and managers of SMEs in different parts of Southern Punjab, Pakistan wherein most of the enterprises were located in Multan. Some questionnaires were sent through mail and others were delivered personally. The sampling process followed Dillman (2000). Unit of analysis was SME. The questionnaires sent were followed by telephone calls. This effort helped to get 185 responses. Out of these, 149 responses were valid, which meant the response rate was 61% which is normally considered satisfactory for this kind of research (Nutley, Walter, & Davies, 2007). The respondent companies were mainly telecom franchises (69), chemical related companies (22), and educational institutes (20). 20 belonged to hotels & restaurants and 18 questionnaires were responded by Ginning, and Travelling & Tourism firms.

Questionnaire was constructed using past studies. Eight items were adapted from study of Rašula, Vukšić, and Štemberger (2008) to measure knowledge management. The study of Akgün, Keskin, Byrne, and Aren (2007) provided the items for organizational learning. Items for emotional capability were taken from study of Akgün et al. (2009). Teamwork was measured by the items adapted from the study of Montes, Moreno, and Morales (2005). The study of Wang and Ahmed (2004) helped to assess the innovativeness.
4. Findings and Conclusions
4.1 Validity and Reliability of the Instrument
This research involved mediator variable and therefore, mediator analysis was conducted using SmartPLS 3.0 software. Measurement model was constructed to verify validity and reliability and structural model was constructed to test hypotheses, initially through PLS algorithm and afterwards through bootstrapping (1000 samples) (Preacher & Hayes, 2008). For innovativeness, organizational learning, and emotional capability, a 2nd order formative model was used as these constructs contained various dimensions. Table 1 presents information (for reflective models for knowledge management and teamwork) about items’ loadings and indicates that the loadings are more than 0.7 that indicate convergent validity (Henseler, Ringle, & Sarstedt, 2012). Table 1 also shows other statistics for reliability and validity. It presents Cronbach’s alpha, which is used to gauge the internal consistency of data. The reported Cronbach’s alpha for both constructs is greater than 0.7 which is satisfactory. AVE values are greater than 0.5 that show divergent validity. Composite reliability (CR) is greater than 0.7 which is also satisfactory (Chin, 1998). All VIF values were also less than 0.5. The model fit value SRMR is 0.056, (<0.08) (Hu & Bentler, 1998) which is also satisfactory.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
<th>Loadings</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>TW13</td>
<td>0.804</td>
<td>Cronbach’s alpha: 0.872,</td>
</tr>
<tr>
<td></td>
<td>TW14</td>
<td>0.808</td>
<td>composite reliability: 0.907,</td>
</tr>
<tr>
<td></td>
<td>TW15</td>
<td>0.843</td>
<td>AVE: 0.662</td>
</tr>
<tr>
<td></td>
<td>TW16</td>
<td>0.846</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TW17</td>
<td>0.766</td>
<td></td>
</tr>
<tr>
<td>Knowledge Management</td>
<td>KM1</td>
<td>0.900</td>
<td>Cronbach’s alpha: 0.904,</td>
</tr>
<tr>
<td></td>
<td>KM2</td>
<td>0.882</td>
<td>composite reliability: 0.927,</td>
</tr>
<tr>
<td></td>
<td>KM3</td>
<td>0.848</td>
<td>AVE: 0.679</td>
</tr>
<tr>
<td></td>
<td>KM4</td>
<td>0.793</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KM5</td>
<td>0.774</td>
<td></td>
</tr>
<tr>
<td></td>
<td>KM6</td>
<td>0.735</td>
<td></td>
</tr>
</tbody>
</table>

4.2. Mediating effect of Organizational Learning between Knowledge Management and Innovativeness
The structural model is provided in Figure 1 and the results of hypotheses’ tests are provided in Table 2.

Figure 1: Structural Model

Table 2 shows that knowledge management has significant indirect impact on innovativeness with p-value = 0.026, and t-value = 2.222, while the direct impact is also significant (p-value: 0.039). That’s why mediation effect of organizational learning is partial. All the variables are positively related i.e. the coefficients of impact of knowledge
management on innovativeness (0.193), coefficient of impact of knowledge management on organizational learning (0.2), as well as coefficient of impact of organizational learning on innovativeness are (0.436) all are positive. It concludes that increase in knowledge management leads to increase in organizational learning and innovativeness. The bias corrected confidence intervals also show satisfactory statistics as zero does not fall between the two intervals. H1 is therefore accepted.

### Table 2. Results of Hypotheses Tests

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Direct Effect</th>
<th>Indirect Effect</th>
<th>Confidence Interval (Bias Corrected)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Path Coefficient</td>
<td>p-value</td>
<td>t-value</td>
</tr>
<tr>
<td>Organizational Learning → Innovativeness</td>
<td>0.436</td>
<td>0.000</td>
<td>4.292</td>
</tr>
<tr>
<td>Knowledge Management → Innovativeness</td>
<td>0.193</td>
<td>0.039</td>
<td>2.065</td>
</tr>
<tr>
<td>Knowledge Management → Organizational Learning</td>
<td>0.200</td>
<td>0.013</td>
<td>2.477</td>
</tr>
<tr>
<td>Teamwork → Innovativeness</td>
<td>0.061</td>
<td>0.427</td>
<td>0.795</td>
</tr>
<tr>
<td>Teamwork → Organizational Learning</td>
<td>0.272</td>
<td>0.000</td>
<td>4.315</td>
</tr>
<tr>
<td>Emotional Capability → Innovativeness</td>
<td>0.162</td>
<td>0.054</td>
<td>1.929</td>
</tr>
<tr>
<td>Emotional Capability → Organizational Learning</td>
<td>0.453</td>
<td>0.000</td>
<td>8.689</td>
</tr>
</tbody>
</table>

#### 4.3 Mediating effect of Organizational Learning between Emotional Capability and Innovativeness

Table 2 shows that emotional capability also has significant indirect impact on innovativeness with p-value = 0.000, t-value: 3.683, while the direct impact is not significant at least at 95% level of significance (p-value: 0.054). This concludes that organizational learning is a mediating factor between emotional capability and innovativeness (H2 is supported). All the concerned coefficients are also positive that suggest that as emotional capability increases, it leads to increase in organizational learning and innovativeness. Confidence intervals also show satisfactory statistics with no zero falling between them.

#### 4.4 Mediating effect of Organizational Learning between Teamwork and Innovativeness

Table 2 shows that teamwork has an indirect impact on innovativeness with the p-value of 0.003 (t-value: 2.943) and the direct effect is insignificant (p-value: 0.427). This concludes that organizational learning is full mediator between teamwork and innovativeness (H3 is supported). All the concerned coefficients are also positive suggesting that increase in teamwork increases organizational learning and innovativeness. Confidence intervals also show satisfactory statistics with no zero falling between them.

### 5. Discussion

This research reveals the important and significant part that knowledge management, teamwork, and emotional capability play for improving organizational learning, and then how it enables SMEs to better address innovation. All the results of the study are supported by literature and previous research. Firstly, the relationships revealed in this research between knowledge management, organizational learning, and innovativeness are supported by number of past scholars such as Penrose (1959), Hall (1993), and Darroch (2005). Hall (1993) argued that knowledge management was important factor for bringing innovation as it directly affected SMEs’ capability to do that. The process of decision making is affected by knowledge management in SMEs. The availability of knowledge puts SMEs in a right position to take right decisions on the basis of business related information and they should pay attention to knowledge management if they want to develop innovativeness (Penrose, 1959). Similarly, when SMEs focus on knowledge management, they attain highest level of organizational learning (Gunsel et al., 2011). In SMEs, the effect of knowledge management and organizational learning is strong and it enables better SME growth (King et al., 2002). Positive effect of organizational learning on innovativeness is also supported by large volume of research (Darroch & McNaughton, 2002; García-Morales et al., 2006; Shani et al., 2003).
Secondly, every organization needs to manage emotional capability for being innovative as employees’ emotions are involved in their work as equally as their hands and minds. Scholars argued that emotional capability was an important determinant of innovativeness in organizations (Akgün et al., 2009; Michie & Gooty, 2005). Huy (1999) argued that for SMEs, emotional capability was important to manage for improving their innovativeness and making fast progress. The importance of emotional capability makes it resonate across various research fields including organizational behavior (Elfenbein, 2007), strategic management (Huy, 1999, 2011), and innovation (Akgün et al., 2009). The social constructionism theory of emotions (Fineeman, 1993), social psychology theory of creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996), and the work motivation theories (Locke, 1969; Vroom, 1964) suggested that employees’ emotional capability affected their work attitudes, hence, affecting their performance, which eventually determined SME innovativeness. Similarly, scholars argued that employees could perform better and learn effectively when organizations understand employees’ emotions and manage them through different measures (Fineeman 1993, Rafaeli, & Worline, 2001). Finally, it is argued that for being innovative, organizations need to use team system or an integrated system instead of relying on old ways of planning and old techniques (Olson et al., 2001; Peterson et al., 1995). Teamwork significantly affects innovativeness and that is proved correct for Pakistani SMEs too through this study. Teamwork also plays an important role in the advancement of organizational learning (Marquardt, 1996; Swieringa & Wierdsma, 1992) because it upgrades the sharing of information and knowledge between members of a team or between different teams. This provides support to dynamic capability perspective that act as a base for the effect of teamwork on organizational learning and innovativeness. DCP states that integration of competencies is very important and every organization should integrate its competencies for better management (Teece, Pisano, & Shuen, 1997).

This research provides important guidelines for practitioners. It suggests management of SMEs in Pakistan to focus on knowledge management processes for promoting learning and addressing innovation. SMEs must focus on identifying important and relevant knowledge and information from inside as well as outside the organization for being well informed. This would enhance their learning and ultimately innovativeness. They must also understand and manage emotional part of their labour and design emotion management programs and strategy for improving emotional capability among employees. Further, for SMEs being small size organizations, it could be easier to practice teamwork compared to large enterprises; and they must organize their workplace around philosophy of teamwork for better learning. Teamwork would provide employees opportunities to share their views and ideas, coordinate better, solve problems easily, share more, learn together, and innovate collectively. These measures could improve SME innovativeness which could be one of the leading factors behind their success.

6. Limitations and Future Research

There are number of limitations of this research. This study was conducted in Pakistan only, so the main limitation is the limited generalizability of findings across other countries. Secondly, the findings could not be easy generalized over large scale enterprises; and one must be cautious in applying the findings to SME types (or sectors) which were not included in this research. Sole reliance on questionnaires instead of interviews, and study’s cross sectional design could also be a limitation. However, due to broad nature of the variables used in this study such as learning and innovativeness, there is a further room to look for more antecedents as may be pertinent to other sectors and countries. Longitudinal research design could also be more revealing.

References


Impact of Empowerment & Emotional Labor on Teacher’s Work Engagement: A Moderating Role of Job Experience

1Ammara Saleem, 2Javed Iqbal, 3Moeed Ahmad Sandhu, 4Shaheera Amin

1Lecturer, Department of Business Administration, University of Sahiwal, Sahiwal, Pakistan. ammarachsaleem@gmail.com
2Assistant Professor, Institute of Management Sciences, Bahauddin Zakariya University, Multan, Pakistan. javediqbal@bzu.edu.pk
3Assistant Professor, Institute of Management Sciences, Bahauddin Zakariya University Multan, Pakistan.
4Assistant Professor, Department of Business Administration, University of Sahiwal, Sahiwal, Pakistan. shaheeraamin@bzu.edu.pk

ARTICLE DETAILS

ABSTRACT

Teaching profession is one with highest demand regarding empowerment and emotional labour. Emotional labor is the management of emotions for performance excellence (Hochschild, 1983). This study has examined the relationship among the emotional labour, teacher’s overall empowerment and their work engagement. The study also aimed to determine either the job experience moderates the empowerment and work engagement relation. A sample of 223 university teachers of 14 different universities was selected. 145 respondent’s data was found complete to be used for analysis. Valid scales like Utrecht Work Engagement was used to measure overall work engagement, Cuckar & Mann’s Emotional Requirement Inventory scale was used for measuring emotional labor and Short & Rinehart scale was used to measure the teacher empowerment. SPSS statistical software was used for data analysis. Different SPSS tools were used to measure the strength and significance of studied relationships. Moreover, a model was built to measure the overall work engagement of university teachers. A significant relation was found b/w empowerment, work engagement and emotional labor whereas the role of job experience was found to be insignificant. This study further suggested future research direction.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: javediqbal@bzu.edu.pk
DOI: 10.26710/reads.v4i2.408

1. Introduction

Now a days, teachers are playing an extended role beyond teaching and transmission of knowledge. Teachers are more focusing on student’s personality development, self-esteem, motivating them to encourage the dynamic business environment challenges (as cited in Xiongyong et. al., 2012). Universities are gradually converting into service institutions which are recognizing students as customers (Constanti & Gibbs, 2004). In higher education institutions, students are mature enough, can freely communicate with their teachers particularly the research
graduates who need to work closely with their supervisors on their research projects (Sarkhosh & Rezaee, 2014).

The teachers’ job demands and their roles at higher education level in Pakistan are directly increasingly turning significant due to continuous changes (Karen & Cassidy, 2013; Ogbonna & Harris, 2004). Several researchers are evident that unlike other professions, academia also have numerous and at times contradictory job requirements like work overload, reduced autonomy, emotional requirements, lack of social and moral support, participation in research work and role ambiguity persuades the intensity of work engagement and stress (Høigaard, Giske & Sundsli, 2011; Ogbonna & Harris, 2004; Constanti & Gibbs, 2004). Kinman and Jones (2004) also stated that teaching, research and assessment is now becoming more of a psychosomatic sprain. Reports like Asthana, 2008; UCU, 2008a have also draw attention towards emerging challenges faced by university teachers like practicalities of rising student numbers, need to contribute in research work and added administrative duties (as cited in Cassidy & Berry, 2013).

Due to diverse and challenging job demands, university teachers have to perform emotional labour increasing intensity (Constanti & Gibbs, 2004; Ogbonna & Harris, 2004). To deal with diverse students and to perform a variety of distinct tasks like research, student’s supervision and counseling, they require various degrees of emotional displays which result in high level of dissatisfaction (Ogbonna & Harris, 2004). Constanti and Gibbs (2004) examine in their study that university teachers are oppressed in a three dimension relationship concerning to students, job responsibilities and role expectations and senior management expectations. With drastic change in business environment, in addition to Gibbs three way relations, now universities is expected another relation to cope up with the changing demands.

Large-scale educational reform is occurring in both developed countries like Canada, the USA, the UK and developing countries like Pakistan, India and Bangladesh. The change strategies includes development of curriculums with integration of universities and business which addresses the future demands of business, enhancing the student practical exposure by assigning projects, researches to solve real business problems study visits, etc. The development and execution of changed business strategies necessitate the teachers’ empowerment (Segedin, 2011). Teacher empowerment became a catch phrase in the late 1980’s. At that time, policy analyst began to worry that the ambitious reforms they conceived during the decade would come too little if teachers’ classroom practices are ineffective. Policy makers acknowledged that successful outcomes of more courses, longer school days, and tougher graduation standards or back to basics curricula all hinged on the attitudes and capacities of classroom teachers implementing those reforms (Lichtenstein & Milbery, 1991).

As stated in the literature explored by Lichtenstein & Milbery (1991), two general strategies can be developed to deal with the teacher and business organizations problems. One strategy involved raising standards for individuals entering the profession and the other focused to empower the teachers to participate in university decision making. Unfortunately, like other professions, teaching is also done under the supervision of head of institution or department (director) who are supposed to make centralized decisions and give directions to others. Teacher’s job is to execute the principal decisions and lecturing according to their set curriculum. This made the teachers’ job bored, indignant, and discontented. Their opinion and involvement has no worth which resulted in reduced performance and other behavioral problems. Their jobs need to be redesigned. A healthier choice is to empower them as autonomy and self-determination allows them to get involved completely in their job. They adopt more creative teaching techniques and thus both teachers and student’s performance went up. Moreover, empowerment constructs the teachers to be effective leaders. The objectives of the study are to examine the relationship of work engagement with emotional labor, to determine how the empowerment influences the work engagement of university teachers and to study the role of job experience as moderator in empowerment, emotional labor and work engagement relationship.

2. Theory and Hypothesis

2.1 Empowerment

Employee empowerment, a new managerial concept, which started to emerge in late 1980s (Hanold, 1997). Empowerment is defined as the development of sense of autonomy, self-determination and self-efficacy in organizational members (Simit and Moully, 1998 & Conger and Kanungo, 1988). Empowerment has different dimensions and many essentials that have varieties of roles throughout the different phases of its process. It involves a self-motivated process in a dynamic environment (Robbins et. al., 2009). In literature researchers defined empowerment differently. Some defined it as process to give authority to people who possess the feeble position in organization (Ugboro & Obeng, 2004), others defined empowerment is to award more power to employees in
performing their job (Pearson & Chatterjee, 1996). It is to build a sense of owners of work (Koçel, 2003).

2.1.1 Teacher empowerment
In the literature, researches on teacher empowerment become visible in the late 1980’s (Edwards, Green, & Lyons, 2002). Empowerment is a person belief that they have the capability, knowledge and skills to betterly handled the uncertain situations and dynamics of jobs (Bogler & Somech, 2004). According to Short & Johnson (1994), it is processes of developing competence to own responsibility of their own career development and better handle job concerns. Therefore, teacher’s empowerment results in improved performance, advance teacher’s status, increased knowledge and participation in decision making (Maeroff, 1998). It is power given to faculty that they may take decisions regarding their courses, curriculum, research work of students and their assessment criteria, thus improving the quality of lectures, student projects and research work.

Six dimensions of teacher empowerment were explored in literature (Short & Rinehart, 1992). These dimensions include decision making, professional growth, status, self-efficacy, autonomy and impact (as cited in Somech & Bogler, 2004). Short (1994a) explains the six dimensions in detail. Decision making refers to teachers’ involvement in critical decisions like scheduling classes, changing curriculum to meet constantly changing environment dynamics, assigning projects, etc that directly affect their jobs. Professional growth is concerned with opportunities and resources that the institute provides to his faculty to grow and develop professionally by learning and expanding their skills. Status refers to the respect, power, identification and admiration that the teachers can receive from administration, peer, social group and students. Self-efficacy is an individual perception that they have enough skills and ability to facilitate students and are capable of developing curricula. Autonomy is the teachers’ believe that they have control over various aspects of their jobs, including scheduling, curriculum development, selection of textbooks and assessment criteria, assigning projects to their students and planning instruction.

Empowering teachers as leaders is one of the effective techniques to raise the quality of education to developed countries, to put teachers at the center of the reform movement, to keep good teachers in education, to persuade new teachers into the profession, and to reverse a general trend toward treating them as managerial employees. By introducing these new paradigms, the teaching profession will become a truly rewarding experience.

2.2 Work Engagement
Work engagement is defined as individual’s involvement in their job. Schaufeli et. al. (2002) define it as an encouraging, affirmative and work oriented psychological state that is explained by various dimensions; vigor, dedication, and absorption. These dimensions emerge by different studies conducted in different time periods. Vigor is concerned with physical strength and health. It further defined as higher levels of energy, effort and mental resilience at work to face challenges, expanded job demands and uncertainties. Dedication refers to an individual feeling of diligence, enthusiasm, zeal, inspiration, eagerness, pleasure and challenge. It’s the quality of employee to be committed to his job or task (Schaufeli & Bakker, 2004). Absorption is a state of being engrossed and fully engaged in ones work, reducing the chance to detach oneself from work. Studies are evident that work engagement positively influences the both teacher and student performance (Bakker et. al., 2007) and raised the level of commitment to his job and institution (Hakanen et. al., 2007).

Kahn (1990) initially described engagement as a distinctive, imperative and motivational concept: the developing of an employee’s self in terms of physical, cognitive, and emotional energies to work role performances. Employee’s job engagement and organizational engagement terms were used alternatively but Saks (2006) differentiated both types of engagement. He defined organizational engagement as a person’s attachment to his/her company, whereas employee engagement is the extent to which employees are essentially concerned with their job and own the responsibility of their performance.

2.3 Emotional Labor
Emotional labor is the process of managing and controlling of ones’ emotions at work to fulfill the emotional requirements of job (as cited in Xanthopoulou et. al., 2013). It’s an individual effort in regulating their emotions as per generally accepted social norms (as cited in Karim, 2009). Initially a sociologist, Arlie Russell Hochschild addressed and explored the emotional labour concept (Seçer; 825). He described it as “the management of the feelings to create mimic and bodily displays that can be observed by everyone”. In the educational context, Hochschild (1983), defined students are like to customers, and working in a university and teaching students are
similar to managing an organization that sell products and service to customers. Teaching profession is one of the professions in which emotions management is highly demanded (Hargreaves, 1998; Zhang & Zhu, 2008). Numerous studies observed various drivers of performing emotional labor like professional efficacy, identity, norms and scripts (Sutton, 2004 and Isenbarger & Zembylas, 2006). But, none of the researcher studied the motive of performing emotional labor as work engagement strategy. Emotional hassles, emotionally stimulating interactions like peers/boss/misbehavior (Heuven, Bakker, Schaufeli, & Huisman, 2006) and emotional dissonance, a discrepancy perceived and felt emotions, are deemed to be significant predictors of emotional labor (Holman, Martinez-IÇigo, & Totterdell, 2008).

2.4 Employee Empowerment and Work Engagement

Employee engagement is not only one of the significant outcomes of empowerment but empowered employees are more willing to reciprocate with higher levels of work engagement (Avolio et al., 2004). Moreover, several job resources social support, performance feedback, empowerment, etc are positively associated with work engagement (Bakker and Demerouti, 2007; Schaufeli and Salanova, 2007).

According to Squire-Kelly, Valerie Denise (2012), empowered teachers are able to teach according to international standard and raise the quality of education. Previous studies are evident that education institutions which empower their faculty, they are able to formulate and execute professional teaching practices. These modern techniques are beneficial for both teachers and students and result in more positive outcomes. In literature, empowerment and employee engagement are found as strategies for increasing employees job satisfaction and performance (Spreitzer 1995, Schaufeli & Bakker 2004). Employees are more engaged when they have supportive job resources, such as managers and peers support and empowerment. Job resources ensure the employees success whereas empowerment affects the attitudes and behaviors (Schaufeli, 2007).

Other findings in the literature also support the positive relationship between empowerment and work engagement (Laschinger et. al., 2009). As already discussed, job engagement directly influences the employee’s behavior and attitude. Apparently no study found in Pakistani context which investigated the relationship between university teachers’ empowerment and engagement. Does job engagement strengthen the relationship with empowerment, or in the contrary, does it weaken the relationship? Previous researches showed positive relationship between job engagement and empowerment.

Hypothesis1: Higher the teachers’ empowerment higher the work engagement.

2.5 Employee Emotional Labor and Work Engagement

The emotional labors of the teachers are high as compared to any other profession. They continually had to adjust their emotional expression that let to negatively influence their work engagement (Sheue, 2015). An employee, who provides services to customers, focuses to emotional demands and dissonance, which may influences their work engagement (Schaufeli et. al., 2002). Engaged workers possess high levels of energy, zeal, enthusiasm, etc and are deeply involved in their jobs. Jobs like teaching that involves high interactions with their customers (students), employees (teachers) are often expected to display positive emotions and suppress the negative ones (Diefendorff & Richard, 2003). Liu (2010) examined and found a direct relationship between emotional labor and job engagement. Highly emotional demanding jobs like teaching and nursing have a significant and negative relationship with employees’ well-being (work engagement) (Xanthopoulou et al, 2013)

Hypothesis2: There is a significant relation exist b/w Emotional Labor and Work Engagement

Hypothesis3: The level of overall work engagement measured by empowerment and emotional labor is different is different with changing the work experience

Figure 1: Conceptual Framework
3. Methods

3.1 Participant Procedure
This study was done with 223 lecturers/teachers of 14 different universities of Pakistan. Data was collected using the convenient non-sampling method. Of all the 223 questionnaires distributed, 177 were received back; only 145 were completely filled and used for analysis. Of the participants, 72% were married, 28% single. The 64% were males, 36% females. 57% (n=83) were lecturers, 35% (n=51) were Assistant professors, 3% (n=6) were Associate professors and 4% (n=6) were Professors. 10% (n=15) had Graduation degree, 51% (n=74) had Post Graduation degree and 39% (n=56) had PhD degree. Respondents concerning job experiences, only 22% had experience of <=1 year, 29% had an experience of 1-3 years, 20% had an experience of 3-5 years, 14% had an experience of 5-7 years, 6% had an experience of 7-10 years and 9% had an experience of above 10 years.

3.2 Measures
This is a quantitative study based on questionnaire survey. Quantitative data is collected using Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006). Cukur (2009) developed scale was used to measure the emotional labor. Teacher empowerment was measured using the School Participant Empowerment Scale (SPES) (Short & Rinehart, 1992). The SPES measures teachers' overall perception of empowerment. The Empowerment scale measures. Five-point Likert scale from (1) “Strongly Agree” to (5) “Strongly Disagree” were used. Different demographics like Age, gender, length of service and hours of employment are also recorded for comparative analysis. Employee Empowerment is measured using the 16 items. Emotional Labor is measured using 8 items & work engagement measured using 9 items.

4. Results
The study was aimed to examine the significant relationship that exist b/w teacher’s empowerment, emotional labor and teachers’ work engagement. Both types of descriptive and inferential statistical analyses were done using SPSS (SPSS, Inc., Chicago, IL, USA). Independent sample T-Test, Regression and Correlation analysis were used to test hypothesis, build Models and determine its significance. All analysis is done at alpha=.05. The relationships between work engagement and independent variables (Employee empowerment and Emotional Labor) is statistically significant (p-value<.000) and this finding is supported by Liu, X. (2010) & Bakker (2008).

<table>
<thead>
<tr>
<th>Table 1: Correlations</th>
<th>emp.eng</th>
<th>Empw</th>
<th>em.lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1.000</td>
<td>.727</td>
<td>.149</td>
</tr>
<tr>
<td>emp.eng</td>
<td>.727</td>
<td>1.000</td>
<td>.134</td>
</tr>
<tr>
<td>Empw</td>
<td>-.149</td>
<td>.134</td>
<td>1.000</td>
</tr>
<tr>
<td>em.lab</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table1 shows correlations among the studied variables. Correlation coefficients (CC) measure the nature and strength of relationships and its values ranges from -1 to 1. Larger the value of r (correlation coefficient), stronger relationship exist in variables. The r (CC) (-.149) value indicates negative weaker relationship between overall Emotional Labor and overall work Engagement. The emotional labor in the model is insignificant which contradict and negate the hypothesis 2 (there is a significant relation b/w emotional labor and overall employee work engagement but when the emotional labor is tested with work engagement using t-test, the result is significant (p-value<.05). The absolute r (CC) (.727) value signifies a positive stronger relationship between teachers empowerment and their work Engagement that supports the hypothesis1 (higher the empowerment higher the
employee work engagement) as discussed by (Akram et. al., 2013).

Table 2: Model Coefficient

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.435</td>
<td>.008</td>
</tr>
<tr>
<td>Empowerment</td>
<td>.739</td>
<td>.000</td>
</tr>
<tr>
<td>Emotional Labor</td>
<td>-.155</td>
<td>.037</td>
</tr>
</tbody>
</table>

4.1 Regression Model

Overall Work Engagement = .435 + .739(Empowerment) - .155(Emotional Labor)

The $R^2$ of our model is .531, which shows that approximately 53% of variance in dependent variable (Teachers work engagement) is explained by the linear combination of independent variables (Empowerment & Emotional Labor).

4.2 Regression Model with Moderating Variable (Experience)

The model remains significant by adding moderating variable of job experience

Table 3: Coefficients

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Variables</th>
<th>Coefficients</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Constant</td>
<td>2.404</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Experience</td>
<td>-.139</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>.782</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Experience</td>
<td>-.057</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Empowerment</td>
<td>.651</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Emotional Labor</td>
<td>-.149</td>
<td>.045</td>
</tr>
</tbody>
</table>

Work Engagement = .782 + .651(Empowerment) - .149(Emotional Labor) - .057(job Experience).

The beta value (-.057) of the job experience indicates negative weaker relationship. It means the job experience do not affect the overall work engagement and employee empowerment & emotional labor which negate the hypothesis 3. This result is supported by the results suggested that apart from the experience in the profession; empowerment has a strong impact on work engagement (Spence & Piotrwilk, 2009 & Rice J., K., 2009). The emotion labor beta value (-.149) negatively but significantly influence the teachers work engagement as supported by Bakker et al. (2007) and Sheue (2015)

The beta value (.651) positively and significantly influence the teachers work engagement as found and mentioned by previous researchers (Schulze & Dehaloo, 2013; Bakker, 2008 and Bakker & Demerouti, 2007; Pollak, 2009). When teachers are empowered by their institution, they are highly involved with their work and result in performance excellence (Reeves, 2004).

5. Limitations and Future Directions

The study was cross-sectional and the data was collected using the convenient sampling method; that’s why the results may lack reliability and not true representation of the population. Moreover, much of data is collected from lecturers and Assistant Professors with maximum experience of 7 years. Approximately 10% of respondents are of the seniors (Associate Professors and Professors) with an experience of above 10 years and these demographics can affect our model and findings as per previous research experience has significant relation with work engagement and employee empowerment (Cassidy & Berry, 2013 and Spence & Piotrwilk, 2009). Correlation co-efficient value for employee emotional labor is - .149, an indication of negative as well as weaker relationship between the work engagement and emotional labor. It means that alone emotional labor not influencing teachers work engagement. Therefore higher education institutes need to discover other variables influencing the teachers work engagement in
combination with empowerment and emotional labor as determined in this study study.

5. Discussion
The results of this study also contribute significantly in the literature. The results signify a support for a link b/w higher institution teachers’ empowerment and work engagement. The teachers who have optimistic and strong feelings of empowerment (Autonomy, Decision making, Competence, Professional growth, status, Impact, etc) are more engaged in their job. The findings of the study suggests that its higher education commission responsibility to develop such environment in universities where faculty themselves are urged to act as professional and treated as professionals who are empowered to make their own decisions, which ultimately raise the teachers engagement in their profession. In turn, teachers may also experience improved quality of education and greater job satisfaction, remain in the profession longer, and be more effective in the classroom.

The relationship b/w emotional labor and work engagement in this study is significant as the literature suggested that university lecturers are performing relatively high levels of emotional labour compared even to other occupations where emotional labour is considered particularly prevalent. A high level of emotional labour practices in university lecturers is perhaps one symptom of the transformational change impacting higher education institutions (Berry & Cassidy, 2013). The findings of this study unable to determine the significant influence of experience. It means experience doesn’t matter in the studied relationship, it contradicts literature studies where experience is an important factor influencing the empowerment and engagement (Laschinger et. al., 2009). Clearly further research is necessary to determine the reasons of variation of results of this study and the literature supported results. The findings also show that the experience doesn’t matter in the studied relation.

References
244


Institutional Determinants of Bilateral Trade Flows: A Panel Data Analysis

Muhammad Ramzan Sheikh, Imran Sharif Chaudhry, Naila Gul, Muhammad Hanif Akhtar

Associate Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan. ramzansheikh@bzu.edu.pk
Professor / Director, School of Economics, Bahauddin Zakariya University, Multan Pakistan. imran@bzu.edu.pk
Lecturer, Department of Management Sciences, Virtual University of Pakistan. nailagul@vu.edu.pk
Professor, Department of Commerce, Bahauddin Zakariya University, Multan, Pakistan. haneefakhtar@gmail.com

ARTICLE DETAILS

**History**
Revised format: November 2018
Available Online: December 2018

**Abstract**
This study analyzes the institutional determinants of bilateral trade flows and homogeneity effect for Pakistan with ECO countries by using panel data for years 2003-2014. Gravity trade model is estimated through panel least squares technique. Impact of institutions is very important for international trade as international businesses involve many governance systems. The results show that average impact of institutional quality and bilateral trade flows is positive. Moreover, institutional homogeneity effect exhibits that bilateral trade flows are positively related with the governance similarity. Thus, institutional quality and institutional homogeneity has dominant impact on the bilateral trade flows.

**Keywords**
ECO, Bilateral Trade Flows, Panel Data, Institutional Quality, Institutional Homogeneity, Gravity Trade Model

**JEL Classification:**
Q27, E02

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: ramzansheikh@bzu.edu.pk
DOI: 10.26710/reads.v4i2.409

1. Introduction
International trade is considered as an engine of economic growth. Many economies are adopting economic integration and opening up their economies to encourage the economic development and for better standard of living. ASEAN, EU and NAFTA are some examples of economic integration. Sustainable development achievement is the main objective of economic planners. EU and ASEAN has promoted international trade, stimulated economic development and encouraged other countries to make economic groups. Present study is based on the Economic Cooperation Organization (ECO). ECO was originally established by Pakistan, Turkey and Iran in 1964 as Regional Cooperation for Development (RCD). Its basic areas were trade, banking, communications, political and cultural affairs, industry, transportation and railway. RCD was renamed in 1985 to Economic Cooperation Organization (ECO). It was recognized after the collapse of Soviet Union to collaborate with the separated states. Central Asian States and Afghanistan were included in ECO in May 1992 so, ECO members were increased from 3 to 10 including Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkmenistan, Turkey and Uzbekistan. Major aims and objectives of ECO include sustainable economic development, better living standard of people, promotion of economic, social, technical, cultural and scientific cooperation, elimination of trade barriers for the expansion of intra-regional trade, better infrastructure for
transportation and communication, development of industrial potential, enhancement of agricultural, natural, energy and human resources, privatization and economic liberalization.

Trading opportunities are very good in ECO region. ECO has become a flourishing regional organization and its international importance is increasing but at the same time, the organization faces very hard challenges. There is lack of proper institutions and infrastructure that’s why resources are not fully utilized in the region. ECO countries are dependent for their exports and imports on industrial economies therefore joint trade among the member countries has been sluggish over time. Trade potential of the region has not yet explored fully so the need of the time is to collaborate with each other so that higher intra-regional trade target could be accomplished within the ECO region. Pak-ECO trade has many benefits as Pakistan has well established trade traditions, well developed communication and transportation resources, geographical contiguity, religious and cultural bonds etc. Due to less information about demand of consumers and the ineffective marketing techniques to introduce new products, trade is low with ECO region. Greater economic cooperation and joint ventures can be reached in different fields between Pakistan and ECO member countries. Many prospects exist and many other opportunities can be generated, whether these opportunities will be exploited or not, it will depend on the vision and spirit of the planners and policy makers in ECO countries.

The rest of the paper is organized as: Section 2 shows the review of empirical studies. Section 3 explains the model specification. Section 4 illustrates the data and methodology. Section 5 depicts the results while section 6 concludes the paper along with polices.

2. Review of Empirical Studies
This section exhibits the review of empirical studies based on the gravity trade model. Number of empirical research studies has been done on trade determinants as a whole in literature both in developed and developing countries. Studies on ECO countries are very limited in Pakistan particularly on bilateral trade determinants by using gravity trade model and panel data. Institutional framework is an informal barrier to trade other than quota and tariff. Impact of institutions is very important for international trade as international businesses involve many governance systems. Strong and effective domestic institutional mechanism is an important determinant of trade but institutional effect has received very little attention in the literature on international trade. Recent empirical studies of Alvarez et al. (2015), Bojnec and Ferto (2015), De Groot et al. (2004), Koukhartchouk and Maurel (2003), and Anderson and Marcouiller (2002) have investigated the institutional effects on the level of trade. In Pakistan, no study is done so far on institutional determinants of bilateral trade flows and institutional homogeneity effect on the level of trade for ECO countries by using panel data and gravity trade model. This study captures the effect of institutional quality and institutional homogeneity on trade. Table 1 presents some empirical studies based on the gravity trade model.

<table>
<thead>
<tr>
<th>Author</th>
<th>Variables</th>
<th>Data Type</th>
<th>Technique</th>
<th>Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wang (2016)</td>
<td>Bilateral trade flows GDP</td>
<td>Balanced panel data set of 80 countries for years 2000-2013</td>
<td>WDI</td>
<td>GDP + Per capita GDP Distance -</td>
</tr>
<tr>
<td></td>
<td>GDP Per capita GDP Distance Exchange rate Inequality Vegetable oil seeds Border Language, FTA Colonial heritage</td>
<td>OECD National Accounts data files IMF, IFS data base CEPII</td>
<td>CEPII</td>
<td>Exchange rate + Inequality - Vegetable oil seeds + Border + Language + FTA + Colonial heritage +</td>
</tr>
<tr>
<td>Alvarez et al.</td>
<td>Bilateral trade flows Distance Labor competitiveness Sectoral price level Sectoral income share Adjacency Language Governance indicators</td>
<td>Panel data of 186 countries for years 1996-2012 and 2000-2012</td>
<td>UN COMTRADE WDI CEPII World Bank’s WGI</td>
<td>Labor competitiveness + Sectoral price level - Sectoral income share - Distance - Adjacency + Language + Governance indicators +/-</td>
</tr>
<tr>
<td>Authors</td>
<td>Type of Flows</td>
<td>Variables</td>
<td>Panel Data Sources</td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OECD bilateral trade database, WDI, CEPII, EFW, PPML</td>
<td></td>
</tr>
<tr>
<td>Rizwanulhassan and Shafiqurrehman (2015)</td>
<td>Bilateral trade flows</td>
<td>GDP, Per capita GDP, Exchange rate volatility, Distance, Border</td>
<td>Panel data of 5 major SAARC countries for years 1991-2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IMF DOTS, WDI, IFS, GLS, OECD bilateral trade database</td>
<td></td>
</tr>
<tr>
<td>Ravishankar and Stack (2014)</td>
<td>Exports flows</td>
<td>GDP, Per capita GDP, differential, Real exchange rate, Landlocked, Colony, Member of EU</td>
<td>Panel data of 17 countries for years 1994-2007</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IMF DOTS, IFS, WDI, CEPII, OECD bilateral trade database, Stochastic Frontier Analysis (SFA)</td>
<td></td>
</tr>
<tr>
<td>Khan et al. (2013)</td>
<td>Trade flows</td>
<td>GDP, Per capita GDP, Distance, Cultural similarity</td>
<td>Panel data of 10 countries for years 1990-2010</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IMF Database of Economic Outlook, CEPII, OLS</td>
<td></td>
</tr>
<tr>
<td>Mohmand and Wang (2013)</td>
<td>Exports flows</td>
<td>GDP, Distance, Border, Language, Religion, Trade agreements, Member of WTO</td>
<td>Panel data of 142 countries for years 1995-2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UN COMTRADE, WDI, CEPII, CIA, World Fact book, Panel least squares</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UN COMTRADE, WDI, CEPII, Panel least squares</td>
<td></td>
</tr>
<tr>
<td>Nasiri and Hassani (2013)</td>
<td>Trade flows</td>
<td>GDP, Distance, Per capita income, Population, Border, Language, Membership in ECO, EU, ASEAN, and EAEC</td>
<td>Cross sectional data of 161 countries for year 2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Customs reports of Islamic republic of Iran, World Bank, United Nations, OLS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IFS, IMF, SBP’s Publications and Pakistan Economic Survey, GNP, Openness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exchange rate - Import flows Lagged value +</td>
<td></td>
</tr>
</tbody>
</table>
Inflation rate
Import flows Lagged value
Distance

Achakzai
(2006)
Exports flows
GDP
Per capita GDP
Distance
Border
Language
Members of ECO

Cross sectional data of 137
countries for year 2005
UN COMTRADE
WDI
CEPII

GLS

Inflation rate –
Population size +

De Groot
et al. (2004)
Exports flows
National income Per capita
income
Distance, Border
Language, Religion
Membership in same PTA
Colonial empire
Institutional quality

Cross sectional data of more
than 100 countries for year
1998
WITS
WDI
Sala-i-Martin (1997)

OLS

GDP +
Per capita GDP +
Border +
Language +
ECO +

In all these studies, various specifications of gravity trade model have been estimated through least squares
technique by using cross sectional and panel data and different explanatory and dummy variables. All studies show
expected signs for basic gravity variables of GDP and distance. Trade volumes are positively correlated with GDP
while inversely linked with distance. Border and language dummy variables are also positively correlated with
trade in almost all the studies.

3. Model Specifications

3.1 Model Specifications for Institutional Determinants of Trade
Following model specifications are used to find the institutional determinants of bilateral trade flows of Pakistan
with ECO countries. In each model, bilateral trade flows is used as dependent variable; and GDP, per capita GDP,
distance, adjacency, and area are used as independent variables along with governance indicators. All variables are
in log form except the dummy variables and governance indicator. As all the governance indicators are interrelated
with each other so each governance indicator is used separately in each model to avoid the problem of
Multicollinearity.

Model 1: Voice and Accountability
In this model, gravity trade model is estimated with governance indicator of voice and accountability.

\[
\log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{VAC}_i) \\
+ \beta_5 (\text{VAC}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij}
\]  

Model 2: Political Stability
In this model, gravity trade model is estimated with governance indicator of political stability.

\[
\log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{PST}_i) \\
+ \beta_5 (\text{PST}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij}
\]  

Model 3: Government Effectiveness
In this model, gravity trade model is estimated with governance indicator of government effectiveness.

\[
\log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{GEF}_i) \\
+ \beta_5 (\text{GEF}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij}
\]
Model 4: Regulatory Quality
In this model, gravity trade model is estimated with governance indicator of regulatory quality.

\[ \log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{RQL}_i) + \beta_5 (\text{RQL}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij} \]  

(4)

Model 5: Rule of Law
In this model, gravity trade model is estimated with governance indicator of rule of law.

\[ \log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{RLW}_i) + \beta_5 (\text{RLW}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij} \]  

(5)

Model 6: Control of Corruption
In this model, gravity trade model is estimated with governance indicator of control of corruption.

\[ \log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{CCR}_i) + \beta_5 (\text{CCR}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij} \]  

(6)

Model 7: Composite Governance Indicator
In this model, gravity trade model is estimated with composite governance indicator. Composite index is constructed by taking the simple arithmetic average of the scores of each governance indicator and it shows the average effect of overall governance quality on bilateral trade flows.

\[ \log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{COMP}_i) + \beta_5 (\text{COMP}_j) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij} \]  

(7)

Where:
- \( \text{TRD}_{ij} \) = Total amount of imports and exports between country i and country j
- \( \text{GDP}_i \) = GDP of country I
- \( \text{GDP}_j \) = GDP of country j
- \( \text{PCGDP}_i \) = Per capita GDP of country i
- \( \text{PCGDP}_j \) = Per capita GDP of country j
- \( \text{DST}_{ij} \) = Distance between country i and country j
- \( \text{VAC}_i \) = Voice and accountability of country i
- \( \text{VAC}_j \) = Voice and accountability of country j
- \( \text{PST}_i \) = Political stability of country i
- \( \text{PST}_j \) = Political stability of country j
- \( \text{GEF}_i \) = Government effectiveness of country i
- \( \text{GEF}_j \) = Government effectiveness of country j
- \( \text{RQL}_i \) = Regulatory quality of country i
- \( \text{RQL}_j \) = Regulatory quality of country j
- \( \text{RLW}_i \) = Rule of law of country i
- \( \text{RLW}_j \) = Rule of law of country j
- \( \text{CCR}_i \) = Control of corruption of country i
- \( \text{CCR}_j \) = Control of corruption of country j
- \( \text{COMP}_i \) = Composite governance indicator of country i
- \( \text{COMP}_j \) = Composite governance indicator of country j
- \( \text{ADJ}_{ij} \) = Dummy variable of adjacency/common border between country i and country j
- \( \text{AREA}_i \) = Dummy variable of total land area of country i
- \( \mu_{ij} \) = Error term

Studies of Alvarez et al. (2015) and De Groot et al. (2004) have used these governance indicators to find the institutional determinants of trade.
3.2 Model Specifications for Institutional Homogeneity Effect on the level of Trade

Following model specifications are used to find the institutional homogeneity effect on the level of trade of Pakistan with ECO countries. In each model, bilateral trade flows is used as dependent variable; and GDP, per capita GDP, distance, adjacency, and area are used as independent variables along with governance indicators. All variables are in log form except the dummy variables and governance indicators.

Model 1: Institutional Homogeneity

In this model, gravity trade model is estimated by including composite index of governance similarity to see the institutional homogeneity effect on the level of trade.

\[
\log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 (\text{SIMINDEX}_{ij}) + \beta_5 (\text{ADJ}_{ij}) + \beta_6 (\text{AREA}_i) + \mu_{ij} 
\]

Model 2: Institutional Quality and Institutional Homogeneity

In this model, gravity trade model is estimated by including both composite governance indicator and composite index of governance similarity to see the institutional quality and institutional homogeneity effect on the level of trade.

\[
\log(\text{TRD}_{ij}) = \alpha + \beta_1 \log(\text{GDP}_i, \text{GDP}_j) + \beta_2 \log(\text{PCGDP}_i, \text{PCGDP}_j) + \beta_3 \log(\text{DST}_{ij}) + \beta_4 \log(\text{COMP}_i) + \beta_5 \log(\text{SIMINDEX}_{ij}) + \beta_6 (\text{ADJ}_{ij}) + \beta_7 (\text{AREA}_i) + \mu_{ij} 
\]

Governance similarity index is constructed by following formula using the methodology of Helpman (1987); Egger (2000, 2002); Shin and Serlenga (2007).

\[
\text{Similarity}_{ij} = \log \left\{1 - \left(\frac{\text{COMP}_i}{\text{COMP}_i + \text{COMP}_j} \right)^2 - \left(\frac{\text{COMP}_j}{\text{COMP}_i + \text{COMP}_j} \right)^2 \right\} 
\]

A study of De Groot et al. (2004) has used these indices to find the institutional quality and institutional homogeneity effect on the level of trade.

4. Data and Methodology

In present study, panel data of ECO region (10 countries) are used from years 2003-2014 (12 years). Panel data provide more efficient results due to more degree of freedom and more reliability. Panel least square technique is used to estimate the different specifications of gravity trade model to find the economic determinants of trade. Data of all the variables are gathered from UN COMTRADE, WDI, Penn World Table, and CEPII. Stronger institutional quality tends to increase the international trade and competitiveness. Six governance indicators are used to find the institutional determinants of bilateral trade flows of Pakistan with ECO countries based on Kaufmann and Kraay (2002). Table 2 presents description of all variables used in this study.

Table 2: Description of Variables: Summary and Sources

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Unit</th>
<th>Data Source</th>
<th>Expected Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variable</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRD</td>
<td>Bilateral trade flows obtained by adding bilateral imports and bilateral exports</td>
<td>US$</td>
<td>UN COMTRADE</td>
<td></td>
</tr>
<tr>
<td><strong>Economic Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>GDP used as a proxy for economic size of the country</td>
<td>Current 2005 US$</td>
<td>WDI</td>
<td>Positive</td>
</tr>
<tr>
<td>DST</td>
<td>Distance from capital to capital used as a proxy for trade costs</td>
<td>Kilometer</td>
<td>CEPII</td>
<td>Negative</td>
</tr>
<tr>
<td>PCGDP</td>
<td>Per capita GDP used as a proxy for trade</td>
<td>Current</td>
<td>WDI</td>
<td>Positive</td>
</tr>
</tbody>
</table>

1See “Notes on CEPI’s Distances Measures: The GeoDist database” by Mayer and Zignago (2011)
5. Results and Discussions
Now we discuss the institutional determinants of trade in ECO countries.

5.1 Institutional Determinants of Trade
5.1.1 Descriptive Statistics
Table 3 presents the descriptive statistics of all institutional variables. Average effect of composite index is 0.45 on bilateral trade flows for ECO member countries with maximum value of 0.89 and minimum value of 0.12 and this average effect is 0.49 in case of Pakistan with maximum value of 0.80 and minimum value of 0.25. The standard deviation of composite index is 0.20 and 0.16 for ECO countries and Pakistan respectively which show greater dispersion from their mean value.

Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Jarque-Bera Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>VACi</td>
<td>-1.27</td>
<td>-0.03</td>
<td>-2.22</td>
<td>0.56</td>
<td>0.42</td>
<td>2.87</td>
<td>3.32</td>
</tr>
<tr>
<td>VACj</td>
<td>-0.95</td>
<td>-0.74</td>
<td>-1.26</td>
<td>0.15</td>
<td>-1.00</td>
<td>2.85</td>
<td>17.98</td>
</tr>
<tr>
<td>PSTi</td>
<td>-0.88</td>
<td>0.75</td>
<td>-2.70</td>
<td>0.79</td>
<td>-0.29</td>
<td>2.92</td>
<td>1.49</td>
</tr>
<tr>
<td>PSTj</td>
<td>-2.32</td>
<td>-1.56</td>
<td>-2.81</td>
<td>0.44</td>
<td>0.73</td>
<td>1.93</td>
<td>14.80</td>
</tr>
<tr>
<td>GEFi</td>
<td>-0.77</td>
<td>0.40</td>
<td>-1.68</td>
<td>0.51</td>
<td>0.44</td>
<td>2.94</td>
<td>3.43</td>
</tr>
<tr>
<td>GEFj</td>
<td>-0.62</td>
<td>-0.37</td>
<td>-0.81</td>
<td>0.18</td>
<td>0.32</td>
<td>1.24</td>
<td>15.77</td>
</tr>
<tr>
<td>RQLi</td>
<td>-0.95</td>
<td>0.42</td>
<td>-2.18</td>
<td>0.73</td>
<td>0.15</td>
<td>1.89</td>
<td>5.97</td>
</tr>
<tr>
<td>RQLj</td>
<td>-0.64</td>
<td>-0.45</td>
<td>-0.88</td>
<td>0.11</td>
<td>-0.39</td>
<td>2.71</td>
<td>3.08</td>
</tr>
<tr>
<td>RLWi</td>
<td>-1.02</td>
<td>0.16</td>
<td>-1.96</td>
<td>0.52</td>
<td>0.61</td>
<td>3.16</td>
<td>6.74</td>
</tr>
<tr>
<td>RLWj</td>
<td>-0.85</td>
<td>-0.73</td>
<td>-0.98</td>
<td>0.07</td>
<td>0.17</td>
<td>2.40</td>
<td>2.14</td>
</tr>
<tr>
<td>CCRi</td>
<td>-0.98</td>
<td>0.17</td>
<td>-1.64</td>
<td>0.44</td>
<td>1.12</td>
<td>3.68</td>
<td>24.44</td>
</tr>
<tr>
<td>CCRj</td>
<td>-0.93</td>
<td>-0.73</td>
<td>-1.07</td>
<td>0.14</td>
<td>0.28</td>
<td>1.26</td>
<td>14.96</td>
</tr>
<tr>
<td>COMPi</td>
<td>0.45</td>
<td>0.89</td>
<td>0.12</td>
<td>0.20</td>
<td>0.66</td>
<td>2.94</td>
<td>7.92</td>
</tr>
<tr>
<td>COMPj</td>
<td>0.49</td>
<td>0.80</td>
<td>0.25</td>
<td>0.16</td>
<td>0.41</td>
<td>2.17</td>
<td>6.15</td>
</tr>
<tr>
<td>SIMINDEXij</td>
<td>0.48</td>
<td>1.00</td>
<td>0.00</td>
<td>0.50</td>
<td>0.07</td>
<td>1.01</td>
<td>18.00</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations
Values of skewness for composite index are 0.66 and 0.41 for ECO countries and Pakistan respectively while for normal distribution, skewness should be zero. Values of kurtosis of composite index are 2.94 and 2.17 for ECO countries and Pakistan respectively while for normal distribution, kurtosis should be 3. This shows that data of ECO countries of all governance indicators follows non-normal distribution. Jarque-Bera test also confirms the same results.

5.1.2 Correlation Matrix
Table 4 displays the correlation matrix of all variables. The sign of the correlation coefficient describes whether the two variables are positively correlated or negatively correlated. The absolute value without regard to sign shows how strong or weak the relationship is.

Table 4: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>VACj</th>
<th>VACj</th>
<th>PSTi</th>
<th>PSTj</th>
<th>GEFi</th>
<th>GEFj</th>
<th>RQLi</th>
<th>RQLj</th>
<th>RLWi</th>
<th>RLWj</th>
<th>CCRi</th>
<th>CCRj</th>
<th>COMPi</th>
<th>COMPj</th>
</tr>
</thead>
<tbody>
<tr>
<td>VACj</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSTi</td>
<td>-0.13</td>
<td>0.06</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSTj</td>
<td>0.09</td>
<td>-0.86</td>
<td>-0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEFi</td>
<td>0.72</td>
<td>0.09</td>
<td>0.17</td>
<td>-0.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEFj</td>
<td>0.08</td>
<td>-0.73</td>
<td>-0.07</td>
<td>0.87</td>
<td>-0.10</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQLi</td>
<td>0.88</td>
<td>0.03</td>
<td>0.13</td>
<td>-0.04</td>
<td>0.79</td>
<td>-0.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQLj</td>
<td>-0.03</td>
<td>0.44</td>
<td>0.02</td>
<td>-0.35</td>
<td>-0.04</td>
<td>0.08</td>
<td>-0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RLWi</td>
<td>0.68</td>
<td>-0.02</td>
<td>0.31</td>
<td>0.03</td>
<td>0.92</td>
<td>-0.01</td>
<td>0.77</td>
<td>-0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RLWj</td>
<td>0.02</td>
<td>-0.27</td>
<td>-0.01</td>
<td>0.37</td>
<td>0.03</td>
<td>0.23</td>
<td>-0.01</td>
<td>-0.18</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCRi</td>
<td>0.65</td>
<td>-0.03</td>
<td>0.12</td>
<td>0.07</td>
<td>0.88</td>
<td>0.07</td>
<td>0.64</td>
<td>-0.01</td>
<td>0.91</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCRj</td>
<td>0.00</td>
<td>-0.06</td>
<td>0.02</td>
<td>0.22</td>
<td>-0.01</td>
<td>0.45</td>
<td>-0.01</td>
<td>0.34</td>
<td>0.01</td>
<td>0.09</td>
<td>0.10</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMPi</td>
<td>0.81</td>
<td>0.01</td>
<td>0.31</td>
<td>0.00</td>
<td>0.94</td>
<td>-0.02</td>
<td>0.89</td>
<td>-0.03</td>
<td>0.96</td>
<td>0.02</td>
<td>0.88</td>
<td>0.02</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>COMPj</td>
<td>0.04</td>
<td>-0.28</td>
<td>-0.02</td>
<td>0.56</td>
<td>-0.05</td>
<td>0.77</td>
<td>-0.04</td>
<td>0.40</td>
<td>0.00</td>
<td>0.43</td>
<td>0.09</td>
<td>0.79</td>
<td>0.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Authors' calculations

Table 4 shows that the composite governance indicator of ECO countries has strong positive correlation with all governance indicators. Composite governance indicator of Pakistan has strong positive correlation with government effectiveness and control of corruption.

5.1.3 Institutional Determinants of Bilateral Trade Flows: Pakistan with ECO countries
Table 5 presents the estimation results of all the model specifications of gravity trade model for institutional determinants of bilateral trade flows of Pakistan with ECO countries. Equations (1), (2), (3), (4), (5), (6) and (7) are estimated in models 1, 2, 3, 4, 5, 6 and 7 respectively for institutional determinants of bilateral trade flows of Pakistan with ECO countries. Table 5 shows the estimation results of all seven models. Product of GDP coefficient is positive and significant in all seven models. Model 7 shows the average effect of all six governance indicators showing that bilateral trade flows will increase by 1.03% on average with 1% increase in GDP of both countries. Product of GDP shows economic size of a country in terms of market size and production capacity. Higher GDP means higher production capacity, large domestic markets, and large varieties of goods available for trade; so, if GDP of a country increases, its trade volume also increases. Economic growth is also measured by the level of GDP; higher the GDP of a country, higher will be the economic growth of that country and higher will be the trade volume. Economic size does matter for trade therefore, large economies tend to import more because of their higher incomes and also tend to export more because of their large variety of output or production; so, larger the economy, larger will be the trade (Krugman, 2012). Study of De Groot et al. (2004) on institutional determinants of trade also established the positive association between GDP and trade.

Product of per capita GDP coefficient is positive in all seven models. Model 7 shows the average effect of all six governance indicators showing that bilateral trade flows will increase by 0.70% on average with 1% increase in per capita GDP of both countries. Per capita GDP shows the level of development, infrastructure, and purchasing power of a country. These are very essential for bilateral trade as more developed the countries, more will be the trade flows. With the development of a country, transportation facilities become better which enhance the level of trade. People demand more exotic foreign varieties which may lead to the innovation or invention of new products. “Exporting country’s per capita GDP should have a positive coefficient when the composition of trade flows
involves capital-intensive products and negative when composition of trade flows involves labor-intensive products. On the other hand, importing country’s per capita GDP should have a positive coefficient when composition of trade flows consist of luxury goods and negative when composition of trade flows consist of necessity goods” (Bergstrand 1989). Study of De Groot et al. (2004) on institutional determinants of trade showed positive sign of per capita GDP for importer country while negative sign for exporter country.

Table 5: Panel Data Estimates of Institutional Determinants of Trade

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Voice and Accountability</td>
<td>Political Stability</td>
<td>Government Effectiveness</td>
<td>Regulatory Quality</td>
<td>Rule of Law</td>
<td>Control of Corruption</td>
<td>Composite Indicator</td>
</tr>
<tr>
<td>C</td>
<td>-32.747 (0.0000)</td>
<td>-34.403 (0.0000)</td>
<td>-32.605 (0.0015)</td>
<td>-32.625 (0.000)</td>
<td>-19.674 (0.0175)</td>
<td>-19.849 (0.044)</td>
<td>-28.290 (0.0004)</td>
</tr>
<tr>
<td>GDPi, GDPj</td>
<td>1.1230 (0.000)*</td>
<td>1.0614 (0.000)*</td>
<td>1.1075 (0.0003)**</td>
<td>1.1357 (0.000)*</td>
<td>0.84047 (0.0003)**</td>
<td>0.8090 (0.0041)**</td>
<td>1.0302 (0.000)*</td>
</tr>
<tr>
<td>PCGDPi, PCGDPj</td>
<td>0.6154 (0.1381)</td>
<td>1.1778 (0.0140)**</td>
<td>0.4572 (0.3721)</td>
<td>0.5678 (0.1789)</td>
<td>1.1467 (0.0062)**</td>
<td>1.0199 (0.0371)**</td>
<td>0.7047 (0.0991)**</td>
</tr>
<tr>
<td>DSTij</td>
<td>-1.9692 (0.0041)**</td>
<td>-2.3608 (0.0007)*</td>
<td>-1.6125 (0.0429)**</td>
<td>-1.8891 (0.0073)**</td>
<td>-2.9486 (0.000)*</td>
<td>-2.4025 (0.0012)**</td>
<td>-2.1824 (0.0027)**</td>
</tr>
<tr>
<td>ADJij</td>
<td>3.6480 (0.0000)*</td>
<td>3.0149 (0.0000)*</td>
<td>3.8345 (0.0000)*</td>
<td>3.9194 (0.0000)*</td>
<td>4.3522 (0.000)*</td>
<td>3.9775 (0.0000)*</td>
<td>4.0821 (0.0000)*</td>
</tr>
<tr>
<td>AREAi</td>
<td>-2.467 (0.0000)*</td>
<td>-2.436 (0.0000)*</td>
<td>-2.655 (0.0000)*</td>
<td>-2.614 (0.0000)*</td>
<td>-2.685 (0.0000)*</td>
<td>-2.537 (0.0000)*</td>
<td>-2.654 (0.0000)*</td>
</tr>
<tr>
<td>Governance Indicator i</td>
<td>1.362 (0.0388)**</td>
<td>-2.111 (0.0527)**</td>
<td>0.681 (0.5371)</td>
<td>1.1026 (0.0955)**</td>
<td>3.624 (0.0028)**</td>
<td>2.588 (0.0307)**</td>
<td>2.452 (0.0551)**</td>
</tr>
<tr>
<td>Governance Indicator j</td>
<td>0.319 (0.4488)</td>
<td>1.679 (0.0060)**</td>
<td>0.243 (0.6061)</td>
<td>-0.453 (0.2144)</td>
<td>0.496 (0.0949)**</td>
<td>-0.2062 (0.3768)</td>
<td>0.5321 (0.5616)</td>
</tr>
<tr>
<td>R^2</td>
<td>0.911396</td>
<td>0.91693</td>
<td>0.90785</td>
<td>0.91125</td>
<td>0.91536</td>
<td>0.91045</td>
<td>0.910296</td>
</tr>
<tr>
<td>D.W. Stat</td>
<td>1.944636</td>
<td>2.09181</td>
<td>2.050812</td>
<td>2.048444</td>
<td>1.90328</td>
<td>1.94287</td>
<td>1.921552</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>101.7184</td>
<td>109.165</td>
<td>97.43506</td>
<td>101.5354</td>
<td>106.951</td>
<td>100.543</td>
<td>100.3503</td>
</tr>
<tr>
<td>Probability (F-Statistic)</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations, P values in parenthesis *, **, *** represents the 1%, 5% and 10% level of significance respectively.

Distance coefficient is negative and significant in all seven models. Model 7 shows the average effect of all six governance indicators showing that bilateral trade flows will increase by 2.18% on average with 1% increase in distance of both countries. Higher the distance among trading countries, lower will be the trade volume as transportation cost increases. “There is very little that economists fully understand about global trade but there is one thing that we do know – commerce declines dramatically with the distance” (Leamer 2007). “The further the distance between two trading countries, the lesser the bilateral trade between them” (Tinbergen, 1962; Poyhonen, 1963; Bergstrand, 1985). All empirical studies conducted on gravity trade model confirmed the negative relationship between trade volume and distance. Adjacency or common border dummy variable is positive as expected and significant in all seven models. Countries sharing the same border tend to trade more. The countries with adjacency have more tendencies to trade than the non-adjacent countries (Leamer 1993; Helliwell 1997). Study of De Groot et al. (2004) on institutional determinants of trade also showed positive relation of border with trade volume.

Area dummy is used to capture the country size. Area coefficient is negative and significant in all seven models. Larger the country size, lower will be the trade volume. Frankel and Romer (1999) used the land area and showed significant impact on trade with negative sign. Study of De Groot et al. (2004) on institutional determinants of trade showed positive relation with trade area. In present study, negative sign of area may be due to the fact that all ECO countries are large in terms of size but are not fully developed and equipped with proper infrastructure of transportation and communication which may cause reduced trade. Governance indicators are the estimates with values ranging from approximately -2.5 to +2.5 indicating weak and strong Governance performance respectively and their log cannot be taken so their interpretation is done by using the exponent values according to the standard deviation from the mean value which provides good indication of governance quality.

Voice and accountability coefficient is positive and significant for ECO member countries while positive and insignificant for Pakistan. Trade will enhance by strong voice and accountability system in trading countries. Countries having fair election system, freedom of expression, and free media, will cause good governance, appropriate policy actions; more awareness will boost the trade among trading countries. From mean, 1% increase
in standard deviation of voice and accountability; bilateral trade flows will increase by 114.4% on average in case of ECO member countries and 8.1% on average in case of Pakistan. Study of Alvarez et al. (2015) showed the negative sign for voice and accountability indicator. Study of De Groot et al. (2004) on institutional determinants of trade confirmed the positive sign of voice and accountability indicator.

Political stability coefficient is negative and significant for ECO member countries while positive and significant for Pakistan. Countries having stable governments, absence of violence and absence of terrorism provide safe and secure environment for foreign investors which encourage the level of trade. From mean, 1% increase in standard deviation of political stability; bilateral trade flows will decrease by 81.1% on average in case of ECO member countries and will increase by 109.3% on average in case of Pakistan. Negative sign of political stability indicator for ECO member countries may be due to the lack of institutional framework and proper implementation of policies in those countries. Study of Alvarez et al. (2015) also confirmed the negative sign for political stability indicator. Study of De Groot et al. (2004) on institutional determinants of trade showed positive sign of political stability indicator.

Government effectiveness coefficients are positive and insignificant for ECO member countries and for Pakistan. Countries having strong government policies, high quality of public and civil services independent of political pressure, proper policy framework and its implementation with true spirit encourage the level of trade. From mean, 1% increase in standard deviation of government effectiveness; bilateral trade flows will increase by 41.6% on average in case of ECO member countries and will increase by 4.5% on average in case of Pakistan. Studies of Alvarez et al. (2015) and De Groot et al. (2004) also confirmed the positive sign of government effectiveness indicator.

Regulatory quality coefficient is positive and significant for ECO member countries while negative and insignificant for Pakistan. Countries having stable framework of policy formulations to promote the development of private sector encourage the level of trade. From mean, 1% increase in standard deviation of regulatory quality; bilateral trade flows will increase by 123.6% on average in case of ECO member countries and will decrease by 4.7% on average in case of Pakistan. Negative sign of regulatory quality indicator for Pakistan may be due to the lack of polices and implementation of those policies for private sector development. Studies of Alvarez et al. (2015) and De Groot et al. (2004) showed the positive sign of regulatory quality indicator. Rule of law coefficient is positive and significant for ECO member countries while positive and significant for Pakistan. Countries having proper enforcement of laws against crime and violence, laws of property rights, efficient police and courts provide safe and secure law and order situation for domestic and foreign investors which encourage the level of trade. From mean, 1% increase in standard deviation of rule of law; bilateral trade flows will increase by 558.2% on average in case of ECO member countries and will increase by 3.5% on average in case of Pakistan. Studies of Alvarez et al. (2015) and De Groot et al. (2004) also confirmed the positive sign of rule of law indicator.

Control of corruption coefficient is positive and significant for ECO member countries while negative and insignificant for Pakistan. Countries having strong anti-corruption departments to exercise their power for public gain and to eliminate corruption secure the investors from any fraud or bribery and encourage the level of trade. From mean, 1% increase in standard deviation of control of corruption; bilateral trade flows will increase by 212.3% on average in case of ECO member countries and will decrease by 2.8% on average in case of Pakistan. Negative sign of control of corruption indicator for Pakistan may be due to the lack of polices and management to operate anti-corruption departments and improper implementation of laws against corruption which may shatter the confidence of investors and cause reduced trade. Studies of Alvarez et al. (2015) and De Groot et al. (2004) also confirmed the positive sign of control of corruption indicator.

Composite governance indicator coefficient is positive and significant for ECO member countries while positive and insignificant for Pakistan. Average effect of all the governance indicators is positive with the level of trade. From mean, 1% increase in standard deviation of composite index; bilateral trade flows will increase by 63.3% on average in case of ECO member countries and will increase by 5.3% on average in case of Pakistan. Study of De Groot et al. (2004) on institutional determinants of trade also showed positive sign of composite governance indicator. Overall results are good fit as coefficient of determination R2 shows that 91% of the variation in bilateral trade flows is due to the explanatory variables. GDP, distance, border, area, political stability and rule of law are found to be the major significant determinants of bilateral trade flows. There is no problem of auto correlation as the value of Durbin-Watson is around 2 in all the models. Probability value of F-statistic is zero in all the seven

\[ 2(2.718^{0.56×1.362083}) = (2.718^{0.7627}) - 1 \times 1.144 \times 100 = 114.4\% \] All other indicators are also calculated by the same pattern.
models which shows that overall models are significant.

5.2 Institutional Homogeneity Effect on the Level of Trade

Table 6 presents the results of all the model specifications of gravity trade model for institutional homogeneity effect on the level of bilateral trade flows of Pakistan with ECO countries. Equations (8) and (9) are estimated in models 1 and 2 respectively for institutional homogeneity effect on the level of bilateral trade flows of Pakistan with ECO countries. Table 6 shows the estimation results of these two models.

Product of GDP coefficient is positive and significant in both models. Model 1 shows that bilateral trade flows will increase by 1.18% on average with 1% increase in GDP of both countries. Model 2 shows that bilateral trade flows will increase by 1.02% on average with 1% increase in GDP of both countries. Product of GDP shows economic size of a country in terms of market size and production capacity. Higher GDP means higher production capacity, large domestic markets, and large varieties of goods available for trade. Economic growth is also measured by the level of GDP; higher the GDP of a country, higher will be the economic growth of that country and higher will be the trade volume. Economic size does matter for trade therefore, large economies tend to import more because of their higher incomes and also tend to export more because of their large variety of output or production; so, larger the economy, larger will be the trade (Krugman, 2012). Study of De Groot et al. (2004) on institutional determinants of trade also confirmed the positive relationship between GDP and trade volume. Product of per capita GDP coefficient is positive in both models. Model 1 shows that bilateral trade flows will increase by 0.23% on average with 1% increase in per capita GDP of both countries. Model 2 shows that bilateral trade flows will increase by 0.69% on average with 1% increase in per capita GDP of both countries.

Table 6: Estimation Results of Gravity Model for Institutional Homogeneity Effect

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1 Similarity Index</th>
<th>Model 2 Composite Governance Index and Similarity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-34.83682 (0.0000)</td>
<td>-28.07496 (0.0005)</td>
</tr>
<tr>
<td>GDPi.GDPj</td>
<td>1.188703 (0.0000)*</td>
<td>1.024507 (0.0000)*</td>
</tr>
<tr>
<td>PCGDPi.PCGDPj</td>
<td>0.231916 (0.5879)</td>
<td>0.699460 (0.1021)**</td>
</tr>
<tr>
<td>DSTij</td>
<td>-1.279007 (0.0702)**</td>
<td>-2.164331 (0.0032)**</td>
</tr>
<tr>
<td>SIMINDEX</td>
<td>0.059840 (0.7128)</td>
<td>0.057366 (0.7407)</td>
</tr>
<tr>
<td>COMPi</td>
<td>-</td>
<td>2.438173 (0.0559)**</td>
</tr>
<tr>
<td>COMPj</td>
<td>-</td>
<td>0.271612 (0.6406)</td>
</tr>
<tr>
<td>ADJij</td>
<td>3.687360 (0.0000)*</td>
<td>4.080503 (0.0000)*</td>
</tr>
<tr>
<td>AREAi</td>
<td>-2.559490 (0.0000)*</td>
<td>-2.633569 (0.0000)*</td>
</tr>
<tr>
<td>R2</td>
<td>0.907368</td>
<td>0.910402</td>
</tr>
<tr>
<td>Durbin-Watson Stat</td>
<td>2.056706</td>
<td>1.903181</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>110.1982</td>
<td>89.41696</td>
</tr>
<tr>
<td>Probability (F-Statistic)</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Authors’ Calculations, P values in parenthesis. *, **, *** represents the 1%, 5% and 10% level of significance respectively.

Per capita GDP shows the level of development, infrastructure, and purchasing power of a country. These are very essential for bilateral trade as more developed the countries, more will be the trade flows. With the development of a country, transportation facilities become better which enhance the level of trade. People demand more exotic foreign varieties which may lead to the innovation or invention of new products. “Exporting country’s per capita GDP should have a positive coefficient when the composition of trade flows involves capital-intensive products and negative when composition of trade flows involves labor-intensive products. On the other hand, importing
country’s per capita GDP should have a positive coefficient when composition of trade flows consist of luxury goods and negative when composition of trade flows consist of necessity goods” (Bergstrand 1989). Study of De Groot et al. (2004) on institutional determinants of trade showed positive sign of per capita GDP for importer country while negative sign for exporter country.

Distance coefficient is negative and significant in both models. Model 1 shows that bilateral trade flows will decrease by 1.27% on average with 1% increase in distance of both countries. Model 2 shows that bilateral trade flows will decrease by 2.16% on average with 1% increase in distance of both countries. Higher the distance among trading countries, lower will be the trade volume as transportation cost increases. “There is very little that economists fully understand about global trade but there is one thing that we do know – commerce declines dramatically with the distance” (Leamer 2007). “The further the distance between two trading countries, the lesser the bilateral trade between them” (Tinbergen, 1962; Poyhonen, 1963; Bergstrand, 1985). All empirical studies conducted on gravity trade model confirmed the negative relationship between trade volume and distance.

Adjacency or common border dummy variable is positive as expected and significant in both models. Countries sharing the same border tend to trade more. Adjacent countries trade more than non-adjacent countries (Leamer 1993; Helliwell 1997). Study of De Groot et al. (2004) on institutional determinants of trade also showed positive relation of border with trade volume.

Area dummy is used to capture the country size. Area coefficient is negative and significant in both models. Larger the country size, lower will be the trade volume. Frankel and Romer (1999) used the land area and showed significant impact on trade with negative sign. Study of De Groot et al. (2004) on institutional determinants of trade showed positive relation with trade area. In present study, negative sign of area may be due to the fact that all ECO countries are large in terms of size but are not fully developed and equipped with proper infrastructure of transportation and communication which may cause reduced trade.

Composite governance indicator coefficients are positive and significant for ECO member countries while positive and insignificant for Pakistan. Average effect of all the governance indicators is positive with the level of trade. From mean, 1% increase in standard deviation of composite governance index; bilateral trade flows will increase by 62.83% on average in case of ECO member countries and will increase by 4.44% on average in case of Pakistan. Better institutional quality enhances the overall trade by reducing transactions costs. De Groot et al. (2004) also showed positive sign of composite governance indicator.

Governance similarity index coefficients are positive in both models. Average effect of all the governance indicators is positive with the level of trade. Model 1 shows that from mean, 1% increase in standard deviation of governance similarity index; bilateral trade flows will increase by 3.036% on average. Model 2 shows that from mean, 1% increase in standard deviation of governance similarity index; bilateral trade flows will increase by 2.909% on average. Countries with similar levels of institutional quality tend to trade more. Institutional homogeneity raises the similar environment and familiar rules and regulations thus lead to enhance the business, investment and trade between the trading countries. Study of De Groot et al. (2004) on institutional determinants of trade also confirmed the positive sign of governance similarity index.

Overall results are good fit as coefficient of determination R2 shows the value of 0.91 GDP, distance, border, area, and composite governance indicator are found to be the major significant determinants of bilateral trade flows. There is no problem of auto correlation as the value of Durbin-Watson is around 2 in both models. Probability value of F-statistic is zero in both models which shows that overall models are significant.

6. Conclusion and Policy Implications

The main objective of the study is to estimate the different specifications of gravity trade model to find the institutional determinants of bilateral trade flows of Pakistan and to assess the impact of institutional homogeneity on the level of bilateral trade flows of Pakistan with ECO countries. Panel data of 10 ECO countries are used from year 2003 to 2014. The study finds out that institutions are cogent to enhance trade. The results of institutional determinants of trade show that average effect of all the governance indicators as captured by composite index is positive on bilateral trade flows. Stronger the institutional framework of ECO countries; more will be the bilateral trade. Low quality of institutions increases the transaction costs to exchange the goods and services resulting in low trade. This explains why developed countries having strong and efficient institutional mechanism tend to trade more and developing countries have low quality and inefficient institutional framework tend to trade less. The
results of institutional homogeneity effect show that bilateral trade flows are positively correlated with the governance similarity. Trade will increase if trading countries have similar quality of institutions. Thus, institutional quality and institutional homogeneity has dominant impact on the bilateral trade flows. Uncertain and insecure situation about contract enforcement and governance is reduced with a better quality of the institutional framework. Institutional homogeneity raises the similar environment and familiar rules and regulations thus lead to enhance the business, investment and trade between the trading countries. Pakistan is an important strategic partner of the ECO region so Pakistan should use its influence to improve the regional economic integration by full implementation of ECO Trade Agreement (ECOTA) for an eventual free trade agreement in the region. At the institutional level, Pakistan should work with the ECO Secretariat to help establish a joint commission on economic and technological cooperation in the ECO region to facilitate trade in goods and services, mutual investment, technical collaboration, and cross-border trade in energy. Institutional framework should be made strong and efficient in all ECO member countries to enhance the level of trade.

References


Sectoral Investment and Employment Generation in Pakistan: An Econometric Analysis

Furrukh Bashir, Hafeez ur Rehman, Rashid Ahmad, Ismat Nasim

1Assistant Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan. furrukh@bzu.edu.pk
2Chairman, Department of Economics, University of Management and Technology, Lahore, Pakistan. hafeez.rehman@umt.edu.pk
3Assistant Professor, School of Economics, Bahauddin Zakariya University, Multan, Pakistan. rashidahmad@bzu.edu.pk
4Lecturer, Department of Economics, Government Sadiq College Women University, Bahawalpur, Pakistan. ismat.nasim@gscwu.edu.pk

ARTICLE DETAILS

History
Revised format: November 2018
Available Online: December 2018

Keywords
Agricultural Investment, Industrial Investment, Services Sector Investment, Employed Labor Force, Trade Openness, Inflation, Tax Revenue

JEL Classification:
F16, E22, E31, H25, J21

ABSTRACT

This study is projected at investigating the influence of Sectoral Investment on Employment Generation. For this purpose, time series data is collected from Pakistan over the period from 1972 to 2017. Augmented Dickey fuller test reveals that few variables considered in the study are stationary at level and few at first difference. So, econometric results are estimated using autoregressive and distributed lag model for long run elasticities. Long run co-integrating relationship is established at 2.5 percent level using ARDL bound testing approach. ARDL long run results concludes that Agricultural Investment, Industrial Investment, Services Sector Investment and Trade openness are increasing employment while inflation and tax revenue are seemed to be negatively related with employment of Pakistan in the long run.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction

Employment Generation is considered as key tool which shows the progress of any society. It is the only factor which may be a cause of reducing poverty among developing countries but employment opportunities are dependent upon available resources, technology, governance, political scenario and institutional plans. Similarly, human capital, skills and capability regulate outcome or reward of employed labor force. Pakistan is the 10th largest country of the world according to the size of the labor force. It has been observed that employment is decreased in Pakistan during past few years there may be various reasons for this one noticeable thing is that labor force participation rate has also decreased at the ages of 15-19, 20-24. Almost, 24 percent labor force is involved directly or indirectly in agriculture and agriculture supplied raw material to the industrial sector. But Investments in agriculture sector and use of mechanized tools have made agriculture sector relatively capital intensive in recent years and it has shifted labor force to other sectors.
Kugler and Kugler (2001) discussed the impact of Payroll Taxes on Employment and Wages during the time period of reforms of Colombian Social Security. The estimates of the study reflected that only about a fifth of increase in payroll taxes was shifted to workers as lower wages and the unemployment among the unskilled was increased due to sharp rise in labor costs faced by firms. Chukwu et al. (2003) examined growth of Nigeria for 1981 – 2013 and showed that capital expenditure on agriculture and health had negative relationship with economic growth and capital expenditure on road education had positive relationship with economic growth.

Chen and Ku (2005) explained the consequences of investment on domestic employment in China for period of 1993-1999. The study examined that foreign production had lead to increasing domestic employment and at the same time overseas production reduced costs of domestic production. Aterido and Dreamier (2007) examined Investment and employment growth for the time period of 2000-2006. Study showed that weak business environment shifted downward the size of firms and it was the cause of reduction in employment and growth of all firms specially micro and small firms. Corruption and poor access also reduced the employment by affecting the growth of medium size and large firms.

Bose et al. (2007) examined results of government expenditure in 30 developing countries during 1970-1980. The result showed that capital and expenditure on education had positive effect on economic growth. Baba et.al (2010) explored the cause and effect relation between Investment and Agricultural Growth and Rural Development of Himachal Pradesh. Moreover they investigated about behavior of investment in agriculture growth and poverty alleviation. The findings of the study explored that there was a negative trend in the growth rate of public investment and it was found that there was a significance effect of public and private investment on poverty alleviation and agricultural growth.

Amjad (2010) analyzed informal employment and foreign direct investment in Pakistan using data of 30 years from 1980 to 2010. The researchers estimated that there existed positive relationship between employment and foreign direct investment, in Pakistan while Informal employment is negatively related with export, GDP, electricity consumption, manufacture & service sector. Informal employment was positively related with education level and tax rate.

Agrawal et al. (2011) interrogated the effect of FDI on economic growth of India and China. The study found, from the analysis on time series data ranged from 1993-2009, that an increase in FDI would result increase in GDP of China and India. Beatrice (2012) explained impact of capital investment on unemployment in Romania for period of 2004-2012 and explored significant reduction of net investments due to a decrease in FDI and due to lower domestic and external demand which had led to rising unemployment.

Ahmad and Ahsan (2011) explored the role of service sector in the enhancement of growth of the economy, development of trade and generation of employment in Pakistan. According to them, information technology (IT), research and development, up gradation of technology and human resource development (HRD), dynamic leadership at national level, Quality education can be improved the services sector of Pakistan. Koojaroenprasit (2012) examined the effect of foreign Direct Investment on Economic Growth of South Korean economy for the time period of 1980- 2009. Researchers explored that FDI had positive and significant impact on economic growth. Moreover, the study indicated that human capital, employment and export also had positive while domestic investment had no significant impact on economic growth.

Phetsavong and Ichihashi (2012) estimated the impact of public investment on economic growth of developing Asian Countries by using the time series data during the period of 1984-2009. Result showed that private domestic investment contributed the main important role in generating economic growth, and second important factor was FDI so FDI and private investment had positive relationship with economic growth, while public consumption had negative impact on economic growth.

Dolence and Laporesk (2012) investigated the relationship between Labor Taxation and its and Employment Growth. For this purpose characteristics of labor taxation and labor market performance had studied for five different groups of workers. It was concluded that European Union -27 should continue with the trends tax wage as it will improve the labor market performance in the United States. Adekunle and Aderemi (2012) explored the relationship among Domestic Investment, Capital Formation and Population Growth in Nigerian Economy. The researchers concluded that the relation between growth rates of the population and capital formation was indirect and moreover the policy recommended that capital formation can be used to increase income and to reduce poverty

Faridi and Chaudhry (2013) explored the relationship of globalization with employment in Pakistan. The results showed that globalization, health expenditure and national savings were positively related with employment while population had negative effect on employment. Umai and Ullah (2013) investigated the effects of GDP and Inflation on Unemployment Rate in Pakistan. According to the result, inflation had insignificant impact on GDP and unemployment but the correlation between unemployment and inflation was positive and between GDP and unemployment rate the coefficient was statistically insignificant. Ileginosa et al. (2015) examined the impact of domestic investment on economic growth and analyzed trends of private investment on economic growth. The study took time series data from economy of Nigeria over the period of time from 1970 to 2013 and illustrated that economic growth was positively influenced by private investment while government protective investment exert inverse impact on economic growth.

Shuaib and Ndidi (2015) investigated the cause effect relation between capital formation and economic development of Nigeria. According to them, there exist strong relationship between capital formation and economic development and government should continue to encourage savings, investment and improve infrastructure which leads towards the sustainable growth. Faridi et al. (2015) investigated the influence of Sectoral output on employment in Pakistan ranging from 1972 to 2014. The study explored that industrial, services sector and exports had positive effect on employment and consumer price index, exchange rate and population had positive as well as negative effect on employment. Dikko (2016) explored the impact of Capital Accumulation on Unemployment in South Africa and Nigeria. The findings of the study suggested that capital accumulation and unemployment were positively correlated with each other and moreover capital accumulation increased the unemployment rates in Namibia, Nigeria, and South Africa. It was suggested that capital accumulation required for the steady state level of employment, satisfactory level of economic growth and development.

Vermeulen (2017) explored relationship between Inflation and unemployment in South Africa. He found that there exist no tradeoff between inflation and employment. Moreover, there exists negative impact of inflation on unemployment in short run while positive long run relationship was found. This study is different from previous studies in a number of ways. Previously, the effectiveness of various economic variables has been observed with employment and economic growth but few studies were relevant to Sectoral investment and employment generation. Keeping in view, the objective of the study is to explore the influence of Sectoral Investment on Employment Generation. The study considers various sectors as Sectoral investment like investments on Agriculture, Industrial and services sectors. The objective of the study is to determine the effect of Sectoral Investment (Agriculture Sector, Services Sector and Industrial Sector) on the Employment Generation in Pakistan during 1972 - 2017.

2. Data and Methodology
This section gives detailed description about data sources, type, range, methodology to be used for estimation, model specification and variables used in this study along with their hypotheses.

2.1 Data Description
The study employs annual time series data over the period from 1972 to 2017. Data on some selected variables are collected through official sources such as World Development Indicators published by World Bank Organization, Handbook of Statistics on Pakistan Economy 2015 published by State Bank of Pakistan and Economic Survey of Pakistan (2017-18) published by Federal Bureau of Statistics Pakistan. All variables are taken in natural log form so that results may be interpreted in percentage form or for calculation of elasticities.

2.2 Model Specification
Considering the objective of the study which is to see the influence of Sectoral Investment on Employment Generation in Pakistan, the study specifies following models;

\[
\text{Employment} = f \{ \text{Agricultural Investment, Industrial Investment, Services Sector Investment, Inflation, Trade Expansion, Fiscal Policy} \}
\]
The above model may be rewritten in equation form as given below;

\[ EMP = \beta_0 + \beta_1 AGRIN + \beta_2 INDIN + \beta_3 SERIN + \beta_4 INF + \beta_5 TR + \beta_6 FP + u_i \]

In the above equation, EMP shows log of employment, AGRIN is log of investment in agriculture sector, INDIN presents log of investment in industrial sector, SERIN represents log of investment in services sector, INF demonstrates log of Inflation, TR illustrates log of Trade Expansion and FP exhibits log of fiscal policy while \( \beta' \)s are coefficients and \( u_i \) is error term of this model.

2.3 Definitions of Variables
The variables used in above econometric model may be defined as follows;

2.3.1 Employment (EMP)
Employment may be defined as the proportion of population which is employed during the survey week. It is dependent variables in this study and employed labor force in Pakistan is taken as proxy of employment. Employed labor force is measured in numbers.

2.3.2 Agricultural Investment (AGRIN)
Agricultural Investment is the amount of investment in Agriculture sector. In this study, gross fixed capital formation of agriculture sector is taken as proxy of Agricultural investment which is measured in Pakistani rupees. Agricultural investment is expected to be positively related with employment in Pakistan.

2.3.3 Industrial Investment (INDIN)
Industrial Investment is the amount of investment in Industrial sector. In this study, gross fixed capital formation of industrial sector is taken as proxy of Industrial investment which is measured in Pakistani rupees. It is hypothesized as positive with employment in Pakistan.

2.3.4 Services Sector Investment (SERIN)
It is investment done in expansion of services sector of Pakistan. In this study, gross fixed capital formation of services sector is taken as proxy of Services Sector investment which is measured in Pakistani rupees. The expected relationship between Services Sector Investment and employment is positive in Pakistan.

2.3.5 Inflation (INF)
To trace out the effect of inflation on employment, the study considers consumer price index. Consumer price index is price index which is measured in units and it is expected that inflation and employment may be negatively or positively associated with each other. Faridi et al. (2015) found negative or positive both impact of CPI on employment in the study.

2.3.6 Trade Expansion (TR)
To see the effect of expansion in trade on employment generation, the study considers trade openness which can be measured by following formula;

\[ \text{Trade openness} = \frac{\text{Exports} + \text{Imports}}{\text{GDP}} \]

Trade openness is measured in units. Trade openness is expected to be positive or negative with employment of Pakistan.

2.3.7 Fiscal Policy (FP)
Fiscal policy is an important factor which is having a significant effect on employment generation. The study considers tax revenue as a proxy of fiscal policy. It is measured in Pakistani rupees. It is hypothesized that tax revenue may have negative effect on employment of Pakistan.
Table 1: Description of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
<th>Sources of Data</th>
<th>Units of Measurement</th>
<th>Expected Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMP</td>
<td>Employed Labor Force</td>
<td>World Development Indicators, Economic Survey of Pakistan (2017-18)</td>
<td>Number</td>
<td>Dependent Variable</td>
</tr>
<tr>
<td>INF</td>
<td>Inflation, Consumer Price Index</td>
<td>World Development Indicators</td>
<td>Index/ Units</td>
<td>Negative</td>
</tr>
<tr>
<td>TR</td>
<td>Trade Openness</td>
<td>World Development Indicators</td>
<td>Index/ Units</td>
<td>Positive/ Negative</td>
</tr>
<tr>
<td>FP</td>
<td>Fiscal Policy, Tax Revenue</td>
<td>World Development Indicators</td>
<td>Pakistani Rupees</td>
<td>Negative</td>
</tr>
</tbody>
</table>

2.4 Methodology
The results of the study would be estimated on preliminary stage and econometric stages. Preliminary stage of analysis considers Granger Causality test while econometric analysis includes unit root test, ARDL bound test, ARDL long run estimates and ARDL short run estimates along with few diagnostic statistics. ARDL technique is normally used where few variables of econometric model are stationary at level or I (0) and few variables are integrated of order 1 or I (1). The study uses Phillips and Perrons (PP) test for examination of unit root problem while ARDL bound test would be calculated using following equation;

\[
EMP = \left[ \delta_e + \sum_{j=0}^{u} \delta_{2j} \Delta AGRIN_{t-j} + \sum_{j=0}^{u} \delta_{3j} \Delta INDIN_{t-j} + \sum_{j=0}^{u} \delta_{4j} \Delta SERIN_{t-j} \right] \\
+ \sum_{j=0}^{u} \delta_{5j} \Delta INF_{t-j} + \sum_{j=0}^{u} \delta_{6j} \Delta TR_{t-j} + \sum_{j=0}^{u} \delta_{7j} \Delta FP_{t-j} + \alpha_0 EMP_{t-1} + \alpha_1 AGRIN_{t-1} + \alpha_2 INDIN_{t-1} + \alpha_3 SERIN_{t-1} + \alpha_4 INF_{t-1} + \alpha_5 TR_{t-1} + \alpha_6 FP_{t-1} + \omega_{1t}
\]

ARDL long run results may be estimated by using following equation;

\[
EMP = \left[ d_e + \sum_{j=1}^{m} d_{1j} \Delta EMP_{t-j} + \sum_{j=0}^{o} d_{3j} AGRIN_{t-j} + \sum_{j=0}^{p} d_{4j} INDIN_{t-j} \right] \\
+ \sum_{j=0}^{q} d_{5j} SERIN_{t-j} + \sum_{j=0}^{r} d_{6j} INF_{t-j} + \sum_{j=0}^{s} d_{7j} TR_{t-j} + \sum_{j=0}^{t} d_{8j} FP_{t-j} + v_1
\]
ARDL short run results may be estimated by using following equation;

\[
\Delta EMP = \left[ g + \sum_{j=1}^{m} g_{1j} \Delta EMP_{t-j} + \sum_{j=0}^{n} g_{2j} \Delta AGRIN_{t-j} + \sum_{j=0}^{o} g_{3j} \Delta IND1N_{t-j} + \sum_{j=0}^{p} g_{4j} \Delta SERIN_{t-j} + \sum_{j=0}^{q} g_{5j} \Delta INF_{t-j} + \sum_{j=0}^{r} g_{6j} \Delta TR_{t-j} + \sum_{j=0}^{s} g_{7j} \Delta FP_{t-j} + \psi_1 ECM_{t-1} + \epsilon_1 t \right]
\]

Where \( \delta_i, d_i, g_i \) are coefficients, \( \epsilon_1 t, \nu_1, \omega_1 t \) are error terms and \( ECM_{t-1} \) is error correction mechanism or speed of adjustment term.

### 3. Econometric Results

This section reports result of the study which are calculated using causality analysis, Augmented Dickey Fuller test – Unit Root test, ARDL bound testing, ARDL long run & ARDL short run tests.

#### 3.1 Causality Analysis

The results of causality analysis are estimated using Granger Causality test which are reported in table 2. It reveals that Agricultural investment has one way causal relationship with employment. Employment Labor Force is a source of Agricultural Investment in Pakistan as Pakistan is an agriculturist country. Services sector investment has also causal affect on employment in Pakistan shows that if services sector is developed in Pakistan so there would be effect on Employed labor force. Industrial Investment is proved to be a cause of employment generation and on the other side employed labor force also affects industrial investment in Pakistan. Tax Revenue has no causal effect on employed labor force. Similarly, trade openness does not have any causal effect on employed labor force in Pakistan.

<table>
<thead>
<tr>
<th>Table 2: Granger Causality Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Granger Causality Test Results</strong></td>
</tr>
</tbody>
</table>

| Agricultural Investment ← Employment | Unidirectional Causality |
| Services Sector Investment → Employment | Unidirectional Causality |
| Industrial Investment ↔ Employment | Bidirectional Causality |
| Tax Revenue ≠ Employment | No Causality |
| Trade Openness ≠ Employment | No Causality |
| Consumer Price Index ← Employment | Unidirectional Causality |

#### 3.2 Augmented Dickey Fuller – Unit Root Test

In this study, Augmented Dickey Fuller test is used to examine the problem of unit root in the variables and their results are given in table 3. The variables i.e. employed labor force, agricultural investment, industrial investment, services sector investment, fiscal policy (tax revenue), inflation & trade openness are explored at level by including Intercept and Trend & Intercept and also at 1st difference by including Intercept. The results finalizes that Employment, Agricultural Investment and Services Sector Investment are stationary at 1st difference while Fiscal Policy (Tax Revenue), Industrial Investment, Inflation (Consumer Price Index) and Trade Openness are stationary at level. These results indicate that, having few variables stationary at level and few at 1st difference, Autoregressive and Distributed lag model (ARDL) is the best choice for estimation of econometric results.

#### 3.3 ARDL Bound Test

After checking unit root test using Augmented Dickey Fuller test, it is necessary to check existence of long run relationship among variables used in the study which are employed labor force, agricultural investment, industrial investment, services sector investment, inflation, tax revenue and trade openness. The value of F-statistic is 4.1157 with number of parameters 6. This value of F-statistic is greater than the value of upper bound (I1 bound) at 2.5 percent level of significance as reported in table 4. It indicates that there exists long run relationships among variables used in this study.
### Table 3: Unit Root Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test for unit root in</th>
<th>By Including</th>
<th>t-Statistics</th>
<th>Probability</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employed Labor Force</strong></td>
<td>Level</td>
<td>Intercept</td>
<td>0.456131</td>
<td>0.9831</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intercept and trend</td>
<td>-3.00731</td>
<td>0.1421</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st difference</td>
<td>Intercept</td>
<td>-9.9955</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>Agricultural Investment</strong></td>
<td>level</td>
<td>Intercept</td>
<td>-0.805515</td>
<td>0.8074</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intercept and trend</td>
<td>-2.282712</td>
<td>0.4339</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st difference</td>
<td>Intercept</td>
<td>-6.46953</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>Fiscal Policy</strong></td>
<td>level</td>
<td>Intercept</td>
<td>-4.71495</td>
<td>0.0004</td>
<td>I(0)</td>
</tr>
<tr>
<td><strong>Services Sector Investment</strong></td>
<td>level</td>
<td>Intercept</td>
<td>-0.427535</td>
<td>0.8951</td>
<td>I(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intercept and trend</td>
<td>-2.62782</td>
<td>0.2706</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st difference</td>
<td>Intercept</td>
<td>-8.47023</td>
<td>0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>Industrial Investment</strong></td>
<td>level</td>
<td>Intercept</td>
<td>-3.234251</td>
<td>0.0247</td>
<td>I(0)</td>
</tr>
<tr>
<td><strong>Inflation</strong></td>
<td>level</td>
<td>Intercept</td>
<td>-1.44317</td>
<td>0.5523</td>
<td>I(0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intercept and trend</td>
<td>-3.73144</td>
<td>0.0307</td>
<td></td>
</tr>
<tr>
<td><strong>Trade Openness</strong></td>
<td>level</td>
<td>intercept</td>
<td>-3.09785</td>
<td>0.0342</td>
<td>I(0)</td>
</tr>
</tbody>
</table>

### Table 4: Bound Test Results

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>4.115749</td>
<td>6</td>
</tr>
</tbody>
</table>

**Critical Value Bounds**

<table>
<thead>
<tr>
<th>Significance</th>
<th>I0 Bound</th>
<th>I1 Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>2.12</td>
<td>3.23</td>
</tr>
<tr>
<td>5%</td>
<td>2.45</td>
<td>3.61</td>
</tr>
<tr>
<td>2.5%</td>
<td>2.75</td>
<td>3.99</td>
</tr>
<tr>
<td>1%</td>
<td>3.15</td>
<td>4.43</td>
</tr>
</tbody>
</table>

Note: Null Hypothesis: No long-run relationships exist

### 3.4 ARDL Long run Results

The results of ARDL long run are presented in table 5 in which first column is about names of variables, second column shows values of coefficients, third column reports the values of standard errors, forth column presents the values of t-statistics and fifth column illustrates probability values concerning to each variable. Considering Agricultural Investment, the results reveal that investment in agriculture is significant variable and gives positive impression on employment in long run. It may be interpreted as one percent increase in investment in agriculture will lead to 0.10 percent increase in employment in Pakistan in the long run. Positive relationship may be defined as higher investment in agriculture sector will increase more demand for agricultural inputs like labor. Hiring more labor in this way will be a cause of more employed labor force.

Investment in industrial sector is also a significant variable and has positive impact on employment in long run. Statistically, its interpretation may be as one percent increase in investment in industrial sector will increase employed labor force by 0.12 percent. Positive relationship may be justified as more investment in industrial sector will increase demand for labor and capital. Directly or indirectly, demand for labor will increase in every sector of economy so there would be upward pressure on employment in the long run. As regards to investment in services sector, it is seen that it is statistically significant variable and gives positive effect on employment in the long run in Pakistan. On the average, one percent increase in investment in industrial sector will be a cause of 0.9 percent increase in employment. The positive sign may be explained as when investment will increase in services sector, demand for worker or labor will increase. The firms or industries or other sectors will hire more labor so employment will increase in the long run. Faridi et al. (2015) also found the same relationship in their studies.

With regards to Inflation, it is observed that there is negative association of inflation in Pakistan with employed labor force in the long run. On the average, one percent higher inflation may decrease employed labor force by 0.23 percent. Statistically, its coefficient is significant as well. The reason of negative sign may be that higher inflation
will inversely affect purchasing power of people. It will severely affect demand for goods and services in return demand for labor will also decrease causing lower level of employment. Faridi et al. (2015) also found negative impact of CPI on employment in their studies. In this study, Tax revenue is found to be statistically insignificant with employment labor force. Although it is having negative sign attached with which portrays those higher taxes may become a cause of lowering purchasing power in the long run which slowdowns the process of industrialization in Pakistan. In this response, employed labor force will decrease.

Trade openness is obtained as having insignificant probability value with positive sign. More trade with other countries will be the most important cause of having more employed labor force in the long run. To trace out the effect of excluded variables from the study, constant term is considered in this study which is also significant with positive sign. In the long run, elasticity of employment with respect to Agricultural Investment, Industrial Investment, Services sector Investment and Inflation are respectively 0.10, 0.12, 0.09 and -0.23.

Table 5: ARDL Long Run Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Errors</th>
<th>t-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Investment</td>
<td>0.1040</td>
<td>0.0218</td>
<td>4.7517</td>
<td>0.0001</td>
</tr>
<tr>
<td>Industrial Investment</td>
<td>0.1232</td>
<td>0.0429</td>
<td>2.8723</td>
<td>0.0082</td>
</tr>
<tr>
<td>Services Sector Investment</td>
<td>0.0932</td>
<td>0.0267</td>
<td>3.4832</td>
<td>0.0018</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.2329</td>
<td>0.1291</td>
<td>-1.8036</td>
<td>0.0834</td>
</tr>
<tr>
<td>Tax Revenue</td>
<td>-0.0172</td>
<td>0.0521</td>
<td>-0.3303</td>
<td>0.7439</td>
</tr>
<tr>
<td>Trade Openness</td>
<td>0.0152</td>
<td>0.1126</td>
<td>0.1349</td>
<td>0.8938</td>
</tr>
<tr>
<td>Constant</td>
<td>10.9583</td>
<td>1.4343</td>
<td>7.6398</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Selected Model: ARDL(1, 2, 0, 2, 2, 1, 2)

3.5 ARDL Short run Results

The short run results of ARDL are given in table 6 with short run coefficients, standard errors, t-statistic and probability values. In the short run, without lagged terms, agricultural investment, industrial investment and services sector investment are positive with employment while their lagged terms are negative with employed labor force. Inflation is negative as well as positive, tax revenue is also negative while trade openness is positive with employed labor force. Considering the most important of them i.e. Error Correction term, it is revealed to be negative which shows that the short run results would be converged towards long run results if there exist any disequilibrium in the short run.

Table 6: ARDL Short run Result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Errors</th>
<th>t-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(AGRIN)</td>
<td>0.019278</td>
<td>0.027501</td>
<td>0.700998</td>
<td>0.4898</td>
</tr>
<tr>
<td>D(AGRIN(-1))</td>
<td>-0.065391</td>
<td>0.025971</td>
<td>-2.517856</td>
<td>0.0186</td>
</tr>
<tr>
<td>D(INDINC)</td>
<td>0.017167</td>
<td>0.023260</td>
<td>0.738028</td>
<td>0.4674</td>
</tr>
<tr>
<td>D(INDIN(-1))</td>
<td>-0.050750</td>
<td>0.026513</td>
<td>-1.914161</td>
<td>0.0671</td>
</tr>
<tr>
<td>D(SERIN)</td>
<td>0.065810</td>
<td>0.019356</td>
<td>3.399972</td>
<td>0.0023</td>
</tr>
<tr>
<td>D(SERIN(-1))</td>
<td>-0.028019</td>
<td>0.016410</td>
<td>-1.707422</td>
<td>0.1001</td>
</tr>
<tr>
<td>D(INF)</td>
<td>-0.503323</td>
<td>0.194342</td>
<td>-2.589882</td>
<td>0.0158</td>
</tr>
<tr>
<td>D(INF(-1))</td>
<td>0.544195</td>
<td>0.188191</td>
<td>2.891711</td>
<td>0.0078</td>
</tr>
<tr>
<td>D(FP)</td>
<td>-0.207188</td>
<td>0.076082</td>
<td>-2.723203</td>
<td>0.0116</td>
</tr>
<tr>
<td>D(TR)</td>
<td>0.009903</td>
<td>0.074031</td>
<td>0.133771</td>
<td>0.8947</td>
</tr>
<tr>
<td>CointEq(-1)</td>
<td>-0.651285</td>
<td>0.175010</td>
<td>-3.721409</td>
<td>0.0010</td>
</tr>
</tbody>
</table>

4. Concluding Remarks

There is a close linkage among investments of various sectors and their impact on employment generation in Pakistan. Considering the importance, the present study explores the contribution of Sectoral investment in employment generation in Pakistan. For covering the objective, the study collects time series data from 1972 to 2017 from Pakistan. Reliable sources are followed for the collection of data like Economic Survey of Pakistan (2017-18), Handbook of Statistics on Pakistan Economy 2015 and World Development Indicators. For having results in form of elasticities, the study uses log - log form of the model by taking natural log of all variables. While specifying the model, Investments in Agriculture (Pak. Rupees), Industrial (Pak. Rupees) & Services sectors (Pak.
Rupees) along with some control/ supporting variables i.e. Inflation (Index/ Units), Trade Openness (Index/ Units) & Tax Revenue (Pak. Rupees) are taken as explanatory variables while Employed labor force (Numbers) is taken as dependent variable.

Granger Causality is applied for having cause and effect relationships among variables which reveal Bidirectional Causality among Industrial Investment and Employment, Unidirectional Causality among Agricultural Investment & Employment, Services Sector Investment & Employment, Consumer Price Index & Employment while No causality among Trade Openness & Employment, Tax Revenue & Employment in Pakistan. Augmented Dickey Fuller – Unit root test is applied to analyze the stationary of variables which concludes that Employed labor force, agricultural investment and services sector investment are stationary at first difference I(1) while trade openness, Inflation, Industrial Investment and Tax Revenue are stationary at level I(0). Having few variables stationary at level and few at 1st difference indicate that application of Autoregressive and Distributed Lag (ARDL) model for long run and short run results are most suitable in this study.

ARDL Bound test is applied for checking long run association among variables which decides that there exists long run Cointegration among variables used in this study. Moreover, it has been observed that Agricultural Investment, Industrial Investment and Services Sector Investment are obtained as enhancing factors for employment in Pakistan in the long run with significant coefficients while inflation and taxes are seemed to be reducing factors for employment. On the other side, trade openness has been uncovered as increasing employment in Pakistan but coefficient value is not statistically significant. In the short run, error correction term shows that there is convergence from short run results to long run results due to having negative sign attached with CointEq (-1).

On the basis of econometric results of the study, it may be suggested that there is need to use expansionary Fiscal & Trade policy in Pakistan for employment generation. Moreover, investments in agriculture sector, industrial sector and services sector are should also be increased for attaining higher employment level in Pakistan in the long run. Price level should also be controlled to curing purchasing power of people from harmful effects.

References


The Calculus of Rural Poverty: Evidence from District Bhakkar – Pakistan

1Sobia Khuram, 2Mahmood ul Hassan

1Assistant Professor, Institute of Administrative Sciences, University of the Punjab, Lahore, Pakistan.
sobia.ias@pu.edu.pk
2Monitoring and Evaluation Specialist, Punjab Skills Development Project, Lahore, Pakistan.
mehmudchaudhry@gmail.com

ARTICLE DETAILS

ABSTRACT

History
Revised format: November 2018
Available Online: December 2018
The study was conducted to determine the factors associated with poverty in Pakistan. Using cross sectional survey design, data was collected from 300 households. Multiple linear regression model was employed to analyze the data. Results of regression analysis showed that household size, dependency ratio, participation rate, ownership of physical assets and landholding size had a significant impact on the poverty status of the households. The study suggested an increased investment in agricultural sector and creation of social infrastructure, with a view to create more employment opportunities, ensuring supply of healthy and educated workforce and thus reducing poverty.

Keywords
Poverty, Poverty Line, Household

JEL Classification:
I30, R20

1. Introduction

Poverty has been a major challenge in Pakistan since inception of the country. Realizing its social and economic implications for overall development of the country, Pakistan implemented various economic and social development models to conquer the menace of poverty. However, the goal of significant reduction in poverty remained elusive. Latest official figures show that 29.5 percent of population in the country lives below the poverty line3. The phenomenon is more pronounced in rural areas where 35.6 percent population lives below the poverty line. In terms of multidimensional poverty index, in rural areas 54.6 percent of population lives below the poverty line4.A recent analysis shows that, if poverty line is shifted to Rs. 5000 per person per month, 63 percent population of Punjab slides down the poverty line5.

Inspired by the dominant development paradigms, Pakistan, over the years, experimented with several development models to trigger economic development, leading to poverty reduction. These models included import substitution industries of 1948-55; export expansion of 1960-65; shift from agriculture to industry of 1966-67; population control policies of 1967-68; and GNP growth model of 1971-75 (Haq, 1976). These were followed by programs implemented with the assistance of international development finance institutions such as structural adjustment programs (1980s & 1990s), Poverty Reduction Strategy Papers (2000s), Millennium Development Goals (2000-2015), and now Sustainable Development Goals (2015-2030). The evidence in literature suggests that, despite

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: sobia.ias@pu.edu.pk
DOI: 10.26710/readsv4i2.411

3. Pakistan Economic Survey 2015-16
efforts, poverty remained unconquered. Irfan and Amjad (1984) noted that in mid-sixties, despite the increase in agriculture sector, rural poverty index increased from 42 percent to 55 percent. In seventies, the decrease in rural poverty was primarily attributed to the remittances sent by the overseas Pakistanis. Similarly, offshoots of structural adjustment programs were negative for employment, poverty and governance (Kemal & Naseem, 1994). Literature suggests that there was an increase in poverty in 1990s (Amjad & Kemal, 1997; Ali & Tahir, 1999; Jafri, 1999; Arif et al., 2000). Naseem (2012) noted that the poverty headcount ratio jumped from 24 percent (1987-88) to 30 percent (1998-99).

Therefore, keeping in view the economic development of the country, the perpetuity of the phenomenon poses a colossal challenge and merits attention of academia and the policy makers. In order to devise an effective and indigenous strategy to arrest poverty, it is imperative that an empirical study be conducted to unearth the underlying factors of rural poverty. The studies conducted in Pakistan mostly rely on secondary data and are limited to counting numbers of the poor. The available literature and empirical evidence of poverty is scattered. The present study is an attempt to fill this gap and undertake a systematic investigation of factors responsible for rural poverty in district Bhakkar – Pakistan.

2. Literature Review

There are two major groups of literature on poverty (Aikaeli, 2010). The first group views poverty as a cultural (or behavioral) phenomenon; while, the second group takes poverty as a structural (or economic) phenomenon. The cultural group sets itself in line with the assumptions of classical economic theory. According to this perspective, poverty is caused when an individual fails to make rational decisions regarding utilization of resources available to him/her. This is seemingly influenced by 19th century eugenics movement – describing the conduct and status of an individual in the society as a function of his/her genetic makeup (Gordon, 2003). It argues that poverty is rooted in dysfunctional values of the poor. However, critics hold that the cultural strand only encompasses the symptoms and ignores the underlying realities of poverty. The structural viewpoint of poverty aligns itself with neoclassical (Liberal/Keynesian) economic theory, which recognizes that market externalities and initial differences in terms of individual potential, skills and resources play an important role in determining the status of an individual in the society. This view appreciates that inequality or disadvantage in respect of economic opportunities and location has an impact on the earning potential of individuals. In other words, the structural approach concludes that poverty of an individual cannot be explained in terms of his/her individual characteristics, while ignoring the socio-economic features of the location (Holzer, 1991). Among the factors underlying incidence of poverty were availability and access to economic opportunities, the level of median income and inequality (Keynes, 1936; Ellwood and Summers, 1985; Abramovitz, 1996).

The present study aligns itself with the theoretical assumptions of structural paradigm and assumes that the household income (or welfare) is impacted by its social, economic and demographic characteristics. A number of national as well as international studies have been conducted following the structural group of poverty. At national level, Shirazi (1995) noted that the head of a household’s educational level along with participation rate of a household were related negatively with the household poverty, while the size of the household had a positive correlation with the poverty status of a household. Hashmi et al. (2008) concluded that education of head of a household, ownership of livestock; household size, dependency ratio, landholding size, and ownership of physical assets were important underlying factors to determine the poverty status of a household. Arif et al. (2012) found household size and dependency ratio to be positively related with protracted poverty, while, ownership of land and livestock, housing structure and availability of rooms were found to be negatively related with chronic poverty. Khan et al. (2015) found out that, in the presence of other factors, household size, female-male ratio and participation rate were significantly related with the rural poverty. Akhtar et al. (2015) analyzed the headcount ratio, poverty gap and squared poverty gap of rural poverty. Utilizing HIES6 datasets, logit regression model was used to study the changes in poverty overtime. The study found out that landholding size, dependency ratio, household size and educational attainments of the households were significantly related with poverty status of rural households in terms of all three indices.

Similarly, there is evidence in international literature on developing countries that supports the findings that socio-economic conditions and household composition are important factor towards determining the poverty status of households. Datt et al. (1999) identified that the determinants of poverty in Egypt included, among others, the level of education, participation rate, household size, child dependency ratio and old age of head of a household.

---

6. Household Integrated Economic Survey
Bogale et al. (2005) noted that the determinants of rural poverty in Ethiopia included landholding size, education level and livestock ownership. Apata et al. (2010) stated that the key factors related to rural poverty in Nigeria included level of education and female headed households. Aikaeli (2010) found out that the determinants of rural poverty in Tanzania included education of head of a household, participation rate, landholding size and gender of household head. Bahta and Haile (2013) found out that the determinants of poverty in Eritrea included education level, landholding size, household size and child dependency ratio. Muhammad hussen (2016) identified that the determinants of rural poverty in Ethiopia included, among others, livestock ownership, family size and land possession.

Review of the literature highlights that poverty (or welfare) status of a household is determined by the economic, social and demographic characteristics. Too much demographic pressures can push a household towards poverty, while the well-being of a household could be improved by improving the economic status. The vast body of knowledge on the subject highlights that the factors related with rural poverty are both varied and complex. Generally the rural areas in developing countries are marred by location disadvantages, along with inadequate availability and access to social and economic infrastructure. Hence the literature on economic strands of poverty highlights how the poverty status of a household is defined by the structural and economic realities. This current inquiry, by building on the structural strand of poverty theory, aims to analyze the relationship between demographic and socio-economic characteristics of households and the level of poverty in district Bhakkar.

3. Methodology

3.1 Theoretical Relationship of Household Characteristics with Poverty – Hypotheses

In order to investigate the relationship between household characteristics and the poverty status of a household, following thirteen hypotheses were developed for the purpose of the present study. It is important to take note that theoretical bases of these hypotheses have been drawn from the evidence available in the poverty studies conducted on the developing countries.

3.1.1 Household Size

Composition of a household is defined by means of its size and characteristics of its members, for example, age, literacy level, participation ratio. It is believed that poor households comprise large family size and younger population which lead to an increase in poverty. Shirazi (1995) concluded that household size had a positive correlation with poverty status of a household. Haq et al. (2005) also found a positive relationship between size of a household and its poverty status. Hashmi et al. (2008) held that household size was found to have a strong impact on determining poverty status of a household. There are other studies which establish relationship between household size and poverty status of a household (Datt et al., 1999; Arif et al., 2012; Khan et al., 2015; Akhtar et al., 2015).

Hypothesis (H1): The larger is the size of a household, the higher the probability of its being poor.

3.1.2 Dependency Ratio

Dependency ratio is defined as the ratio of the number of family members (≤ 14 years and ≥ 65 years) not in the labor force to those members of a family which are in the labor force. This definition of dependency ratio is based on parameters defined by the World Bank7, United Nations8 and the International Labour Organization (ILO)9. The dependency ratio allows us to assess the burden on members of a household in the labor force due to the household members who are not in labor force. Hashmi et al. (2008) and Datt et al. (1999) observed that dependency ratio has a strong impact in determining the poverty status of a household. Arif et al. (2012) noted a significant positive relationship of dependency ratio with protracted poverty. Results of empirical studies showed that dependency ratio was an important determinant of poverty (Bahta& Haile, 2013; Akhtar et al., 2015).

Hypothesis (H2): The larger is the dependency ratio of a household, the greater the probability of its being poor.

3.1.3 Gender of the Head of Household

It is assumed that poverty status of a household is impacted by the gender of its head. It is perceived that households having women as their head are more prone to poverty compared to households with men as their

---

heads. The underlying assumption is that socio-cultural values prevailing in a typical Pakistani rural society inhibit women to choose profession of their own choice or participate freely in paid economic activity. This limits their scope in obtaining paid jobs and contributing to the income (welfare) of their households. Aikaeli (2010) concluded that gender of the head of a household was among the determinants of rural poverty in Tanzania.

Hypothesis (H3): The households having females as their heads have a greater probability of being poor.

3.1.4 Age of the Head of Household
Datt et al. (1999) and Malik (1996) held that age of the head of a household was among the determinants of poverty status of a household. It is assumed that earnings of the head of a household are positively correlated within the age bracket of 25 to 64 years and have a negative correlation beyond and below this age cohort. The underlying assumption is that, prior to the age of 25 years, one remains engaged in his/her studies or keeps on searching for some employment and as such his/her contribution towards income of the household remains insignificant. However, as one grows in age, generally he/she succeeds in securing independent position in formal and non-formal settings, leading to increase in his/her income. The income curve again declines once he/she gets retired from active life.

Hypothesis (H4): The households having their heads within the age bracket of 25 to 64 years have a lesser probability of being poor; whereas, households having their heads up to 24 years and equal or above 65 years of age have a greater probability of being poor.

3.1.5 Female to Male Ratio
The female to male ratio (sex ratio) has important bearings on participation rate of a household. Though not generalizable, but in a typical Pakistani family socio-cultural traditions discourage women to opt for jobs far away from their homes, thus hampers the women’s participation in paid work. The studies suggest that female to male ratio has a relationship with poverty status of a household (Malik, 1996; Khan et al., 2015).

Hypothesis (H5): The higher the female-male ratio of a household, the higher the probability of its being poor.

3.1.6 Education Level of Head of Household
Education is considered as an agent of change. It enables the individuals to become an active part of society. Schult (1961) and Becker (1975) held that education was an investment and a skill set those results in provision of future benefits for the individuals. Woodhall and Psacharopoulos (1985) suggested that investment in education was a sure recipe to alleviate poverty both directly and indirectly. Educated individuals were found to be better able to take benefit of technology and have access to basic necessities of life. Human capital models argue that education help produce non-homogeneity in labor force. Hence, better performance in education opens new vistas of professional opportunities, which result in improved socio-economic conditions of a household. There is ample evidence in literature that education of the head of a household has an important role in determining its poverty status (Shirazi, 1995; Hashmi et al., 2008; Datt et al., 1999; Aikaeli, 2010).

Hypothesis (H6): The higher is the educational attainment of the head of a household, the lower is the probability of its being poor.

3.1.7 Participation Rate
Participation rate is defined as the ratio of household members of working-age (≥ 15 years and ≤ 64 years) who are engaged in any paid employment to those members of a household who fall within working age bracket but are unemployed. In contrast to dependency ratio, the participation rate takes into account only those members of a household who are in labor force, excluding household member ≤ 14 years and ≥ 65 years. The participation rate is an important factor used to ascertain employment status of a household. Since high participation rate indicates more number of employed members in a household. It is, therefore, assumed that increase in participation rate leads to decrease in poverty status of a household. Shirazi (1995) concluded that participation rate of a household was found to have a negative relationship with the household poverty. Datt et al. (1999) and Aikaeli (2010) noted that participation rate of a household was included among the important factors determining the poverty status of a household. Khan et al (2015) concluded that, among others participation rate turned out to be the significant factor associated with the rural poverty.

Hypothesis (H7): The higher is the participation rate of a household, the lower is the probability of its being poor.
3.1.8 Property and Assets of Household
The property of a household comprises its tangible goods such as land, cultivated areas, livestock, agricultural implements, machinery, buildings, household appliances, other durable goods and its financial assets, for example, liquid assets and other financial assets. These indicators are of paramount interest in determining the poverty status of a household because they reflect wealth of the households; thus affect income level of the household. Further, some of the households, particularly in rural areas, may be poor when their incomes are considered as an indicator of poverty, but they may be wealthy when their property is considered to weigh their status in the society. Rowntree (1901) calls this class of poverty as secondary poverty, for it subsumes the households those apparently have means, but are still unable to make use of these resources to pull themselves out of poverty threshold. Household property and assets, as proposed to be used in the current study, are discussed as under:

3.1.9 Landholding Size
It is considered that ownership of agricultural land plays an important role in raising a household above subsistence level. The parameter used in this study was the landholding of a household in acres.10 It is assumed that higher landholding size would lead to decrease in incidence of poverty of a household. Hashmi et al. (2008) suggested that household size had a strong impact on determining the poverty status of a household. Arif et al. (2012) found that ownership of land had a significant and negative relationship with poverty. Akhtar et al. (2015) suggested that landholding size had a significant relationship with poverty status of rural households. It is argued that among others landholding size is an important determinant of rural poverty in developing countries (Bogale et al., 2005; Aikaeli, 2010; Bahta & Haile, 2013).

Hypothesis (H8): The larger the size of landholding of a household, the lesser is the probability of its being poor.

3.1.10 Livestock Population
Livestock plays an important role in rural economy of Pakistan. It constitutes a significant part of a household’s income. It is a net source of steady earnings for rural communities. The sector contributes 11.9 % to the GDP.11 Its role in poverty alleviation efforts is, therefore, considered important. Hashmi et al. (2008) suggested that ownership of livestock, had a strong impact on determining the poverty status of a household. Arif et al. (2012) noted that ownership of livestock had a significant and negative relationship with poverty. Bogale et al. (2005) noted that livestock ownership was among the determinants of rural poverty in Ethiopia. Muhammad hussen (2016) demonstrated that, among others, livestock ownership was found to have an important role in determining rural poverty.

Hypothesis (H9): The larger is the size (value in monetary terms) of the livestock population of a household, the lesser is the probability of its being poor.

3.1.11 Value of Physical Assets
Material possessions are important for household incomes. The study took into account the material possessions in the shape of agricultural equipment and machinery and household appliances such as TV, refrigerator, washing machine, fans, sewing machine, computer etc. It is assumed that ownership of physical assets has a negative relationship with poverty. Hashmi et al. (2008) observed that among others ownership of physical assets had a strong impact on determining the poverty status of a household. Malik (1996) also noted a correlation between ownership of physical assets and poverty of a household.

Hypothesis (H10): The higher is the cumulative monetary value of the household’s physical assets, the lower is the probability of its being poor.

3.1.12 Access to Health Services and Facilities (AHSF)
Health of a household is generally characterized by four types of variables which indicate living standards. Among these, are; (a) Nutritional status, such as weight for age, height for age and weight for height, (b) Disease status, for example, infant and juvenile mortality and morbidity rates as related to certain diseases such as malaria, respiratory infections, diarrhea and sometimes poliomyelitis, (c) The availability of health care services such as primary healthcare centers, maternity facilities, hospitals and pharmacies, basic healthcare workers, nurses, midwives, doctors and traditional healers and medical services such as vaccinations, access to medicines and medical

10. An acre is about 0.405 hectare
information and (d) The use of these services by poor and non-poor households.

Hypothesis (H11): The greater is the access to healthcare facilities to a household, the lesser is the probability of its being poor.

3.1.13 Access to Drinking Water and Sanitation (ADWS)
It is commonly understood that water and sanitation significantly impact the living standards of households. There exists sufficient evidence in literature that access to clean drinking water and sanitation facilities are negatively skewed for the poor.

Hypothesis (H12): The greater is the availability and access to clean drinking water and sanitation facilities to a household, the lower is the probabilities of its being poor.

3.1.14 Household Shelter Quality (HSQ)
Shelter is a manifestation of overall personal life of a household. It is assessed in terms of poor and non-poor household groups. Three components are important in this regard such as type of housing, housing services and the overall environment surrounding housing services. Three type of indicator are important to track the quality of available housing. First type includes building and its characteristics like size and type of material (mud and straw, and baked and unbaked bricks). Second, how it has been procured whether it is self-owned or taken on rent and what is the household equipment. Third, services indicators comprise availability and use of drinking water, type of communication services available, sources of electricity and energy (kerosene, wood, dung cake etc.). Finally, the environment related indicators mainly include the quality of sanitation, the degree of isolation or development (existence of road infrastructure which can be accessed in all weathers, type of transport facility that is available and how long it takes to get to the market) and the extent to which the personal life is safe. It is commonly assumed that housing facilities available to poor are precarious and have low sanitary conditions. This, in turn, results in poor health leading to lower working efficiency of household members.

Hypothesis (H13): The better is the quality of construction material used for construction of houses by a household, the lesser is the probability of its being poor.

3.2 Profile of Study Area
District Bhakkar is present in the western part of the of Punjab province in Pakistan. The Human Development Index (HDI) Report of 2013 on Pakistan’s districts classified Bhakkar as an “underdeveloped” district with HDI 0.48. It comprises of four tehsils including Mankera, Kallurkot, Bhakkar, and Darya Khan with 42 Union Councils (UCs)13. It is important to differentiate here for the purpose of clarity and to avoid confusion that district Bhakkar also includes a tehsil with the same name (Tehsil Bhakkar), a smaller administrative unit. The total population of the district amounts to 1,051,456 person’s14 with 83.96% living in rural areas. The average size of the household in Bhakkar equals to 6.6 persons per household. The literacy rate of the district is 51%, while the unemployment rate stands at 6.8%, along with average annual growth rate of 2.72%. Out of total district population, 39% are underweight, with 12 % suffering from severe underweight conditions.16 Utilizing the MICS 2003-04 data, Cheema et al. (2008) estimated 58 % of rural population in the district living below poverty line. The topography of the district Bhakkar can be divided into three main areas. The rive rain area is mainly tube well irrigated, while the plain area is both tube well and canal irrigated. The third desert area is mainly rain fed. The major sources of income in the rural areas of the district include agricultural produce and livestock.

3.3 Sampling Design
A sample of 300 households was drawn in the present study by utilizing the multi-stage implicit stratified cluster sampling18 design. At the first stage, two tehsils including Bhakkar and Mankera were selected. Bhakkar tehsil was selected because it represents both rive rain and plain area, while Mankera tehsil was selected because it represents

---

12. Tehsil is an administrative division in Pakistan with a city serving as an administrative center for towns and villages constituting the tehsil.
13. Union Council comprises a large village and surrounding areas often including small villages. It is third tear of Local Government in Pakistan headed by a chairperson and number of elected councilors.
14. Estimates are as per census report of 1998.
16. Multiple Indicator Cluster Survey 2007-08
17. The Multiple Indicators Cluster Survey 2003-04
the desert area. At the second stage of the multi-stage sampling, total of three UCs, one from each river, plain and desert areas were selected. At the third stage, total of twelve villages, four from each UC, were selected randomly. At the fourth stage, a total of 300 households, with 25 from each village, were randomly selected for data collection. In the present study the unit of data collection was the household.

3.4 Data Collection
By using the cross-sectional survey design and a multi-topic questionnaire, data was collected from 300 households selected on random. The questionnaire was initially developed in the English language but was later translated into Urdu Language, duly vetted by a linguistic expert. The questionnaire comprised of three main sections to collect data on demographic, economic and social characteristics of the surveyed households. The survey included total 50 questions with 13 related to demographic, 21 related to economic and 16 related to social characteristics of the sampled households. The survey respondents were also asked to suggest ways to lessen poverty. Efforts were made to ensure that the survey respondent were the head of the randomly selected households. The data collection period lasted from April - July 2016.

3.5 Analytical Model
Descriptive statistics were utilized to develop the socio-economic and demographic profile of the area. For empirical analyses, the World Bank (2005) suggests that in most of the cases, contribution of various variables towards poverty of a household is estimated by using regression analysis. Level of income (or expenditure) per capita – the “dependent” variable – is explained as an outcome of variety of variables (the “independent” or “explanatory” variables). For the purpose of current study, explanatory variables have been discussed in the previous section (theoretical relationship of household characteristics with poverty – hypotheses). Following classical regression model, as employed to undertake poverty analysis, was used in the present study:

\[
\ln \left( \frac{y_i}{z} \right) = \alpha_0 + \alpha_1 x_{1i} + \alpha_2 x_{2i} + \ldots + \alpha_n x_{ni}
\]

Where \( Z \) denotes poverty line, \( y_i \) is (per capita) income, \( x^n_i \) are “independent” variables, \( \alpha_n \) are the coefficients that are to be calculated and \( \alpha_0 \) represents constant term. It may be noted that \( y / z \) is in log form, which is a common way of allowing for the log normality of the variable. The household size was adjusted, using Adult Equivalent (AE)Scale19,as utilized in Organization for Economic Cooperation and Development (OECD) countries (WB, 2005).

The concept of poverty line, as utilized in the current study, assumed the discrete characteristic of poverty, and could be signified by a single measure. The official poverty line of Pakistan is Rs. 3030 (or US$ 28.91)20 per adult equivalent per month. Following the Cost of Basic Needs (CBN) approach21, the poverty line was calculated in 2015. The analyses in the current study are based on this official poverty line. Put another way, the log of rural income at the rate of Rs. 3030 (or US$ 28.91) per adult equivalent per month has been used as independent variable in the present study.

4. Results
Descriptive analysis of data offered important revelations on socio-economic characteristics of the rural households of district Bhakkar. The data showed the average age of the head of households equal to 45 years. Only 2% of heads of household were equal to or younger than 24 years. This suggested that trend of early marriages in rural areas, as commonly perceived, was not supported by this study. The literacy rate of the head of households came out to be 53 %; with only 2% receiving education up to bachelor level or above. This was close to 56 % literacy rate of the district. Average household size came out to be 6.5 persons per household, which was also close to average household size (6.6 ) of the district22. The size of average landholding in sample came out to be 4.21 acres per household hence majority of the sample respondents comprised small land holders. A total of 76% farm sizes came out to be in the range of 1 to 7.5 acres. This figure was in accordance with the ‘Census of Agriculture – 2010’ estimate, highlighting that 79% private farms in Punjab ranged between 0.5 to 7.5 acres23. The mean income of sample households came out to be Rs. 209,824 (or US$ 2,002.137) per household per annum. Given the household size of 6.5 persons per household in district Bhakkar, it implies that annual per capita income turned out to be US$.

---

19. Adult Equivalent. = 1 + 0.7 (N adult - 1) + 0.5 N Children
20. @ 1 US$ = 104.800 PKR. This rate has been followed throughout this study for conversion of PKR to US$.
308.021, which was much lower than national per capita GNI of US$ 1,44024. 42% households received healthcare from Hakeems25 followed by doctors who were available to 38% of population. Overall, access to medical facilities was available to 70% households. A high 94% households reported that quality of drinking water available to them was satisfactory. Latrine was available to 58% households in their own premises. District Bhakkar has no proper sewerage system available. In more than 70% cases, baked bricks were the construction material used in construction of houses. Average room occupancy came out to be 3.3 persons per room. It was noticed that, on most of the demographic and socio-economic indicators, results of the present study were close to the national average statistics.

4.1 Factors Affecting the Rural Poverty: Regression Analysis

Regression analysis is the most commonly used technique to study the contribution of different variables to household poverty (Manual et al. 2005). It attempts to explain the level of income per capita – the dependent variable – as a function of variety of independent or explanatory variables. Results of regression analysis show how closely each independent variable is related to the dependent variable, holding all other influences constant. Following table presents the results of regression analysis of the data collected for the present study.

Table 1: Determinants of Rural Income Per Capita: Log Linear Regression Results

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Size</td>
<td>-.051</td>
<td>.014</td>
<td>-.202</td>
<td>.000</td>
</tr>
<tr>
<td>Dependency Ratio</td>
<td>-.834</td>
<td>.253</td>
<td>-.163</td>
<td>.001</td>
</tr>
<tr>
<td>Gender of Household Head</td>
<td>-.264</td>
<td>.278</td>
<td>-.043</td>
<td>.343</td>
</tr>
<tr>
<td>Age of Household Head</td>
<td>-.007</td>
<td>.004</td>
<td>-.089</td>
<td>.071</td>
</tr>
<tr>
<td>Female - Male Ratio</td>
<td>-.061</td>
<td>.060</td>
<td>-.046</td>
<td>.314</td>
</tr>
<tr>
<td>Participation Rate</td>
<td>.396</td>
<td>.146</td>
<td>.125</td>
<td>.007</td>
</tr>
<tr>
<td>Landholding Size</td>
<td>.048</td>
<td>.008</td>
<td>.333</td>
<td>.000</td>
</tr>
<tr>
<td>Monetary Value of Livestock Population</td>
<td>.000</td>
<td>.103</td>
<td>-.000</td>
<td>.997</td>
</tr>
<tr>
<td>Monetary Value of Physical Assets</td>
<td>.530</td>
<td>.090</td>
<td>.328</td>
<td>.000</td>
</tr>
<tr>
<td>Access to Medical Facilities</td>
<td>-.071</td>
<td>.081</td>
<td>-.039</td>
<td>.378</td>
</tr>
<tr>
<td>Availability of Latrine</td>
<td>.123</td>
<td>.082</td>
<td>.071</td>
<td>.135</td>
</tr>
<tr>
<td>Quality of Drinking Water</td>
<td>.087</td>
<td>.128</td>
<td>.030</td>
<td>.496</td>
</tr>
<tr>
<td>Education of Household Head</td>
<td>-.006</td>
<td>.009</td>
<td>-.033</td>
<td>.484</td>
</tr>
<tr>
<td>Material Used for House Construction</td>
<td>.142</td>
<td>.089</td>
<td>.074</td>
<td>.110</td>
</tr>
<tr>
<td>Persons Per Room</td>
<td>-.009</td>
<td>.022</td>
<td>-.021</td>
<td>.688</td>
</tr>
<tr>
<td>Intercept</td>
<td>-1.919</td>
<td>.672</td>
<td>-.021</td>
<td>.005</td>
</tr>
<tr>
<td>R²</td>
<td>.474</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.446</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F – Statistics</td>
<td>16.919 (.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The empirical results of log linear regression presented in Table 1 showed that explanatory power of the regression model, as measured by adjusted R², was 0.446. It could be said that, on average, 45% variation in dependent variable was explained by independent variables. The test of significance, F-test, was accepted at 1% level. Signs carried by the independent variables mostly supported the hypotheses. Household size, dependency ratio, landholding size, value of physical assets and participation rate were found significant at 0.001. Rest of the variables in the model, though had correct signs, but they were not found statistically significant.

The magnitude of effects reported in column B (unstandardized co-efficient) showed that dependency ratio followed by the value of physical assets had the largest impact on the dependent variable. As such, the dependency ratio was the most significant predictor of poverty in the study area. The other variables having significant impact on the dependent variable include participation ratio, household size and landholding size. Unstandardized B value of the household size indicated that for every one-unit increase in the household size (for each additional family

25. A Physician using traditional remedies
member), there was 5% decrease in the household income. In case of the dependency ratio, for every one-unit increase in the dependency ratio, the income of the household would decrease by 83%. It showed that the dependency ratio had the largest impact in determining the poverty status of a household. The B value of the participation rate showed that for one-unit increase in participation rate, the income of the household would increase by 40%. Regression coefficient for landholding size suggested that for every one-unit (one acre) increase in the landholding size accounted for an increase equal to 5% of the per person per month income of the household. Likewise, for one-unit increase in the ownership of the physical assets of a household, the income of the household would increase by 50%.

4.2 Discussion
The results of descriptive analysis showed that most of the socio-economic characteristics of the sample households were close to national averages. For example, estimates of household size, literacy rate, and mean farm size came out to be close to survey results undertaken at national or sub-national levels. The results of regression analysis were also supported by national and international literature. For example, at national level, there was ample evidence that household size, dependency ratio, participation ratio, landholding size and ownership of physical assets had a significant impact on poverty status of a household (Shirazi, 1995; Malik, 1996; Hashim, 2008; Sabir et al., 2006; Khan et al., 2015). Also the factors identified as determinants of rural poverty in the present study found support from the studies conducted in other developing countries such as Ethiopia, Nigeria, Tanzania, Eritrea, and Egypt (Datt et al., 1999; Zhao et al., 1999; Bogale et al., 2005; Ibrahim & Umar, 2008; Aikaeli, 2010; Bogale, 2011; Bahta & Haile, 2013; Muhammad hussen, 2016).

This adduced a clear evidence that findings of the present study were found in congruence with the findings of a body of literature available on the subject. It was, therefore, safe to conclude that household size, dependency ratio, participation rate, landholding size and ownership of assets were the significant factors responsible for causing rural poverty. The findings also supported the basic assumptions of structural strand of poverty, which recognizes that availability and access to economic opportunities play an important role in determining the status of an individual in the society. In the same vein, proximity of findings of descriptive data with national and sub-national statistics provided an evidence of the representativeness of the sample; thus increasing the generalizability of the findings of the study.

5. Conclusion and Recommendations
The study concluded that general demographic and socio-economic characteristics of the sample were largely in agreement with that of population’s characteristics, as reported in national statistics. This showed that the sample was representative of the population. The study also showed that factors external to individuals were mainly responsible to determine the poverty status of rural households. Also the household size, dependency ratio, participation rate, landholding size and ownership of physical assets did play role in determining the poverty level of a household. This was an evidence unto itself that study was rightly placed in positivist paradigm based on the assumptions of neoclassical economic theory. Based on the findings of the empirical analysis, the study makes three recommendations. First, invest more, particularly in agriculture sector, to create additional job opportunities, thus; bringing positive changes in dependency ratios and improving participation rate. Second, invest more on social infrastructure, for example, on health and education, ensuring better health and increased employment opportunities. Finally, investment on poverty reduction initiatives should be integrated with broader agenda of sustainable development, for instance, Pakistan Vision 2025 and international development agenda of 2030 to make it possible that results of these initiative be measured at regular intervals and corrective actions, if needed, be taken to achieve the set targets.

References
Amjad, R., & Kemal, A. R. (1997). Macroeconomic policies and their impact on poverty alleviation in


Ellwood, D. T., & Summers, L. H. (1985). Poverty in America: Is welfare the answer or the problem?


An Overview of English Language as a Window of Economic Opportunity in Pakistan

Ayaz Ahmad, Sana Hussan, Muhammad Shoaib Malik

Department of English, Abdul Wali Khan University Mardan, Pakistan. ayazmardan@gmail.com
M. Phil. Scholar, Department of English, Abdul Wali Khan University Mardan, Pakistan.
Assistant Professor, Department of Pakistan Studies, National University of Modern Languages, Islamabad, Pakistan.

ARTICLE DETAILS

ABSTRACT

This paper overviews the worth of English language learning in Pakistan through the lens of economic cost and benefit comparison. The value is explored from theoretical perspective, using the theoretical construct of economic value of a language proposed by Francois Grin, which is applied in conducted interviews and reviewing the existing literature on language policy and planning of Pakistan. The paper finds that English language, due to the colonial legacy, enjoyed a privileged position in sociopolitical structure of the nascent Pakistani state. The historical entrenchment of English language created a system of values ensuring its domination in sociopolitical domains. Values in these domains determined differentiated earnings, costs and benefits for sociopolitical strata of Pakistan. The historical evolution structured these domains in such a way that the incumbency of English overcame challenges to its privileged position. The current growth of English language predicts continuation of its global and local domination in the foreseeable future.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Keywords

English language teaching, English language economics, Value of English language, Pakistan and English language learning, ELT, TESOL

JEL Classification:
A10, A11, Z13

1. Introduction

English language is mostly spoken as a second language in Pakistan. Its speakers’ population is not very high there. Based on the graduated students of English medium schools, the total number of its speakers may be around 8 percent of the total population (Mahboob, 2003a). English language is a dominant language as it enjoys official status in Pakistan. Various studies focusing on the domains of English use in Pakistan has found that English language dominates other languages (Mahboob, 2003b; Rahman, 1998; Rasool, 2004). English is touted as window of opportunity, but the reality on ground presents a different picture of failures, deprivations and marginalization. So, who benefits from the use of English language? And what are the benefits? What are the future directions? The instrumentalist perspective tells us that whether individual or the state intervenes in language attributes to attain some ends. Economic development is normally presented as the most important imperative for pursuing English language learning. The importance of English in different aspects of our collective life in Pakistan accrues some economic benefit which determines the willingness to pay the cost in labor and resources. All the concern can be reduced to a simple question. Is English worth learning? What is the cost and benefit, for who benefits exceed cost...
and for whom costs remain higher than the benefits accrue from learning it. The promise of personal and collective wellbeing makes the analysis of language question from this perspective worth study.

The presentation of the study begins with introducing the research problem in introduction, then the underpinning research framework and context is built with the help of literature review. Next the adopted methodology including sources and methods of data collection and analysis are established. Finally the discussion and analysis of the historical background of English language in Pakistan, the current scenario of the economics of English language and future prospects overviews the economics of English language in Pakistan. The study concludes with the key valuation of key findings.

2. Literature Review
The study is based on theoretical and factual underpinning about language economics. This section explores economic implication from the perspective of a linguist. Such an approach complements the economics of language where the economist tackles language related issues from the economics perspective. This section first explores the beginning and general nature of economics of language that specifically relate to English language, then it focuses the theoretical positions pertinent to the understanding of theoretical underpinning of this study.

Historically the study of language from political perspective was ignored in the modern linguistic enquiries of Western Europe in the twentieth century. The ideas of Saussure laid the path for later linguists when he considered the parole aspects of language as trivial and not worth the study by a linguist (de Saussure, 1915). While the Western writers in their attempt to purify the field of linguistics, the Marxist theorists took interest in the study of language from economic and political perspective (Lenin, 1964 [1913-1914]; Stalin, 1972[1950]; Voloshinov, 1973). Ahmad (2016) contends that economic and language relation was initially explored systematically in the Marxist writing where language is considered a superstructure and economics is considered the base on which this structure is established. The Marxist interpretation of this relation between language and economics is projected in politics through the class struggle between haves and have-nots. Other scholars also support this position (e.g. see (Lecercle, 2006; Lenin, 1964 [1913-1914]; Schiffman, 2002).

The non-Marxist Western writer started taking interest in the relation of economics and language in the second half of the twentieth century. Grin (2006) gives the credit of beginning this investigation to the Canadian researchers. Economists in the United States also took interest in exploring the econometric relation between the earning of English and Spanish speaking segments of the US society. Study of the relation of language and socioeconomic context underwent three transformations as it evolved in Europe and America. First, the emphasis was laid on studying language as an ethnic and cultural component. These early studies focused discrimination on ethnolinguistic basis. Then the researches took a descriptive turn and started viewing language as “human capital”. Eventually the two earlier foci were combined and studied combined ethnolinguistic and human capital strands. Some studies also explored the role of language in international trade (Grin, 2006). So, the researches in the economics of language normally fall into these three categories.

The work of Spencer, Clegg, and Rush (2017) conform to the second era of Francois Grin. While studying the effects of socio-economic background on the competence and vocabulary of GCSE students in English language they established that students belonging to the under privileged and poor socioeconomic background have weak language skills and vocabularies. The finding implies a higher cost for the students from backward segment of socioeconomic spectrum of society in reaping the benefits of language learning in their earnings from professional career where language skills and vocabulary is valued. The work of Philippe Van Parijs belongs to the third category as the writers in his edited book, “Cultural Diversity Versus Economic Solidarity” argues if it is possible to balance linguistic diversity and economic efficiency. The work find it desirable in the contemporary value system of modern democracy to preserve cultural and linguistic diversity and argue that the benefits of preserving diversity are greater than the costs such efforts incur(Van Parijs, 2013). The writers in Cossan and Godley (2000) edited work also agree with this approach. While they propose that culture playing a “residual” effect in promoting economic growth, they consider culture as “shared values and beliefs” (p.2). Language is included as expressive tool of the culture of a community through which the community participates in economic activity. They consider “value” as the pursuit of some material and selfish objectives using the tool of language. Language as tool of communication helps in formation of shared values and belief and thus promotes cooperation.

Human-Capital models are often used in knowing the outcome of language learning in the form of increase/decrease in income. The capitalist entrepreneur attempt to maximize her profit and cuts down costs. So the
jobs which require less communication are assigned to those who cannot participate in the language of workplace. Usually the speakers of minority languages and immigrants fall in this category. Such people normally lack language skills in the standardized language adapted to the high end jobs in workplace. The income differential between the more proficient, less proficient and non-users of work place language arise from their language proficiency (Grin, 2006).

Language is the essential characteristic of human beings. As humanity enters the era of “knowledge-based economy”, the economics of language becomes an important area of understanding the new directions of economy. Economy of the contemporary world is inextricably linked to language as it directly influences efficiency through communication. The recent direction of research in economics of language inevitably lead us to study the role of English in shaping global and local markets as they move to knowledge intensive transactions. An important question arises about the role of automatic translation technologies such as the one employed in Australia in the form of Telephone Interpretation Service, whether these technologies will replace the need for learning language as an economic capital or what will be the future form of communication in work place (Lamberton, 2002). Breton (1998)Combined the ethnic aspects and economic perspectives in his study of French and English language in Canada. This work, explores the relation of language and economics in the perspective of globalization and relates the local and global market effects on earnings of people with different language resources and competences. It finds that pluralism in Canadian language ecology produces salubrious effects. While Breton (1998) focused local effects of language and earnings relationship, Chiswick and Miller (1995) undertook a comparison of earnings of immigrants of Australia, United States, Canada and Israel. They found a consistent pattern of earning affected by the immigrant’s language skills. There from they conclude significance of the learning of the dominant language of the host country in deciding the income of the immigrants. They consider language proficiency a product of exposure to language, learning abilities (quality of learning experience) and relevance of the acquired language skills to the jobs the learner could undertake. The major portion of instrumental language planning happens without proper statements in official documents. This “unplanned” portion of language planning specifically happens in the use of language in education, which result from the interplay of economic, social and political forces at national or local level (Baldauf, 1994; Daoust, 1998).

Rosool(2004) highlights the role language in education for the globalized world in general and Pakistan in particular, where English language education shapes the means of nation in participating the knowledge based economy. Supporting this stance, the minister of education. Language related values generated through policy and planning include pluralism, assimilation, vernacularization, internationalism and nation building (Cobarrubias & Fishman, 1983; Daoust, 1998). The policy of assimilation of minority and minoritized language speakers happens due to common notion that a plurilingual state is considered pathological needing measures to eliminate this anomaly (Mansour, 1993). Administrative and economic efficiency is normally realized through “standardization” of a language and the efforts of promotion or proscripton of a language (Ferguson, 2006; Fishman, Ferguson, & Dasgupta, 1968; Haugen, 1966). Nationalism is a process whereby, “history, myth, ritual and symbol are invented to promote a spurious identity. The construction of a narrative of the past allows a group to imagine that it belongs together” (Wright, 2000, p. 13). Language plays a central role in construction of this identity on which nationalism hinges.

Marschak’s(1965) deserves the credit of pioneering language economics. His approach to language economics redefines economics terminology so it can be applied to the study of language. He generalizes the definition of economics –considering efficiency as the key aspect of linguistics— is inherent to studying language as communication. For him economics of language views language as “an optimal communication system”. Success in communication is enhanced by certain features of language. The increase in success may incur cost. The Best approach to finding the most economic way of achieving communication goal or the optimal level where the minimum linguistic features are balanced against maximizing chances of successful communication. He considers “normative” and “explanatory” angles as a set of perspectives that can sufficiently explain economics of language based communications. He explains “efficiency and viability” essential features of language when it is viewed from economics perspective. These features can be viewed from a “normative” angle which advocates for increasing the efficiency of language based communication. An economic view of language searches for “communication system best suited to a given goal; or, more generally, best suited to a given scale of values”. So, suitability of language to an “average achieved value” is “weighted by the probabilities of the various contingencies”. In a simple case of assigning value two states are possible, in one the set objective of communication is achieved and in the second failure to attain the set objective happens. This approach is adopted in the normative sense of economy of communication. In the “explanatory” aspect of communication “survival” of a trait of communication through
language is sought. “Viability” or feasibility is an important trait in the explanatory aspect.

Further, Marschak (1965) considers the study language policy as a reliable means for understanding economics of language. He considers policy as a process of assigning values to linguistic features. There might be more than one value that is associated with language question. In such a case the values are prioritized (again based on some other value). National unity’s promotion being such a value that determines the cost and benefits. Morality and aesthetics are other values, normally used in determining language (in normative or explanatory sense). The policy itself becomes in the end a matter of making choices, “to govern is to choose”, and to make choices, a scale of values is necessary. Concept of “evolution” justifies the survival of the fittest. So, a language feature that is suitable to a context will survive and those unmatched to the needs of context will disappear. While explaining the formation of a policy about language he recounts that the socially dominant group can assign values to a language or features of a language. The aristocrats of society control the process of assigning values as they lead in setting example for the rest of society to follow. “The Principle of least effort” may be a value that explains why some languages or their forms survive and are more frequent than others. Effort acts like cost, therefore, the survival and flourishing of certain traits in language explain that these are the conditions of economics of language. Further, a language survives when the society where it is spoken survives.

Francois Grin takes the credit to make economics a mature field of scholarship. For him, “… economics of language refers to the paradigm of theoretical economics and uses the concepts and tools of economics in the study of relationships featuring linguistic variables; it focuses principally, but not exclusively, on those relationships in which economics variables also play a part” (Grin, 1996, p. 6). Further, Grin(2006) identified the following points playing crucial role in understanding the economics of language

1. How linguistic features influence economic features, e.g. proficiency’s effects income
2. How economic features influence linguistic features, e.g. price of English language learning effects on over/under use of certain forms in a given domain
3. How linguistic and economic processes/dynamics relate to each other and influence each other

Building on the concept of his predecessors especially Jacob Marschak, Grin (2006) details how to effectively analyze language policy for economic considerations. While exploring the relation of language with earning the capitalist dominant group’s role in allowing their group members a lion’s share of income, resulting in unequal earning. Lang (1986)echoes this theory in his explanation of the linguistic context of the United States, from whence he speculates that those people who speak the same language work together in better way, therefore, the economic forces in workplace compels the minorities to learn the language of majority and also to bear the cost of such learning. Church and King (1993) argue that the learners make such decision on the basis of weighing cost against benefits. However, Grin (2006) argues that the nature of language as commodity of public use is unique as it increases when used by masses unlike other goods that decrease when consumed and therefore the supply of standard commodities normally decrease. Grin argues that the public policy is a process of making decision about available choices and a policy can be evaluated on the bases of comparing benefits and cost. A language policy normally has some overt or covert goals which are taken into account to compare available options for cost and benefits. A state must intervene when the market of language fails to adjust and it happens when, (a) actors make wrong decision due to little information, (b) high cost of transaction discourage actors, (c) goods without proper market, (d) externalities where actions of one affect the interest of others, (e) defects in market such as monopoly and (f) “hyper collective public good”. The environment of language normally shows the features of a failed market, thereby the intervention of state becomes necessary to adjust its defects. The private cost and benefits are easier to evaluate as compared to public cost and benefits. As a society comprises individuals, therefore, the public cost or benefit can be inferred from the private. The social and individual cost can be “market” or “non-market” based. The evaluation of language policy pose a unique problem as the investment that state makes does not yield immediate effects, therefore, exact cost never remains precise, however, normally it remains within reasonable limits so that the misgivings about the maintenance of records in multilingual context being very high, normally is inflated. For example in European Union it is less than one percent of the total budget. Francois Grin basis this position on his earlier works e.g. (Grin, 1994, 1999, 2000; Grin, Jensdottir, & O’ Reiagain, 2003) and the work he has published recently echoes this approach to economics in language planning e.g. (Grin, 2010).

All issues that confront humanity have linguistic, economic and political aspects, and no issue can be confined purely to any particular discipline.
3. Research Approach
This study is essentially a theoretical and qualitative exploration of the English language economics in Pakistan. Economics of language of Francois Grin as discussed in literature review constitute the theoretical framework for the collection and analysis of data. The leading objective of this study is to find if English language is worth learning in the context of Pakistan. This lead objective yields other subsidiary concerns. Of these the most pertinent being finding:

- The value of English language learning in terms of cost and benefits in Pakistan.
- The segments of society that reap the most and the least of the benefits accruing from learning English language in Pakistan.
- The future prospects of English language learning in Pakistan.

Based on these objective, the study answers the following research questions:

- What features of English language in Pakistan contribute to its value in terms of cost and benefits that result in its value?
- How the value of English language learning is established?
- What segments of Pakistani society reap the most of benefits accruing from English language learning in Pakistan?
- What segments of Pakistani society is marginalized in the distribution of benefits accruing form English language learning in Pakistan?
- How English language learning results in different dividends for different segments of Pakistan?
- Based on the current trends, what are the future prospects of the value of English language learning in Pakistan?
- While answering these questions, the study also answers the fundamental question, “Is it worth to learn English language in Pakistan?”.

While there are many confounding factors which make the drawn inferences about the worth of a language unreliable, the study attempted to account for some of these factors such as education, skills, experience, intelligence, existing class division and system of privileges because such elements are intricately woven into the language use and linguistic context. The scope of this paper confines the researcher to gloss over these important factors. The researchers hope that future studies with a narrower focus would be able to account for the individual confounding elements more effectively. However, the general overview such as this one would be constrained to economize on details and tend to generalize where nuances of individual and smaller niche groups would be overlooked.

3.1 Data Collection
The exploratory and theoretical demands review of a number of secondary sources, however the study includes some primary data which was collected through unstructured exploratory interviews with 4 experts of English language teaching and education belonging to Abdul Wali Khan University Mardan and University of Peshawar.

3.2 Data Analysis
The study overviews various reports and studies and analyzes them with the help of Francois Grin’s concept of finding worth of a language feature by estimating the cost and benefits accruing from the process or product of learning a language. The study compares the costs and benefits qualitatively and thereby attempts to provide direction for future research where on large scale the quantitative data would be used to get numerical outcomes. The study, therefore, focuses on arguments and qualitative estimation of value.

4. Discussion and Analysis
This section finds answer to the questions raised in research approach of the paper. Discussion and analysis begins with summarizing the relation of sociopolitical, economic and language policy and planning enunciated in literature review. A brief historical overview then provide a diachronic evolution of economics of English language in Pakistan. The current context of English language is then explored to determine its worth. Eventually, the prospects of English language in Pakistan are highlighted last.
The reviewed literature points that English language in Pakistan exist in the multilingual and multiethnic context where sociopolitical and economic division intermingle and result in a complex language planning and a two-layered language policy. The sociopolitical divisions and contest maintain an economic dimension which helps in understanding the nature and dynamics of such division, as economic value inevitably provides practicability to the strategies of contestant groups. One dimension of strategizing the sociopolitical contest for economic value motivates language policy and planning. So, language policy and planning become an instrument of realizing economic gains of sociopolitical contests. If language policy and planning can become an instrument, it also can become an effect of the economic valuation that is rooted in the contest of sociopolitical classes, and language policy and planning also can become raison d’etre, the primal cause of sociopolitical divisions effected through economic measures. Therefore, language policy and planning operates in the form, visualized in Figure1.

Figure 1: Cycle of Economic Values, Sociopolitical Class Values and Language Policy Planning Contest

English language due to the colonial legacy enjoyed a privileged position in sociopolitical structure of the nascent Pakistani state. The historical entrenchment of English language created a system of values ensuring its domination in sociopolitical domains. Values in these domains determined differentiated earnings, costs and benefits for sociopolitical strata of Pakistan. The historical evolution structured these domains making the incumbency of English overcome challenges to its privileged position. Historical process coupled with strategizing of sociopolitical elite control access to the learning of English language through stratified educational system. The urban citizens, the salaried class, entrepreneurs etc. form an elite who limit access to their class through restricting access to a selective spectrum of English language L2 speakers. The learners of ordinary English medium educational institutes (such as schools, colleges, Universities, and institutes for technical and professional education) face substantial barriers in horizontal and vertical movement in the domains of English language. The benefits of elite are reflected in their higher earning and presence of more opportunities to advance their careers. The cost of marginalized segments makes their efforts less fruitful and thus they do not get enough freedom of economic choices in job market. The political slogan of abolishing the stratified education along improving quality of education is necessary to make English an equitable asset in international job market for learners of English language.

There is exist extensive literature on the origin of English in South Asia and its continuation in Pakistan after partition of South Asia(See for example Baumgardner, 1996; Mahboob, 2003b; Rahman, 1996; Rahman, 1998, 2004a, 2004b, 2005), however, the analysis restrict themselves to sociopolitical consideration in domain of education. The economic consideration would make such narration more understandable. The nascent state of Pakistan was forced to use English language despite the desire of its social and political elite to replace it completely by Urdu that had played historical role in forming Muslim identity in the anticolonial struggle and in shaping the two nation concept for Indian Muslims. A major constraint was the cost of doing this in the financially impoverished early years. Later, the rate of development was low and spending on education remained a low priority in the face of security related challenges, which required immediate attention. Language policy in post-World War II states, who attained their freedom from colonial rule, remained a tool of shaping “nation-state” in the hand of governments imbued with the spirit of nationalism (Liddicoat & Baldauf, 2008, p. 3). The scarcity of trained teachers, books, building and other related requirements resulted in the poor quality of teaching in Urdu government schools while the English medium private schools did well as they had better resources available to them. Two opposing views emerged regarding the economic worth of English language in Pakistan. One view considered English as an essential component of quality education that was considered vital of economic development and prosperity of the country. The second view took nation-building as a higher aim than economic development and focused transition to Urdu language. This second view considered provision of better governance.
in Urdu language that was better understood by the bureaucracy and population as compared to English and was taken as a means of realizing economic development without depending on English language. In practice, neither of these two views completely prevailed, therefore, both view saw accommodation, while Urdu was acclaimed to be the legitimate representation of Pakistan identity, English language was not made illegitimate and was proclaimed to be a temporary fixture till time and resources become suitable for the desired shift. The earlier history of education in Pakistan saw a large number of Urdu medium education and small number of English medium education. While the education in English medium was high and return on investing in such education was high, the high cost of this education allowed only elite to afford such education. Urdu medium education imparted in state run schools was failing in delivering its purpose of ensuring better earning of the majority of its graduates. Therefore, the low earnings of its graduates was taken as proof of its low quality. The official commissions, the stories in newspapers and anecdotal stories all undermined the credibility of the government Urdu medium education. The demand of English medium private schools steadily grew and in urban areas English medium schools gradually started to open. The era of 1980s saw initially a trickling of such schools, but later in 1990s these schools started to pour of nowhere. This growth lowered the fee in many of the newly opened school to such degree that they could be afforded by the middle and lower middle class families. In 1990 the democratic government started to accept the superiority of English medium private schools and they allowed introduction of English as a medium of instruction in government schools as well. Initially some schools were chosen to impart such schools, in Khyber Pakhtunkhwa for example such schools were called Centennial Schools. Later in the era of General Musharraf English language’s importance was recognize and it was made compulsory from first grade onward. Zobaida Jalal Khan (2004), unveiled the policy of Musharraf’s government where English language was assigned the role of modernization and development in Pakistan through improvement of education. The transformation of education in and after 1990s was due to the fact that government accepted English language learning as a means of increasing better paid jobs for the learner, therefore, the decision to introduce English in government schools was driven by making access to English language learning open to all citizens who could not afford private schooling. Rahman (1998, pp.228-248) points to the following features of English language in Pakistan which adds to value. Comments based on focus group discussion are added in square brackets by the researcher.

- English as an international language. [It is now universally agreed that English is an international language therefore it provides access to international job market, especially the higher paying multinational companies in Pakistan.]
- Historically employed in domains of power. [The colonial legacy has allowed English domination in domains where distribution of power-which professor Rahman explain in terms of economic gains- take place such as industry, job market, government, education etc. The historical factor has resulted in a network of production and consumption of language based items and services. The sudden change of a language in domain of power is traditionally rejected by most of the commissions and report, as such a change may disrupt the sociopolitical and economic machinery in Pakistan.]
- Modernization, efficiency and retention of privileged status. [Modernization is considered as improvement in domains of power, which like developed states would result in prosperity. As quality education and technology can be cheaply accessed through English language, therefore, learning of English would help in faster modernization. Efficiency refers to avoidance of wastage. Modernization and efficiency through English language are normally promoted as positive arguments which uses economic value as its premises. It is argued that due to the efforts of Anglophone developed states (and also in non-Anglophone states where sizeable L2 population exists) English language stores a great source of information. Modern technology like internet has most of its resources (websites/pages) in English language. So, investing in local/national language and transferring knowledge through translation will demand resources and time which are not economically viable, therefore, the fastest route to partaking in the race of development is to adopt English language. The privileged position of English is historical and social, adding to its value as for private market and non-market gains it is supposed to offer best returns.]
- Fear of intensification of existing rivalries in multilingual former colony. [In some of multilingual former colonies of Britain such as Nigeria, Tanzania, Kenya and India, English language is presented as the neutral language that promotes unity and lessens language based tensions. However, in other former colonies like Malaysia and Pakistan (and India too), local languages have acquired a symbolic status of anticolonial resistance and English language is attacked as a colonial legacy and continuation of servility. In Pakistan the fluctuation in the economic value of English language is greatly determined by this controversy between Urdu and English language].
• LWC (Language of Wider Communication) function of English in Pakistan. [English is not only understood (though to a limited degree) in most of Pakistan and it is also known to people in South Asia, therefore, its learning facilitates regional communication and would help in economic activities, and its learning would help learners to gain more from learning it as compared to the cost in the form learning it. However, Urdu/Hind which resemble closely also has a competitive function as LWC.]

• Urdu the substituting language is only symbolically supported. [Despite the constitutional status, historical importance, presence of a National Language Development Department and a number of court decisions and reports favoring the conversion from English to Urdu use in offices, courts and public spaces, the continued domination is often construed as conspiracy of powerful elite who reduce all these policy documents to rhetoric. The lack of resources, will, sincerity and malicious intention offers a spectrum of interpretation of this contradiction between the de jure and de facto situation of English language. From the economics of English language, the interpretation becomes straightforward as due to presence of dominant position of English in globalized economy and high cost of investment that will incur from the conversion, the constitution protection and official policy statements do not succeed. Though significant gains have been made in this direction.]

• Government invests in cadet colleges and English medium schools where the future leadership is formed.[The cadet colleges were only few institutions in 1990s when Professor Rahman was writing the book, now the high fee English medium schools, colleges and other institutions especially universities (both general and those focused on medicine, engineering, science and technology) have mushroomed to the extent that every district has them in dozens. Such English medium institutions, schools and colleges largely cater to need of middle class students, so the former elitist education is now available to majority or urban population. However, the skills and variety of English that is learnt in most of these institution does not guarantee economic benefits to all learners. Still many parents prefer these English medium schools etc. which make establishing them a profitable business and hence proves that demand for English language learning exist among the middle and lower middle class especially in urban areas.]

• The Hamoodur Rahman Report, regrets the accelerated pace of conversion from English to Urdu, which compromised the quality of education. [As discussed in the analysis of point no. 6, this report is given as example, where the enormity of undertaking a complete transformation is forewarned and a cautious course is suggested. The economic cost is implied].

• Urdu medium school graduates are marginalized in higher education and prestigious jobs.[This issues highlight the dominant belief of those parents who can not afford high tuition fees of private English medium schools. The consider, English being a major factor which added to the economic success of English medium going children and failure of their Urdu medium going children, the current Education Policy also points to this fact and in Khyber Pakhtunkhwa province, the government has therefore made English as medium of instruction from grade 1 onwards].

• The small affluent class wield great power in lobbying for English and the less affluent support it as it (English) is considered as a means to enter the elite club. [As discussed in point no. 6, the frustration with non-implementation is rationalized in the form of blaming an affluent elite who lobby for the promotion of English language. The demand for English language among the parents especially the poor is normally ignored in making this assumption. The promise of economic benefit accruing from learning English language does not simply arise from local and national influence, in the age internet and smartphones the global domination and demand for English is also affecting the choice of learning English locally in Pakistan. Though, the elite can not be absolve completely, their role in continuing the domination of English language would not have been effective if English had been seeing a waning influence in the global economy.]

• People trust status quo and believe in its continuation. [People learn English language because they believe this domination is not going to end soon, therefore, the invest in learning English language so they would partake in the larger global market. The growing demand of English medium schools indicates that English language is expected to yield more benefits than the cost incurred by investing in learning it.]

• International interaction (English as lingua franca) through English. [The current global reach of English is phenomenon as great number of people estimated to be more than a billion speakers including L1 and L2 speakers (Jenkins, 2015) makes it an attractive resource where investment in it by learning it enable speakers to participate in the global market].
The question to improve English appears rhetorical as the very people who raise concerns about the abysmal quality of English language learning/teaching, themselves as a class support separate elitist education. Network effect of Grin propose that if more people learn English language the available opportunities to speakers are to be divided among all, so a competition would take place where competence is to be determined on the basis of what variety of English is mastered. The spread of a language therefore does not result in maximization of value for all. Depending on the language market, the majority of learners invest in learning the language only to bear the cost of the services available. In most cases the language based services they receive would have an non-market utility for them and they would remain mostly consumers bound to a specific type of market due to their loyalty based on their historical attachment and the investment they have already made, keep them psychologically satisfied even when they are not earning anything or rather remain consumers of a language based market where advertisement/propaganda keep them loyal buyer of language based commodity.

English language instead of losing economic significance for learners of English is constantly expanding globally. However, a debate has emerged whether the localization of English in different parts especially the former colonies is good or bad. While some like Braj Kachru consider it a good sign, while others like Randolph Quirk consider it ominous for efficient communication. So, the future of English depend on whether a single global form (such international English) would ultimately emerge or whether the localized form would diverge to such a degree that they would become mutually unintelligible (Jenkins, 2015). Both of the extreme positions are unlikely to happen and English would grow as would its newly emerging varieties, especially in the newly emerging markets like Pakistan, India etc. Those who learn it would have to compete especially in the case of English language teacher, where the native English language teacher make good earnings, the non-native teacher despite the higher cost they pay in terms of formal training and expenses normally do not make as much as the untrained native speaker can make. However, in other places where communication is supplemental to other technical skills the non-native speakers have fair prospects.

5. Conclusion
Due to expansive nature of the topic, the researcher is content with providing an overview, which obviates the need for further researches to focus on each questions raised in this paper and thereby further improve the field. The paper explored English language economics in Pakistan and found this language has a strong economic presence in Pakistan. This economic trait is sustained by the historical cause of colonial rule and contemporary elements of globalized markets. The paper finds that economic dividend is greater for the existing sociopolitical elite while for the poor earning to investment ratio remains weak, therefore, the economic aspect of English language in Pakistan causes disparity and widens the gap between the rich and the poor. English language is expected to remain dominant in foreseeable future, therefore, it offers as a good source of personal investment for private gains. The social/collective gains from English language are doubtful, as the new learners have to compete for limited job market, or they need to innovate and create new opportunities of earning. The non-native learners who aspire to become English language teacher would face unfair domination of native-English teachers.

References
de Saussure, F. (1915). *Course de Linguistic Generale* (W. Baskin, Trans.).

290


Explaining Survival and Growth of Women Entrepreneurship:
Organizational Ecology Perspective

1Sulaman Hafeez Siddiqui, 2Rabia Rasheed, 3Muhammad Shahid Nawaz, 4Muhammad Suhail Sharif

1, 3, 4Department of Management Sciences, The Islamia University of Bahawalpur, Bahawalpur, Pakistan.
2Associate Fellow, Center for Sustainability Research and Consultancy, Pakistan.
rabia@globalcsrc.org

ARTICLE DETAILS

History
Revised format: November 2018
Available Online: December 2018

Keywords
Women Entrepreneurship, Ecology Theory of Organizations, Sociology of Women Entrepreneurship

JEL Classification:
L22, L26

ABSTRACT

Sociological perspectives about organizational founding, survival and growth under organizational ecology theory offer research avenues to look into their implications for new organizational forms. Women entrepreneurship or female run businesses in developing countries risk the liability of newness due to lack of their presence in commercial business activities. Though the presence and role of women in rural economy of these developing countries is more than significant yet the urban sector still lacks the luster of new social values to accept and value this new organizational form. There is need to explore into sociological processes involved in the growth of women entrepreneurship. The present study, using qualitative exploratory research design, elaborates the key sociological processes postulated by ecology theory by which female run businesses make their way to create inclusive markets and shared growth in a socially constrained business environment. The organizational ecology framework is postulated to study the women entrepreneurship process i.e. birth, survival, and growth of female run businesses through change in the social value structure of the society. This perspective treats women entrepreneurship as a distinct organizational form and depicts it as a social process involving the population of organizations than the individual process targeting the women entrepreneurs themselves. The propositions resulting from the postulated linkages can be tested using quantitative methods. The theoretical framework developed here nonetheless offers fresh insights into the women entrepreneurship, its process and outcomes.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: sulman.siddiqui@iub.edu.pk
DOI: 10.26710/readsv4i2.413

1. Introduction

Women entrepreneurship, as against women employment, due to its inherent flexibility for work-family balance not only provides financial empowerment to women but also helps them in the performance of their family roles. Thus, the women empowerment through women entrepreneurship may raise quite less opposition from within the family(Langan-Fox, 2005). However, women in business tend to face an institutionalized gender system, which
systematically discriminates the number and composition of business opportunities in the favor of men and thereby excludes women from the markets and social capital accumulation (Shaw, Carter and Brierton, 2001; Paci, 2007). The issue is more pronounced in developing economies. Since the gender roles are mainly socially rooted, the spread and growth of women entrepreneurs may alter the social structures and create a supportive environment for this new organizational form. The resulting social change in turn helps overcome this labor market imperfection which is responsible for relatively low success and earnings of women businesses. Such social change is a great outcome for the economic development and growth process which requires modernity and flexibility in social attitudes and behaviors. Social legitimacy of women in business markets and other social processes in the prevailing social eco system of markets requires investigation into sociology of women entrepreneurship.

Institutional models and population ecology models of organization theory conceptualize and explain the founding, survival and growth of new organizational forms (Zucker, 1987; Meyer and Rowan, 1977; Scott, 1987; Tolbert and Zucker, 1999; Singh, House and Tucker, 1986; Hannan, 1997; Singh and Lumsden, 1990; Carroll and Khessina, 2005; Thornton, 1999). The ecology school of organizational theory explains that the new organizational forms have very high mortality rate. The survival of new organizational forms depends on the social group legitimacy earned by it. This stream of organizational studies has implications to explore into social processes involved in the founding, survival and growth of women entrepreneurship as a new organizational form. There is need to explore the sociology of women entrepreneurship which may explain how this relatively new organizational form influences and is influenced by the social eco system of the society or specific industry in which it operates.

The present study has sought to bridge the organizational ecology theory with the theory and practice of women entrepreneurship specifically in context of developing economies. The qualitative exploratory research methodology based on grounded theory and literature review (Pandit, 1996; Strauss and Corbin, 1997) has enabled the postulation of ecological model of women entrepreneurship. The proposed ecological model of women entrepreneurship theorizes that establishment, survival and growth of women entrepreneurs is both a cause and outcome of socio-cultural conditions and organizational eco-system surrounding this relatively rare and new organizational form. The success of women entrepreneurs would alter the value structure of society in their favor, which is the major impediment to women inclusion in market. Thus, a virtuous circle of poverty alleviation and social change can be generated that may help develop inclusive markets, enhance shared growth and a continuous social change. Such social capital accumulation is pre-requisite for any developmental strategy at Base of Pyramid (BOP) markets (Egal, 2012; Petkoski et al., 2008; Boyer, 2003). The policy focus towards the development of women entrepreneurship helps them earn such legitimacy. In the long run, the change in the social value system evolved through active women participation in economic and social life enable women entrepreneurs to get the desired momentum.

The proposed relationships theorized by the ecological model of women entrepreneurship have implications to further dig into the social processes involved in the establishment and growth of women entrepreneurs. There is also need for further quantitative research to empirically validate the proposed relationships theorized by this model and enrich its explanatory power.

2. Literature Review
This section reviews and synthesizes the key variables of the study and the context provides the foundation of the theoretical framework presented in the next section.

2.1 Women Entrepreneurship: Distinct Character and Unique Problems
Women entrepreneurs and their entrepreneurial process have been the focus of research studies and policy making institutions due to their greater and intergenerational effect on poverty alleviation (Branch, 2003; Langan-Fox, 2005; Arenius, 2003; Orhan, 2005). The international institutions are increasingly giving a priority space to the women empowerment and participation in economic and social activities in developing counties who are facing incidence of feminized poverty (NFWBO (National Foundation for Women Business Owners) and Catalyst, 1998; NFWBO, 2000; OECD, 2007; Commission on the Private Sector, 2004; Larson, 1996). Both women entrepreneurs and their entrepreneurial process is different from that of their male counterparts. The gender and job models of sociology of work and other studies on women entrepreneurs identify them as distinct individual and form of entrepreneurial organization due to the unique problem that they face (Loscocco et al (1991). The studies confirm that the personality characteristics of business women do not differ much from businessmen in a way that can reduce the success of their business (Kalleberg and Leicht, 1991). However, there is ample empirical evidence that there are much less chances of women run business to start and survive or be profitable compared to those run by
male counterparts (Verheul et al., 2004). The structural perspective of gender model attributes this difference to the unique family and social position of women entrepreneurs as influenced by the gender system restricting chances of becoming entrepreneurs and successful entrepreneurs. The gender model explains the gendered differences in the women entrepreneurship process that leads to their concentration in traditional low profit and high competition sectors. The demand-supply side framework also treats the business women and the process of their entry, survival and growth in context of their unique gender framework. This unique characterization of business women requires a different theoretical treatment for its understanding so that according policy measures can be taken to improve their participation in more and better business opportunities while combating with their problems.

Women also represent an important category of population at base of pyramid (BoP) market (Prahalad and Hart, 1999; Pillai, and Amma, 2006; Egal, 2012; Petkoski et al., 2008; Boyer, 2003). Their week social position signifies economic exclusion of a greater chunk from the market. There is a need to develop market-based yet socially responsible business models that can enable the inclusion of women in exploiting the opportunities at BoP and help develop inclusive markets (Seelos and Mair, 2007; Fielden and Davidson, 2005).

2.2 Women Entrepreneurship in Pakistan

A number of studies has looked into women entrepreneurship in Pakistan (Banuriand Texas, 2006). This section provides the empirical pattern of women entrepreneurs in Pakistan using the studies by Goheer (2003), Chaudhary (2009), Aslam and Zulfiqar (2008) and secondary data collected from official statistical sources. Self-employed women in Pakistan represent a very small minority in the population of firms representing less than 5 percent of all self-employed in Pakistan with greater disparity between rural and urban areas (Economic Survey of Pakistan, 2017). Although the women in rural areas in Pakistan are actively involved in farm and related activities but they mostly work as unpaid family workers or do not get full control over their resources and income as entrepreneurs. Due to this, their entrepreneurial role is economically not countable. This represents the prevalence of severe inequality in business opportunities available to women and their ability to capitalize them indicating the existence of a highly institutionalized gender system. The pattern of their sectorial and size distribution is similar to those found in other international studies. Most of the women enterprises are home based micro firms employing 0-3 persons, mostly females. One reason for their concentration is the ease of startup, prior experience or skill of women in the same field, requirement of little business skills, flexibility of business operations, historical/cultural tradition of women being in those businesses. This free entry into certain sectors has led to adverse competition there leading to high mortality rate or low enough profitability to allow scaling of business or helping the businesswoman come out of poverty trap. Another explanatory variable for this concentration and its recent growth has been the distribution of micro credit to promote women enterprises in Pakistan. The average loan size to women by these institutions is only Rs. 20000 (Pakistan Microfinance Network, 2008), which is even insufficient to start a self-sustaining micro enterprise. The sectoral distribution of women business reveals their concentration in textile 47 percent, health/education 34 percent, beauticians 33 percent, manufacturing 12 percent, food 5 percent and other 12 percent. The women entrepreneurs in textiles are mostly those who are working for some male entrepreneurs who buy from these women on exploitative prices.

There is striking gender disparity between access to education, health and nutrition, which is also responsible for lack of women participation in employment and self-employment. The gap between male and female unemployment rate are Baluchistan 21.37 percent, NWFP 19.94 percent, Sindh 14.56 percent and Punjab 9.64 percent. The various research studies by researchers and international institutions report the prevalence of a culturally and institutionally rooted gender belief system that is selectively working against women economic and social participation in Pakistan. The disbursement of micro credit reveals that less than one quarter of total credit is targeted to females for establishment or growth of their enterprises. Their loan repayment rate of 97 percent compared to that of men as 72 percent represents their strong business skills and commitment. Business women in rural areas do not have full control over the sourcing and allocation of their business resources and income. They have to share the control with their spouse, brothers or father that diminishes their interest and motivation in business success.

2.3 Labor Market for Women

Another issue related to the potential of employment to reduce poverty especially of women and children is the low labor force participation rates in developing countries. The women participation in the formal employment sector is though growing but is still poor and is rooted into their discriminating access to education and vocational training. The employment in the formal sector distant from home and long work hours also means a clear detachment of women from the traditional family roles. The employment, especially if the type of jobs available to women is low
paid is not considered a path out poverty for women at the Base of Pyramid (BoP). The answer to why is that the low paid jobs do not afford women to maintain work-family balance as can be afforded with high paid decent jobs. Better paid jobs for women are correlated with late marriage; low fertility rate and desire for fewer children. The low paid jobs which are mostly available to the women at the BoP do not offer them any relaxation from their family roles prohibiting them to continue longer on their jobs or focus on their career progression. Women, moreover, at the BoP are more exposed to the rigid social value structures in developing countries where the lack of education and social awareness makes it difficult to absorb progressive cultural values. The normative expectations about the women roles coupled with the crowding effect in a male dominated job market prohibit women participation rate in the employment sector especially at the BoP. This implies that growth does little to alleviate the poverty of women even when the employment elasticity is high or growth rates are sufficient to absorb the growing labor force. For growth to alleviate poverty of women through employment requires a fundamental change in the gender belief system that perpetuates the poverty. This gender belief system determines gender roles and identities, gender behavior, gender biased distribution of resources, gender stereo typing and self-assessment of individuals. This gender belief system in developing countries works as an institution giving legitimacy to the male decision power and crowding effect excluding women from economic output stream. The dream to develop inclusive markets and shared growth through employment is far from reachable in the presence of above mentioned labor market imperfections and gender belief system. Figure 1: Inability of Growth to Absorb Labor (Source: World Bank)

3. Theoretical Framework

This section postulates and elaborates the important theoretical linkages that help answer the research problem addressed in this study. The hypotheses developed here are supported by the available data on the topic and provide fruitful insight into the processes through which women entrepreneurship impacts poverty alleviation and social change. These processes have implications for developing inclusive markets at the BoP in developing countries.

3.1 Poverty Alleviation through Women Entrepreneurship: A Micro Level Model

Both theoretical and empirical research studies confirm the impact of women income on poverty alleviation. A larger portion of women’s income spends on the health education and nutrition of children thus their income has an intergenerational effect on poverty alleviation. Whereas compare to men they spend their income on the more durable goods like household assets and immovable property etc., which may enhance the social prestige of family but does little to reduce the poverty risk that their children may expose to in future. The pattern of women spending also improves the labor productivity and results in better wages accrued to the family members. Thus supporting the women income is a sure way to reduce the poverty risks and incidence of poverty in developing countries. But, as explained in the previous section, women employment offers little potential for women on their path out of poverty due to labor market imperfections and existence of a traditional gender belief system inhibiting women participation in income generating activities. Moreover, the objective of developing inclusive markets cannot be reached by generating few more jobs to the women from upper middle class families in developing countries who have access to modern education and skills and live under more progressive social value structure. The real challenge is to provide income generating opportunities to the women at the BoP with little access to education and skills and a greater exposure to a rigid gender belief system entrenched under the social value structure of the society. Women entrepreneurship offers potential to meet this challenge due to its inherent characteristics that make it workable for the women at the BoP. It gives women opportunity to bypass the gender biased imperfect labor market in catching up the economic opportunities on their path out of poverty. Women entrepreneurship provides women with the flexibility to create balance between work-family life through a considerable liberty to choose business location and flexible working hours. This in-turn also generates much less resistance by the male family members who are more interested in their traditional gender roles. This outcome is quite great in the prevalence of the traditional gender belief system. The control over resources gives women a chance to expand their income by putting more focus to capitalize over business opportunities.

The increased women role in the economic decision making process enhances their participation in ownership, distribution and control of resources. These processes lead to a self-perpetuating mechanism of poverty alleviation at the BoP. The gender and job models of sociology of work are pointed out by Loscocco et al (1991) to explain the relative lack of differences in the establishment and success of female and male headed businesses.
3.2 Role of Women Entrepreneurship in Developing Inclusive Markets at BoP

The role of women entrepreneurship is not limited to eradicating poverty discussed in the preceding section can be extended to development of inclusive markets at the BoP. Literature on BoP discussing the economic potential of almost 4 billion market overlooks the role of women as entrepreneurs and consumers. Women entrepreneurship supports the women income and increases the purchasing power of this large potential target market. Also, at the same time, these women initiate the demand of other basic facilities like health, education, nutrition for their family members, which has an intergenerational effect on poverty reduction and development of inclusive markets. In order to balance the work-family relationship, these women entrepreneurs also generate the demand of the other value added products and services as well. Another aspect of women entrepreneur- ship in relation to BoP is the concentration of women businesses in high competition-low profit sectors. The majority of women businesses are small and concentrate in services and retail sectors (NFBWO, 1998). Shaw, Carter, & Brierton (2001) identify that women workers, also, are concentrated in low paid, low status and low-skilled jobs. The same result is found in the ILO (2005) report on women entrepreneurship as is shown in figure 1 below.

Figure 1: Concentration of Women-owned Businesses in low income, high competition sectors (Source ILO, 2005)

This, in turn, implies their strong business skills; and long and successful experience of providing products and services at low prices in the face of high competition. This makes them ideal business persons for creating and managing business activities at the BoP. Many business opportunities at the BoP can be benefited through low skills and education. Women entrepreneurship, thus, provides them with means to circumvent the socio-cultural biasness, labor market imperfection, unemployment and underemployment in developing countries. Women entrepreneurship also provides the flexibility of creating balance in work-family relationship, which is not as much possible in women employment. The responsibility of child rearing can also be aligned with the management responsibility of small and home based business. This signifies the role of women entrepreneurship in creating businesses for the BoP and, thus, contributing to the growth of inclusive markets.

3.3 Women Entrepreneurship Success and Social Change: An Organizational Ecology Perspective

According to Hannan & Freeman (1989) the organizational ecology is the most active line of theory and base of research for new organizations within the framework of organizational sociology. In the school of organizational theory the ecology explains the birth rate, survival and growth of new and existing organizational forms. The concept of organizational ecology defines how the environment and institutional conditions affects the organizational forms and their future changing compositions. This sociological concept of organizational studies defines organizations’ mortality and birth of organizations in the population of organization over long run. Additionally, the organizational ecology theory focuses on how the populations of organizations change over time and how the demographic process of selective replacement affects the organizational founding, mortality and growth. Carroll & Hannan (2000) have explained the major fragments of organizational ecology theory which include the resource partitioning, density dependence, niche width and structural inertia.

Entrepreneurship is a process that can be as a creation of new organization, its survival/growth and the entrepreneur is the person who plays main role in the creation. Carroll and Khessina (2000) characterized entrepreneurial area or industry as high rates of new firm establishment. Both entrepreneurship and ecology are broad research areas with a common focus on new organizational founding, survival and their success/growth.
Carroll and Khessina (2000) have developed the framework for linking the ecological studies with the entrepreneurship process yet their study does not discuss the link between ecological studies and women entrepreneurship. The other studies mentioned in the work of Carroll et al also link the founding, success and growth of entrepreneurial venture with the environmental and institutional factors surrounding the process. Thornton (1999) has also contributed to elaborate the sociology of entrepreneurship linking it with the ecological perspective. Since women entrepreneur and entrepreneurship process is both affected to a greater extent by the environmental and institutional structure, there is a need to understand it in context of ecological perspective. The existing literature on women entrepreneurship does not give a comprehensive linkage between the social/ecological school of organizational studies and the founding and success of women businesses. Though few studies on women businesses (OECD, 2007; Kalleberg&Leicht, 1991; Loscocco et al, 1991) have mentioned the ecological perspective but have not fully elaborated it yet. Women-owned businesses represent a new organizational form in the population of existing firms and, thus, their founding, survival and growth should be analyzed in relation to the population dynamics of male-owned businesses. Given below in figure 3 is the women entrepreneurship process that encompasses various stages from inception to its survival and growth. This process is developed linking the ecological perspective with the Austrian economic model of entrepreneurship, which has been work out by Kirzner 1997; Schumpeter. 2000). This extension of gender in ecology-entrepreneurship framework has not only enriched the explanation of the nature of women entrepreneurs and their businesses but also the process of women entrepreneurship in its relationship with the environmental context. Figure 2 elaborates how the women owned business and the women entrepreneurship process directly affected by the demand and supply side influences. This figure also depicts how the supply and demand side factors influence the founding, survival and growth of women entrepreneurship. Thus, all these influences are causes and outcomes of women entrepreneurship process.

**Figure 2: Ecological Framework of Women Entrepreneurship and its Process**

The demand side influences also affect the number and nature of roles that can be filled by women in entrepreneurial capacities. These includes political and institutional framework conditions which leads to gender based occupational segregation and closure, family policy and market sources and access to information, education and work experience etc. All these conditions directly impact the entrepreneurial opportunities for women and their success if the opportunity converts into business. Thornton (1999) further explains the supply side school focuses on the availability of appropriate persons to take entrepreneurial roles examining the entrepreneurship by focusing on the individual characteristics of entrepreneurs.

According to OECD (2007), the entrepreneurial process should be seen as an iterative sequences of variation (why only certain kind of opportunities are discovered and by whom), selection (how selection process through competition and institutional forces selectively eliminates women owned businesses) and retention (why selection process retains women businesses in certain industries). The report further referring the work of Aldrich (1999) and Baum & Rowley (2002) goes on to state that the processes of variation, selection and retention are embedded in the history and culture of society, which have attributed women a different role in society and that specific conditions have a strong and deep impact on the women entrepreneurship process.
3.4 Founding Rate of Women Business

According to population ecology theory the founding rate is affected by the rate of founding attempts and the rate of successful attempts. The underlying processes of founding rate represent the nature and number of entrepreneurial opportunities available to women and the access to information, skills and other resources by women to capitalize these opportunities through firm establishment. The gender system through demand and supply influences affects the nature and number of entrepreneurial opportunities available to women and their realization by them. Thus, the lower rate of inception of women businesses is attributable to the fewer entrepreneurial opportunities offered to women in the society due to the gender system.

Carroll and Hannan (2000) suggest that rate of founding depends on the organizational density. The population density refers to the number of similar firms already operating the industry. Thus, the number of already established women businesses positively affects the founding rate of new businesses by females by providing role models, increased self-efficacy and reducing the liability of newness. This explains why the founding rate is high among upper middle class urban women in Pakistan and other developing countries where the gender system is transited to provide more conducive social-cultural and institutional environment. Another implication of this analysis is the explanation of high founding rate of women businesses in micro and small business and specifically in services sectors. Since, these businesses require much less financial and human capital, these produces historically high founding rate of women businesses in these sectors and have accelerated further founding rates leading to their concentration. This suggest that the initial increase in the rate of founding of women in modern sectors of economy by providing them with information, skills and resources would create a self-perpetuating increase in the founding rate in these male dominated sectors. The interviews and discussion with our selected business women also pointed out that their opportunity recognition and entry decision was influenced to a great extent by the business operations of their female friends and family members. The other factors pointed out were gendered access to information, lack of skills and social support.

3.5 Survival and Organizational Mortality

The women businesses face a very high mortality rate compared to male headed businesses. The ecological explanation of this pattern is the selection process by which some organizational forms are selected and others are eliminated. The Darwinian demographic explanation of organization and institutional theory relates the mortality rate of new organizational forms even if they succeed in establishment to their age, size and population density. Age and size and population density represent liability of newness, liability of smallness and social legitimacy of women businesses; and are negatively related with the mortality rate. The age, size and population density also affect and are affected by the founding rate of women businesses, which in turn enhances age and social legitimacy of women in business. The institutional influence of gender system limits the success of women businesses even when they are established by associating with them liability of newness and smallness and thereby inhibiting the successful operations of women businesses. The survival of women businesses if man-aged through high founding rate or other measures at the early stage contributes to their age, size and population density over time, which, in turn target the gender system responsible for their lack of age, small size and low numbers in markets. The results of qualitative empirical data also reveal the pattern that most women went out of business because of the size of business too small to generate enough income, difficulties in managing business activities due to restriction on mobility and lack of trust by suppliers and distributors to work with them especially in those sectors where no or less women were doing business, difficulty in employing male employees, social disapproval etc. The women successfully doing business attributed their success to high profits that helped meet risks and losses, guidance/support by the family members, well established supply chain networks doing business with women in their business sector etc.

3.6 Organizational Profitability and Growth

The next issue related to women entrepreneurs and the stage in their entrepreneurial process is profitability and growth. The growth and profitability of business is determined by the individual characteristics and situation of entrepreneurs and the features of the business itself. On the individual characteristics front, the women entrepreneurs do not have any such personality differences which can cause them to manage their business poorly than men. The situation of women entrepreneurs in family and society is one dimension where they are disadvantaged compared to men. These disadvantages arise from the gender system which restricts their mobility, time, amount of effort and degree of control to contribute to their businesses profitability and growth. Thus, these are mainly the concentration of women in low sales and profit sectors with micro size that inhibit them to produce enough savings that can be reinvested to boost growth. This gender segregation of businesses is the simultaneous cause and effect of low founding rate and high mortality rate of women businesses in high growth sectors. These
ecological constraints are perpetuated by the gender system and can be effectively altered through women entrepreneurship itself. Role of women entrepreneurship in altering Ecological Constraints: The women entrepreneurs face the market failures like discriminating access to education, health and nutrition, lack of social networking due to traditional patriarchal structure of society, lack of access to finances etc. These market failures discriminate against the women’s possibility to become entrepreneurs and successful entrepreneurs and thereby block the establishment and growth of inclusive markets as the base of pyramid. The ecology-women entrepreneurship model identifies them as the outcome of patriarchal social value structure that has established the gender roles and economic and social status of women in the society. These social value structures are more prevalent and rigid at the BoP affecting the socio-cultural behaviors of almost 4 billion people and excluding thereby almost 2 billion from the economic stream. The findings of ecological perspective imply that economic empowerment given by women entrepreneurship would give them social empowerment and thereby serve to overcome the above mentioned market failures by altering the social value structure of the society. Establishment and success of women entrepreneurs would decrease the liability of newness associated with them and give them social legitimacy. The economic role of women would gradually evolve a social structure where the spread of new social and economic roles of women would create legitimacy in the society. The improved social status would make them role models for others and thereby further promote the economic role of women. This implies the role of women entrepreneurs as ‘social change agents’. The success of women entrepreneurs breaks the long held and culturally rooted attitudes and behaviors regarding women roles. Successful business women become the role models and affect the social learning process which in turn results into change of cultural frame of reference. Continued success of women entrepreneurs thus helps overcome the gender based social biasness limiting their entry in high growth sectors. This social change in turn helps overcome this labor market imperfection responsible for relatively low success and earnings of women businesses. Such social change is a great outcome for the economic development and growth process which requires modernity and flexibility in social attitudes and behaviors. The process of social change can be best carried out through women entrepreneurship, as against women employment, due to its inherent flexibility for work-family balance. This not only provides financial empowerment to women but also helps in the performance of their family roles. Thus the women empowerment through women entrepreneurship raises quite less opposition from within the family and the society. The process of social change can be speed up if it is linked with women entrepreneurship through the ecological vital rates discussed in the proposed model.

4. Methodology
Given the novelty of idea and emergent nature of theories explaining population ecology and women entrepreneurs, the study makes use of qualitative research design (Cresswell, 2009) using bibliographic method of literature survey in this area. Personal interviews have been conducted with 10 women entrepreneurs with varying level of business turnover ranging from micro/cottage entrepreneurs to corporate level to further substantiate the propositions postulated by the study. The development of a sound theoretical framework has generated propositions which can be tested using quantitative explanatory research design. The regression model can be developed to measure the impact of women entrepreneurship on poverty alleviation using cross sectional data on traditional measures of poverty like head count ratio, poverty line and improvement in the quality of life regressed over the creation of women enterprises. The longitudinal data on women owned businesses’ founding, mortality and survival of women will be used to develop a lagged time series regression model. This time lagged model will be used to measure the impact of founding rate in t1 on the mortality rate at t2. The results of the model will be used to test the implications of organizational ecology theory for women entrepreneurship. This would also confirm the impact of women entrepreneurship on socio-cultural change that may give legitimacy to women businesses in the society. The hypotheses on social change are also supported using the results from qualitative inter-views and focus group discussion.

5. Conclusion
The paper applies the population ecology theory of organizations to explain the survival, growth and profitability of women owned businesses in the context of a gender belief system that systematically discriminates against this new organizational form. This has allowed analyzing the impact of gender belief system and other social processes that institutionally work against the founding rate, survival and growth of female run businesses. The study also points out the market imperfections emerging from the socially constrained business environment that further weaken their chances of short term survival and long term growth. Lack of social capital creates a business environment that mainly allows business opportunities to female businesses in the perfectly competitive markets. These perfectly competitive commodity and low-level services markets only offer possibilities of losses in short term while
opportunity to barely earn normal profits in the long run. The study thus implicates direct public policy interventions to overcome barriers for founding, survival and growth of female entrepreneurs in the innovation-oriented industries with opportunities of better profits and growth where this new organizational form lacks the due social support process. The ecology framework for analyzing the sociology of women entrepreneurship identifies the mechanism for their establishment, survival and growth through a kind of social change brought about by their continued existence and operations in the society.

References
Hannan and Freeman 1989


Global Trends of Online Dispute Resolution (ODR) with reference to Online Trade in Pakistan

Muhammed Danyal Khan, Serkan Kaya, Rao Imran Habib

1Doctoral Researcher, Brunel University London College of Business, Arts and Social Sciences, Department of Politics, History and the Brunel Law School, Pakistan. muhamad.khan4@brunel.ac.uk
2Doctoral Researcher, Brunel University London College of Business, Arts and Social Sciences, Department of Politics, History and the Brunel Law School, Pakistan. serkankaayaa@yahoo.com
3Assistant Professor, Gillani Law College, Bahauddin Zakariya University, Multan, Pakistan. raoimran@bzu.edu.pk

ARTICLE DETAILS

<table>
<thead>
<tr>
<th>History</th>
<th>ABSTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised format: November 2018</td>
<td>Online Trading in Pakistan has been rising with every passing day. State level regulation for online trade is inevitable reality. Online trade has systematically entered in Online Dispute Resolution (ODR) System that is the format of Alternate Dispute Resolution System (ADR). Many multinational vendors such as Amazon and Alibaba are using Online Dispute Resolution mechanism to make the trade efficient and less dependent on conventional remedial systems of Civil Laws and cumbersome procedures of classical courts. Online Trade in Pakistan is a novel idea and is flourishing by every passing day. On the same time, online trade faces issues of dispute resolution. This paper will aim at introducing Online Dispute Resolution (ODR) as a model through case studies of various developed nations and international framework. Moreover, this paper will identify the prospect and limitations of Online Dispute Resolution in Pakistan.</td>
</tr>
<tr>
<td>Available Online: December 2018</td>
<td></td>
</tr>
</tbody>
</table>

Keywords

Online Dispute Resolution (ODR), Alternative Dispute Resolution (ADR), Negotiation, Arbitration, European Union (EU), UNCITRAL Technical Notes

JEL Classification:

J52, K33, F53

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction and Background of Study

Since the early 2000s, the amount of internet usage around the world has grown by 970 % as a consequence of quick evolution of information and communication technologies (ICT) ("World Internet Users Statistics and 2017 World Population Stats", 2017). In the world, slightly fewer than 3.9 billion people are using the internet ("World Internet Users Statistics and 2017 World Population Stats", 2017). While the number of internet users is almost 2 billion in Asian, the number is almost 600 million in the EU(“World Internet Users Statistics and 2017 World Population Stats”, 2017). While in 2002, the internet users in Pakistan were only 133 thousand, this number has increased to 44 million in 2017("Internetworldstats.com, ‘Internet Usage in Asia’, 2017).
Table 1

<table>
<thead>
<tr>
<th>INTERNET USERS AND 2017 POPULATION STATISTICS FOR ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>Asia Only</td>
</tr>
<tr>
<td>Rest of World</td>
</tr>
</tbody>
</table>

WORLD INTERNET USAGE AND POPULATION STATISTICS
JUNE 30, 2017 - Update

<table>
<thead>
<tr>
<th>World Regions</th>
<th>Population (2017 Est.)</th>
<th>Population % of World</th>
<th>Internet Users 30 June 2017</th>
<th>Penetration Rate (% Pop.)</th>
<th>Growth 2000-2017</th>
<th>Internet Users %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>1,246,504,865</td>
<td>16.6 %</td>
<td>388,376,491</td>
<td>31.2 %</td>
<td>8,503.1 %</td>
<td>10.0 %</td>
</tr>
<tr>
<td>Asia</td>
<td>4,148,177,672</td>
<td>55.2 %</td>
<td>1,938,075,631</td>
<td>46.7 %</td>
<td>1,595.5 %</td>
<td>49.7 %</td>
</tr>
<tr>
<td>Europe</td>
<td>822,710,362</td>
<td>10.9 %</td>
<td>659,634,487</td>
<td>80.2 %</td>
<td>527.6 %</td>
<td>17.0 %</td>
</tr>
<tr>
<td>Latin America / Caribbean</td>
<td>647,604,645</td>
<td>8.6 %</td>
<td>404,269,163</td>
<td>62.4 %</td>
<td>2,137.4 %</td>
<td>10.4 %</td>
</tr>
<tr>
<td>Middle East</td>
<td>250,327,574</td>
<td>3.3 %</td>
<td>146,972,123</td>
<td>58.7 %</td>
<td>4,374.3 %</td>
<td>3.8 %</td>
</tr>
<tr>
<td>North America</td>
<td>363,224,006</td>
<td>4.8 %</td>
<td>320,059,368</td>
<td>88.1 %</td>
<td>196.1 %</td>
<td>8.2 %</td>
</tr>
<tr>
<td>Oceania / Australia</td>
<td>40,479,846</td>
<td>0.5 %</td>
<td>28,180,356</td>
<td>69.6 %</td>
<td>269.8 %</td>
<td>0.7 %</td>
</tr>
</tbody>
</table>

Even though the use of ADR and ODR to disputes has recently become more popular, most of legal academic literature emanates from West countries. By this time, there has been the relatively limited publication on this issue in developing countries. It is shown that ODR is still in its initial phase in Pakistan. The most of existing literature comes from developed countries such as the EU and the US, which has advanced jurisdictions, to leave a significant legal literature gap in developing countries. It is obvious that Pakistan has a different legal culture from the EU and the US. In Pakistan, not only legal differences but also the cultural, the ICT infrastructure and the regulatory challenge are some significant reasons that not allow to ADR and ODR to reach their full efficacy. This research assesses feasibility analysis of ODR by considering the growth of ODR in Pakistan juridical circumstances. It analyses what and how can be practised from the ODR legal academic literature in advanced jurisdictions such as the EU and the US and to implement this learning in Pakistan context.

The history of internet in Asia is not very long. First mail from China was made on 20th of September, 1987 and now it seems a miracle that almost everything is turning towards use of information technology including trade and commerce based on internet websites. For resolving online disputes, China has introduced various government and private level dispute resolution centres. The same trends are demonstrated by a world 2nd largest population, India, where internet and Information Technology revolution is taking it to one of the largest internet using nation. India has seven hundred million mobile phone users consuming internet to facilitate from e-commerce. E-bay, an internet based vendor, has made its operations in India to the level of Online Dispute Resolution through e-court. The same trends are observed in markets of Pakistan. E-trading is a good tool to reduce the cost, increases efficiency of transaction and is time effective. The same has been benefited by various online vendors in Pakistan. It has been observed that regulation of e-commerce in Pakistan is not efficient as the transactions are prone to fraud, misrepresentation and other contractual misunderstandings. Various studies have indicated the potentials of e-commerce in Pakistan mentioning that 67% of companies in Pakistan use internet websites to advertise their brands.
Absence of regulation on e-commerce at state level has made the trade uncertain for both consumers and vendors. This has given rise to various un-remedied disputes.

Pakistan has recently passed Alternate Dispute Resolution Bill 2016 recently but it does not cover the domain of e-commerce and Online Dispute Resolution (ODR). Online trade and commerce in Pakistan is conducted by various websites. A consumer enters an online web portal and takes various offers with the prescriptions and prices. The consumer, a private or company, then puts acceptance by putting an online order agreeing on the terms and conditions along with the description of product or services. Late, the vendor delivers the goods. It is settled principle of contract law that ‘agreements are enforceable by law and the fundamental liability of all parties is to perform it with good faith’. Now, this ‘good faith’ is not only delivery of goods or services but also the intended benefit of parties to the contract. Online trade and commerce in Pakistan lacks this ‘good faith’. Parties in an online transaction cannot access each other easily and the communication on internet goes unproductive various times in case of Online Dispute Resolution (ODR) due to various reasons such as internet literacy, shortage of energy and power and high bandwidth requirements of internet. Moreover, the lack of state regulation makes online commerce less certain. This issue leads towards leaving grievances un-remedied as well as impact on national economy.

This paper will introduce readers with basic concept of Online Dispute Resolution (ODR) and global trends by quoting international infrastructure on Online Dispute Resolution (ODR). Moreover, developments related to same issue will be presented to find the way out for Online Dispute Resolution (ODR) in Pakistan. This study will play a pivotal role in turning Alternate Dispute Resolution in commerce and trade to the level of Online Dispute Resolution (ODR) in e-commerce. This paper will be among pioneer scholarship on the issue introducing international standards of Online Dispute Resolution (ODR) at national level. Study will also equip reader with various remedial methods in Online Dispute Resolution (ODR). Primary question of study is finding the gaps of efficient e-commerce and trade by defining Online Dispute Resolution (ODR) and its trends globally. The study will also focus on efficiency of global experiences of Online Dispute Resolution (ODR) and how Pakistan can benefit from that experience through this comparative study.

2. Research Methodology
The study follows black letter approach involving doctrinal methodology. It will not be descriptive in a sense as it will aim at analysing the basic concept of Online Dispute Resolution (ODR) and its trends and perspective in Pakistan and globally. The study will also take advantage of comparative methods of research by taking illustrations of operation of Online Dispute Resolution (ODR) in China and India. The study will then put forward some recommendations for Pakistan based on experience of China and India based upon neighbourhood and identical trends of commerce and industry. 89 percent of population of Pakistan are mobile users and almost all companies provide access to internet to its consumers. This makes e-commerce a potential in Pakistan where internet users may access online vendors through websites and other mobile applications. Online trade in Pakistan is growing with rapid pace and it is speculated that it will touch the figure of 1 billion USD in 2020. Online trade is compatible with environment in Pakistan where half of population is female and due to socio-religious constraints they are not on equal terms with men to mobilise. Moreover, the congested traffic conditions also play a vital role in boost of online trade. E-commerce in Pakistan has been expanding with every passing day. Recently, Alibaba Group has made their way by meeting Prime Minister of Pakistan. Various surveys indicate that e-commerce in Pakistan bears a great potential and can play a vital role in boosting economy. Many national groups like pakwheels, zameen property, draz group and Kamyu are expanding their volume of trade with every passing day. But it has been observed that customer satisfaction and performance of e-contract faces many uncertainties and the consumer faces a great deal of trouble because of absence of effective regulation on state level. Online transaction in Pakistan and all over the world involves an online offer and acceptance through following procedures:

- Where a customer is visiting online portal of any company and in capacity of private individual, one is accepting an offer by the vendor by a click. This is also called B2C (Business to Consumer Contract).
- Some of the online contract involves both companies where the contract involves contract between two organisations. This is also named as Business to Business contract (B2B).
- Where an online portal involves two consumers and acts as mediator between the two parties. This type of transaction is commonly known as Consumer to Consumer contract (C2C).

E-Commerce in Pakistan is evolving and that is why many challenges come in its way. These challenges include lack of demand, mistrust from traditional society, very low awareness about technological use, infrastructural
issues, absence of effective regulation, ineffective advertising, and most significantly absence of vibrant ODR. Table mentioned below summarizes issues of E-Commerce in Pakistan.

Table 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Issues</td>
<td>• Lack of Demand</td>
</tr>
<tr>
<td></td>
<td>• Mistrust</td>
</tr>
<tr>
<td></td>
<td>• Lack of Awareness of Technology</td>
</tr>
<tr>
<td></td>
<td>• Focusing entire Pakistan</td>
</tr>
<tr>
<td>Online Retail Model</td>
<td>• Expatriates and Click and Mortar are the most popular sub-models</td>
</tr>
<tr>
<td></td>
<td>• Infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Lack of Regulation</td>
</tr>
<tr>
<td></td>
<td>• Traditionalist nature of Pakistan</td>
</tr>
<tr>
<td>Brokerage Model</td>
<td>• Higher form of E-Commerce</td>
</tr>
<tr>
<td>Virtual Community Model</td>
<td>• Lack of Willingness to Pay</td>
</tr>
<tr>
<td></td>
<td>• Advertising</td>
</tr>
<tr>
<td></td>
<td>• Cost</td>
</tr>
<tr>
<td></td>
<td>• Educational and Maturity Level</td>
</tr>
<tr>
<td>Others</td>
<td>• Secondary to the models mentioned above</td>
</tr>
<tr>
<td></td>
<td>• Piracy Issue</td>
</tr>
</tbody>
</table>

Note: Shumaila & Zeeshan, 2018

These transactions are based on online contact and agreements. Sellers make an offer online and the buyer after going through the offer and the description of product and services makes an acceptance online. This transaction does not involve face to face contact of physical access between parties. In this case any kind of dispute related to transaction is a little hard to be resolved. The matter of Dispute Resolution (ODR) is broad in perspective. Online Dispute Resolution is mainly conducted through websites and emails. In some matters it is also conducted offline and face to face. It may also be understood that Dispute Resolution (ODR) may not be confused to Alternate Dispute Resolution. This dispute may also go to the courts and civil disputes. To make e-commerce more vibrant, the trends of Dispute Resolution (ODR) are gaining strength in Asia and globally.

3. Basic Structure of Online Dispute Resolution

Every year billion transactions occur in the world. In the digital age, with the help of ICT, there is no limitations on time and geographic and jurisdiction boundaries for completing transactions through the internet. International transactions or usage have increased the number of cross-border disputes. Traditional disputes resolution system does not meet legal requirement of such disputes because:

- Various countries got different rules for trade and multiple prohibitive costs to invoke legal action in almost all jurisdictional aspects
- Since the localization factors on the Internet are far less obvious, it is difficult to locate business locations and performance in cyberspace because of the infinite Internet that can be accessed from anywhere in the world.
- Cyber related disputes may require legal experts who can adapt to various evolving technical, social and commercial practices of cyberspace (Wang, 2017).

In order for creating cost effective and more efficient solution for resolving disputes, ODR has been awakened legal scholars’ interest since 1990s. Recently, a number of non-profit making public organizations such as World Intellectual Property Organization (WIPO), the American Arbitration Association (AAA), the American Bar Association (ABA) the Better Business Bureau (BBB), the National Arbitration Forum (NAF) and China International economic and Trade arbitration Commission (CIETAC) go further to develop the scheme of ODR (Wang, 2017).
There are various approaches towards to definition and description of ODR mechanisms. For example, Kaufmann-Kohler and Schultz define three perspectives: nominate cyberspace, non-adjudicative ADR and arbitration (Kaufmann-Kohler & Schultz, 2004). These authors additionally recognize that the essential feature of a practicable description of ODR is that it focuses on the issues raised by its overarching feature, being operated online (Kaufmann-Kohler & Schultz, 2004). ODR has been recently described by UNCITRAL Technical Notes on Online Dispute Resolution (hereafter Technical Notes):

*ODR is a mechanism for resolving disputes through the use of electronic communications and other information and communication technology.*

After these definitions and descriptions, it can be said that ODR refers to help to resolve dispute with the assistance of ICT, particularly the Internet. This technology has been called as the ‘fourth party’ by Katsh and Rifkin (Katsh & Rifkin, 2001, Rainey, 2014). ODR is not science fiction. Each year millions of disputes are resolved online and hundreds of online dispute resolution providers offer their service around the world. Every year only on eBay, around 60 million disagreements among traders are settled through ODR (Rule 2012). This is a ‘well-established’ way of resolving disputes, appropriate for the internet age. Whereas ADR and ODR mechanisms have some common features, such as lower cost, greater speed, more flexibility in outcomes and so on, ODR has unique traits, which include bridging distance, saving travel and venue cost and enabling parties to access expertise outside their local area (Rule, 2002). Nevertheless, ODR obviously has some drawbacks. Text-based techniques can diminish communication cues that can in turn lead to misunderstandings, negative interpersonal behaviour, and frustration because of delays in response (Tyler & McPherson, 2006).

4. Online Negotiation; Preliminary Framework of ODR

Online negotiation can also be called ‘e-negotiation’ or ‘cyber negotiation’. Negotiation is most common and basic forms of the dispute resolution. It is believed that the most of people do not think about in fact they are negotiating in day-to-day life. Efficiency of negotiation may be considered in formal situation such as a business meeting or buying a car. The essence of negotiation can be defined that there is no third party in any type of communication between two or more people when they try to resolve their dispute (Lodder & Zeleznikow, 2010). In a pure negotiation disputants try to reach agreement without neutral body helping (Rule, 2002).

There are two key methods of negotiation available to resolve dispute over the internet: automated and assisted negotiation (Kaufmann-Kohler, 2005). ‘Automated negotiation’ and ‘assisted negotiation’ were described by Dr Wang as:

*Automated negotiation: The parties successively submit to a computer a monetary figure as a settlement proposal. The computer then compares the offer and the demand and reaches a settlement for their arithmetic mean*

*Assisted negotiation: The parties communicate with one another over the internet, using for instance e-mails, web-based communication tools or video conferences* (Wang, 2008)

E-mail has become the foremost way of the communication in the workplace (Epstein, 2001). Invariably, e-mail negotiation has become most common in order to resolve disputes because of some advantages such as time and distance, cost effective, in writing, more planned and so on (Epstein, 2001). However, according to a research, e-mail negotiation ‘increased contentiousness’, ‘diminished information sharing, process cooperation and trust’ and ‘increased effects of negative attribution’ (Ebner et al, 2009). It shows that face-to-face contact is better than electronically in order to reach consensus (Ebner et al, 2009).

5. Online Mediation; an Effective ODR

Mediation is another type of method to resolve disputes. The main aim of mediation is to offer the parties to settle their disputes in a sustainable and self-determined way. Today mediation is used in majority fields. In the past years, mediation was mainly focusing solving labour and family disputes. Nevertheless, because of several benefits of the use of mediation compared to with other methods of dispute resolutions such as procedural flexibility, cost-efficient, time-efficient, it has been used in small claim disputes, consumer conflicts, commercial disputes, tax disputes, bankruptcy and so on.
The European Parliament approved the EC directive of the European Parliament and the Council on certain aspects of civil and commercial arbitration (hereafter ‘EC Directive on Mediation’) defined ‘Mediation’ as:

‘Mediation’ means a structured process, however named or referred to, whereby two or more parties to a dispute attempt by themselves, on a voluntary basis, to reach an agreement on the settlement of their dispute with the assistance of a mediator. This process may be initiated by the parties or suggested or ordered by a court or prescribed by the law of a Member State(EC Directive on Mediation 2008 Article 3).’

According to those descriptions, mediation refers a process that a mediator tries to assist two or more disputants to solve their dispute. Parties are at freedom to abandon from the process at any time. The third party or mediator does not have the authorization to force a binding decision on them. Mediation is grounded on the intentional involvement of parties.

Besides this, online mediation may be understood as ‘system-based’ contrasting to a ‘face-to-face-based’ device(Betancourt& Zlatanska, 2013). The only difference between offline mediation and online mediation is that parties and third party always communicate via the internet (Wang, 2008). The e-mediation method reflects a track or a set of phases usually subjected to targets, report of proceedings, flow processes and, occasionally, complex schemes with algorithms that may enhance suggestions(Vilalta, 2012). Electronic schemes offer parties producing informal pitches or suggestions, and parties are helped by third person, mediators, that cooperate online (Vilalta, 2012). Communication can be synchronized like asynchronous, such as cyber conference, chat, or e-mail. Platforms may also organize unrelated Caucus and common areas and personal conversations. In a common field, each party(Vilalta, 2012). These services frequently offer complementally phone support.

6. Online Arbitration; Award and Enforcement of ODR
Arbitration is a way, impartial for third party, called ‘arbitrator’, awards final decision for parties. This method has increasingly been chosen by parties in order to resolve disputes, especially in international disputes due to various reasons that the one of main reasons is that the award given by an arbitrator is normally enforceable as a court judgement. Businesses are willing to go to arbitration because arbitral award can be efficiently executed in 157 countries signatories to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, also known as the "New York Arbitration Convention" or the "New York Convention". It is permitted to remain as one of the most successful practices to provide confidence in the approval and enforcement of cross-border arbitral awards.

Online arbitration may be referred as an online version of offline arbitration. It includes everything from the ‘online arbitration agreement’ to the ‘online arbitral award’. In online arbitration, the claimants, the arbitral tribunal, experts are supposed to make use of electronic devices, including sophisticated software and hardware devices, to participate in the proceedings(Farned, 2011). The effective of the electronic devices can be seen particularly in complex and large scale arbitration procedure. The other significant advantage of online arbitration is that arbitrations witnesses and parties do not need to travel and accommodate(Hörnle, 2009). Especially, international arbitrators desire to consider without travelling to abroad and would willingly issue an arbitral award in an electronic form. This type of mechanism may be feasible generally in consumer disputes such as small claims but not involve complex issues and high amount of money are at stake.

7. Potentials and Limitations of ODR
The main disadvantage of ODR is that it avoids the using face-to-face interaction which gives a chance to the mediators and arbitrators to evaluate the credibility of parties and witnesses. When a dispute is handled on the internet, the disputants may involve in causing lacking the mediator’s or arbitrators’ awareness. Moreover, a party may not know another party that may cause tremendous misunderstanding between them. Another commonly discussed issue regarding ODR is that during resolving disputes, parties wish to keep all aspects of proceedings private. This could potential a party to print out and distribute recorded communication without permission of the other party. Moreover, in the digital age, it is risky that unauthorised people could intercept communications transmitted over the ICT.

The third demerit of ODR is that while ODR is one of the best suited methods for resolving some kind of disputes, it may not be suitable for any types of disputes. For example, some significant disputes which is not parties’ disposal need assistance from court that is why ODR cannot handle those disputes. Last but not least, some other
factors may also be considered challenging or at least obstacles when used ODR. Language barriers in cross-border disputes, skills of or difficulty of using of computer or communicating may be a disadvantage for parties who are less familiar with these skills.

While ODR has some significant considered issues as discussed above, it also provides number of benefits. As opposed to traditional litigation, the one of main benefits of ODR is that it is saving time. In a dispute, if a party wants to physically involve in the process, least one of disputant would have to travel which significantly reduces the speedy of process. ODR also gives parties more flexibility in procedure, quicker solutions and more creative solutions (Lide, 1996; Hörnle, 2003).

8. The EU ADR Directive and the ODR Regulation

The EU adopted two innovative legislations namely the Directive on consumer Alternative Dispute Resolution (hereafter the `ADR Directive`) and the Regulation on consumer Online Dispute Resolution (hereafter the `ODR Regulation`). The main aim of the new legislation is to resolve consumer disputes out of the court, faster, cheaper and simpler than the court may offer (ADR Directive, Recital 5). More specifically, in the Article 5 of the Directive states that it is a requirement for Member states to ensure the provision of ADR entities (ADR Directive, Article 5) in order to resolve domestic and cross-border any type of contractual disputes which are parties’ disposal, between consumers and traders, except disputes related to health service and higher education (ADR Directive, Article 5).

The ADR Directive requires a duty on the Member States to assure the provision of nationally certified CADR entities, which are available online, for consumer complaints arising from the purchase of goods and the provision of services (ADR Directive, Article 2(2)). The Directive applies to all both domestic and cross-border contractual disputes where a trader is established in the EU and a consumer is a resident of the EU (ADR Directive, Article 2(1)).

The ODR Regulation sets an `ODR Platform` that purposes to facilitate the resolution of consumer disputes arising from e-commerce (ODR Regulation, Article 1). While the Regulation does not define the ODR, the description of the ODR Platform is given in Article 5 (2) as:

> ‘a single point of entry for consumers and traders seeking the out-of-court resolution of disputes covered by this Regulation. It shall be an interactive website which can be accessed electronically and free of charge in all the official languages of the institutions of the Union (ODR Regulation, Article 5).’

According to this description, a single point of entry at Union level, in order to settle domestic and cross-border complainant, are offered by ODR Platform to consumers (Article 5). Moreover, electronic case management tool that is a free of charge in all the official languages are offered (Article 5). In the Article 7 of the Regulation, it is states that one ODR contact point shall be designated by each Member State (Article 7). This ODR contact point shall provide assisting to the resolution of disputes related to submitted complaints. Procedure of the ‘registration of complaint’ (Article 8), ‘dispensation and conduction of a complaint’ (Article 9) and ‘dispute resolution mechanism’ (Article 10) are deeply dealt with by the Regulation. Moreover, in terms of protective reasons, the Regulation examines in detail; ‘database’ (Article 11), ‘processing of personal data’ (Article 12), ‘data confidentiality and security’ (Article 13) and ‘consumer information’ (Article 14).

9. UNCITRAL Technical Notes on ODR

It questions the scope and adequacy of international ODR laws. There is no special binding legislation concerning ODR for consumer and commercial disputes, but there are some essential legislative movements in the UNCITRAL. In 2010, The UNCITRAL established a working group called Working Group III to develop rules to handle low-value, high-volume B2B and B2C e-commerce claims (Del Duca, Rule & Rogers, 2010). After its forty-ninth session in 2016 UNCITRAL Technical Notes adopted (Working Group III, 2016). It is worthy nothing that Technical Notes is descriptive and non-binding and reflects the core principles of an ODR process. Technical Notes rules not only focus on consumers, but also traders can be claimants. The Technical Notes are expected to have a significant influence on the advancement of systems to facilitate the resolution of disputes arising from cross-border low-value good or service contracts completed by using electronic communications,
10. Conclusion
Online Dispute Resolution (ODR) is going to play a pivotal role in establishing a robust e-commerce regime in Pakistan sooner or later. Online Trade has already expanded its sphere from baby lotions to robotics. This paper focused on national preparedness for the vibrant regime with special focus of Online Dispute Resolution (ODR). E-commerce regulation got both state and private boundaries. Online Dispute Resolution (ODR) is the advanced format of Alternate Dispute Resolution (ADR) that is effectively playing its role for dispute resolution on private level. Global trade giants such as Amazon or Alibaba are using computer based soft as well as face-to-face methods for trade related dispute resolutions. This paper has presented an overview of international framework on Online Dispute Resolution (ODR) that will help policy makers to regulate e-commerce in Pakistan.

References
Learning styles preferences and diagnostics at higher education level:  
A comparative perspective among three faculties

1Hajra Shaheen, 2Hukamdad Malik, 3Wajeeha Aurangzeb

1PhD, Education Scholar, NUML, Islamabad, Pakistan.
2Associate Professor (Head Education Department), NUML, Islamabad, Pakistan.
3Assistant Professor Education/ QEC, NUML, Islamabad, Pakistan.
  waurangzeb@numl.edu.pk

ARTICLE DETAILS

<table>
<thead>
<tr>
<th>History</th>
<th>ABSTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised format: November 2018</td>
<td>This study aimed at exploring and comparing learning styles preferences among students of Management sciences, Social sciences and Languages. Homogenous purposive sampling technique was used to select sample of study comprising of 300 graduating students of the three faculties. Grasha-Reichmann Scale consisting of 60 five point likert scale statements was used to explore learning styles preferences of students on six variables namely; avoidant, collaborative, competitive, dependent, independent, and participant. Results based on One-way ANOVA and Post-hoc Tukey’s test revealed that a statistically significant difference occurred among the learning styles preferences of students enrolled in three faculties. Management sciences students preferred competitive and independent learning style, social sciences students were mostly avoidant and dependent learners whereas languages students have adopted collaborative as well as dependent learning styles. It is recommended that teachers may require to bring variation in teaching learning process to cater to the needs of diverse learners. It is advisable for teachers to plan such learning activities which make them independent and self-directed learners. It is also recommended that situational factors such as nature of course requirements and motivation to attend the classroom could also have an impact on the preferred learning styles.</td>
</tr>
<tr>
<td>Available Online: December 2018</td>
<td></td>
</tr>
</tbody>
</table>

Keywords

Learning Styles, Grasha-Reichmann Scale, Avoidant, Collaborative, Competitive, Dependent, Independent, Participant Style

JEL Classification:

A23, C12, D83, I23, I29

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

Corresponding author’s email address: waurangzeb@numl.edu.pk
DOI: 10.26710/reads.v4i2.416

1. Introduction

‘Learning Styles” is a process which encompasses the fact that every student experiences learning differently. The particular way in which a learner learns or accepts, interpret and digest and then retains information can be regarded as his/her learning style. For example while experiencing how a clock can be constructed some students understand the process by merely focussing on instructions which were given orally while others need the practical demonstration. In classroom management strategy and education theory this concept of individual learning styles has gained significant acceptance. Previous experiences, cognitive ability, emotional ranks and environmental factors affect individual learning styles. In similar words, this can be expressed as everybody is a unique individual.
The top priority of mentors thus, is to differentiate between the learning dynamics of their students and introduced varied teaching practices accordingly.

Learning styles of students do not measure a single aspect of student personality. Different researchers identified various learning styles measuring different ways or aspects how students take information and process it. A significant amount of literature on the topic is present in studies done by Cassidy (2004) and Swanson (1995). Individual dissimilarities led to the creation of the literature in learning dynamics. During the era of 1960’s these matters were trending in ranks of investigative psychology which then continued in early 1970’s with same flow but due to the evolution of professional interest, societal focus got diverted and these matters saw a decline (Curry, 1983). Curry (1983) also expresses that learning is a dual phenomenon, a product and a process.

It is a process as it is adaptive in nature, focusing on future with a holistic view, thus altering an individual’s mental, emotional, moral and social skills. A product, on the other hand refers to the more of a permanent shift in one’s potential or actual behaviour. The enhanced capability of the individual to adjust to surroundings impulse exhibits the process. King (2011) emphasized that various students have distinct learning styles in which they comprehend efficaciously. This argument is supported by considerable amount of literature and discusses how dissimilarities in culture affect learning styles. Furthermore, learning or mentoring process can be less efficacious if learning style of learner and teaching styles are inharmonious.

A belief cannot only be legit because of its wide acceptance. Recent study of empirical literature shows that little evidence supports the argument that end results are remarkable when individuals’ learning dynamics are in accordance with instructional techniques. But also various researches deny this concept as well. Clearly, some people have firm understating of their own learning preferences but the importance of those preferences is unclear (Lewis, 2014). Learning style which is prioritized by an individual some time causes contradictions among learners. In view of few scholars, educational performances of a learner arealso influenced by learning styles. To lead teaching and learning process it is vital to point out students learning styles, owing to the reason that it can make learning procedure effective by aiding teachers to educate their students in accordance with certain characteristics of students. The most crucial hurdle mentors face is distinguishing differences between students learning styles preferences (Anderson & Adams, 1992).

Many theories have been built regarding learning style; many of them are based on cognitive styles (Kolb’s learning styles, impulsive —reflective, etc). These styles are classified by Keefe (1979) into five classes: receptive, attentional, expectancy, physiological and incentive, retention and concept formation. Personality-oriented, activity-oriented, mental self-government styles and cognitive-oriented are four classes in which Sternberg and Grigorenko (1997) classified learning styles. Many researchers have proved that performing impulsively or reflectively is influenced by previous experience not the style itself and so it cannot be regarded as definition of style as preference, as being previously assumed that individuals perform differently according to their cognitive styles (impulsive vs. reflective) to solve problems. A model on learning styles was given by Grasha and Reichmann concerning learners’ involvement and interaction instead of personality and cognition, due to which, this design isn’t ranked in discussed divisions. They believed that this model helped teachers and professors acknowledge which teaching methodology would be appropriate for a specific learning style (Grasha,1996).

Various characters that learners’ have in connection with their surroundings, teachers, content of course and classmates are social interactions and these social interactions are considered as learning styles by Grasha and Reichmann (1996). They also recommended that emotional and social aspects, like learners attitude towards teachers, learning and classmates are factors which identify learning styles. Their design of learning style is not focused on overall evaluation of cognition and personality (due to the fact that styles are preference of individual whereas personality is continuous) characters but on learners’ reaction towards activities done in class room. This idea of learning styles has emerged with the investigation of type of personality studies along with how a person with a particular personality must be treated within system of education. The concept of universal strategies further supports the idea that every learner is unique. Moreover, the most scientifically supported techniques involve planning, such as scheduling your class over a series of days, putting in significant effort such as making your students practice a number of times before evaluating them, and to be honest, teachers are not willing to put so much into it(Markus& Kitayama,1991).

Every student is a unique individual and his/her learning style preference also differs from others. A rich and authentic course may be developed only if the teacher knows learning style preferences of the respective students.
Furthermore, teachers must be aware of students’ learning styles and their preferences in order to effectively tailor the instructional methods and strategies to cater to student needs. This helps to build a conducive learning environment which is imperative for excellent performance of students. This study may help to build an insight for educators to assess the learning style preferences of their students and then design teaching-learning environment accordingly.

2. Literature Review
In 1950’s and early 1960’s the interest in effect of individual differences in process of learning led to studies regarding learning styles (Samadi, 2011). Different explanations have been given regarding learning styles after the term was firstly discussed by Talan in 1954. Relatively stable components of students’ interaction with the learning surrounding can be described as learning style (Karimi, 2012). The capacity of an individual to learn and assimilate the surrounding can be regarded as learning style (Azarkhordad & Mehdinezhad, 2016). Learning styles also refer to the method of learning how to respond to current stimulants in learning area (Seif, 2011). Daff (2004) elaborates learning style as a various perception type, encoding, processing, and storage. The particular way students learn and remind is learning style, as classified by Smith & Dalton (2005). Various roles where learner establish connection with mentors, content of course and fellow class members is also learning style as suggested by Grasha and Reichmann (1996). Grasha (1996) also suggests the students to show flexibility of styles of learning and efficient contact with teacher (Halili, Naimie, Sira, Abuzaid and Lenge, 2014). Three aspect bipolar have been raised as initial model for classroom interaction (Rafati, 2012): Competition-participation, dependent-independent and avoider-partnership, but after revising their model they argued that individuals in each aspect are not situated at contrary poles but are on monopole continuum. Competition avoidance, participation, dependence, independence and partnership can all be in an individual, according to new classification.

Table 1: Learning Styles proposed by Grasha-Riechmann

| Competitive style: where students compete in a teacher-cantered classroom. |
| Cooperation style: where students work in groups by sharing ideas with others. |
| Avoiding style: when a student is least bothered and tries to be anonymous in class. |
| Participatory style: these students actively participate in discussions during lectures. |
| Dependent style: they are strong students who follow clear-cut instructions |
| Independent style: they are independent thinkers and determine their goals and learning process. |

Source: Grasha, 1996

Students’ learning styles were inspected by Rezayi, Koohestani, Ganjeh and Anbari (2008), Mansouri (2000) and Najafi, Karimi & Jamshidi (2009). All of them concluded that, converging and absorbing learning style are repeatedly used by students. Further these scholars indicated that in order to elevate use of training techniques by teachers they should apply manuscripts, speeches, use of diagrams and self-learning. Students’ educational record can be predicted through the use of learning styles like abstract conceptualization and active learning, as was recommended in a research conducted by Izadi and Mohammadzadeh (2008). Further learning styles were scrutinized by number of researchers like Ayati & Khoshdaman (2012) who studied connection between cultures and learning styles, Graf (2005) worked upon the relation between cognitive aspects of learners and learning styles and Karimi (2012) established connection between student’s previous record and learning styles. In order to improve the methods of learning and student performance, he suggested the fusion of two or more methods, like non-verbal – visual, verbal – visual.

Because of Gender element, both male and female have difference in learning styles. This was revealed by the research conducted in relation with learning styles proposed by Grasha-Riechmann. The content of study is also a factor in difference between learning styles. For example the students of arts have inclination regarding participative and collaborative learning whereas independent learning style is preferred by students of science and also different learning styles can be seen in students of different majors. Verily, it appears obvious that different fields have different learning styles (Amin & Rajaei, 2013 and Căpiță, 2014). The purpose of this study is to investigate the males and females preferred learning styles, since there is difference between the cultures and personality aspects of every society, and it will further investigate the contrast between social sciences, languages and management science majors because of need of various learning styles and different contents.
3. Conceptual Framework
The primary focus of Grasha-Reichmann model is the attitude of the students towards, activities conducted in classroom, learning, teachers and fellow mates; Grasha-Reichmann highlighted the enhanced ability to communicate with others, organize materials and to solve a problem rather than investigating connection between student style, achievement and methods. For examining learning styles of students of management science and social sciences and languages at higher level of education they provided six styles:

3.1 Competitive
These students retain content in context to perform better in class than others. They perceive they should compete with other class members in a path of perks that are being offered. They prefer to lead the discussion by becoming a leader in a more teacher oriented class.

3.2 Collaborative
These students have understanding that they can learn better through sharing of talents and ideas. They coordinate with fellow class members and teacher and prefer working cooperatively with others. Their preferences are lectures.

3.3 Avoidant
They are not interested in learning and going to class. They avoid participating in class and cooperating with teacher and fellow students and are completely least bothered about class happenings. They prefer to avoid activities in classroom.

3.4 Participant
They are the quality segment of class. They appreciate coming to class and own the duty of extracting much out of the course. Throughout the course activity they participate as much as they can. They prefer discussion oriented lectures and discussion of material.

3.5 Dependent
The students of this character possess small amount of curiosity towards intellect and retain the necessity. They look for specific guidelines regarding how to do and what to do and see teacher and fellow students as support. Their preferences include obvious directions and outlines written of board.

3.6 Independent
The genre of students is the one who are self-dependent and think for themselves. In class they listen to the ideas of others but their primary choice is to work on their own. They grasp the necessary content and feel confident on their abilities. Their preferences include independent study.

The objectives of the study are to explore learning styles preferences of students enrolled in Management sciences, Social sciences and Languages at higher education level and to compare learning styles preferences of students studying in Management sciences, Social sciences and Languages at higher education level. The hypothesis of the study is “There is statistically no significant difference in learning styles preferences of students enrolled in Management sciences, Social sciences and Languages at higher education level”.

4. Methodology
Descriptive survey design was applied to explore and compare the learning styles preferences of students across three faculties (Management Sciences, Social Sciences & Languages) at higher education level from one public sector university of Islamabad. This design was appropriate because the intention was to collect large scale data about learning styles preferences of graduating students (Boudah, 2016). Homogenous purposive sampling technique was used to select sample of study due to the sample having same set of characteristics. Population included 3000 graduating students of Social sciences, Management sciences and Languages. Sample included 300 students (10% of the population) enrolled in the graduating semesters of faculties of Management sciences, Social sciences and Languages in two public sector universities of Islamabad.

Grasha-Reichmann Scale was used to explore learning styles preferences of students on six variables namely; avoidant, collaborative, competitive, dependent, independent, and participant. The instrument comprises of 10 questions per scale that is 60 elements in total. The responses were recorded on a five-point Likert scale. These included (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree. The Grasha-Reichmann Student Learning Styles Scale (GRSLSS) had been constructed to measure learning preferences of adults,
undergraduate and above all; it measures affective and cognitive behaviours of students instead of perceptual behaviours.

5. Results
Table 2 displays the mean value scores of students of management sciences, social sciences and languages on GRSLSS. It reveals that highest mean score on competitive subscale was by students of management sciences (m=24.90). It means that students of management sciences prefer competitive learning style as compared to students of other faculties. Almost all students preferred collaborative learning style. Students of social sciences showed more mean score on avoidant learning style as compared to others (m=24.47). Participant learning style was again preferred on about same mean scores by students of all faculties. Students of Languages scored highest on dependent learning scale (m= 24.84) and students of Management Sciences scored highest on independent learning styles (m=24.30).

Table 2: Mean scores of Management Sciences, Social Sciences and Languages students on GRSLSS (n=300)

<table>
<thead>
<tr>
<th>Sub scales</th>
<th>Management Sciences</th>
<th>Social Sciences</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Collaborative</td>
<td>23.89</td>
<td>6.93</td>
<td>23.30</td>
</tr>
<tr>
<td>Avoidant</td>
<td>17.90</td>
<td>3.92</td>
<td>24.47</td>
</tr>
<tr>
<td>Participant</td>
<td>23.82</td>
<td>6.74</td>
<td>23.21</td>
</tr>
<tr>
<td>Dependent</td>
<td>21.90</td>
<td>3.92</td>
<td>22.47</td>
</tr>
<tr>
<td>Independent</td>
<td>24.30</td>
<td>6.19</td>
<td>21.43</td>
</tr>
</tbody>
</table>

A One-way ANOVA between subjects was conducted to compare the learning styles preferences among students of management sciences, social sciences and languages. There was a statistically significant difference in the learning styles preferences among social sciences, management sciences and languages students at p<.05 level for the three conditions mentioned in table 3[F (22.855) =79.38, p=.01]

Table 4: Post hoc Comparisons using Tukey HSD test for dependant variable “Learning styles”

<table>
<thead>
<tr>
<th>(I) Subject</th>
<th>(J) Subject</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management sciences</td>
<td>social sciences</td>
<td>7.660*</td>
<td>.655</td>
<td>.046</td>
<td>8.19</td>
<td>5.15</td>
</tr>
<tr>
<td></td>
<td>languages</td>
<td>6.040*</td>
<td>.655</td>
<td>.034</td>
<td>7.54</td>
<td>5.52</td>
</tr>
<tr>
<td>Social sciences</td>
<td>Management sciences</td>
<td>7.670*</td>
<td>.655</td>
<td>.046</td>
<td>6.25</td>
<td>9.19</td>
</tr>
<tr>
<td></td>
<td>languages</td>
<td>1.530*</td>
<td>.655</td>
<td>.039</td>
<td>3.11</td>
<td>2.05</td>
</tr>
<tr>
<td>Languages</td>
<td>Management sciences</td>
<td>6.140*</td>
<td>.655</td>
<td>.034</td>
<td>4.52</td>
<td>3.56</td>
</tr>
<tr>
<td></td>
<td>social sciences</td>
<td>1.630*</td>
<td>.655</td>
<td>.039</td>
<td>3.15</td>
<td>3.11</td>
</tr>
</tbody>
</table>

Note: *. The mean difference is significant at the 0.05 level.

Tukey HSD test indicates that the learning styles preferences of students of social sciences, management sciences and languages were significantly different from each other , thus H₀₁ is not accepted, where p<0.05 levels.

6. Discussion
In regular fashion the dominant learning styles of students enrolled in all three faculties were collaborative and participative. This conclusion aligns with findings of Rahimi & Abedi (2014) who elaborated that students of Iran prioritize participative learning styles. But results have shown that there are notable differences in competitive and avoidant learning styles preferences among students of all three faculties. Competitive styles were clearly preferred by management sciences students and avoidant style was dominant among social sciences students. Contrarily, participant style was dominant among all students. The number of students who preferred the style of dependence
was more among languages students. This result contradicts with the findings of Rahimi (2014) who claimed that languages students prioritize participative, independent and cooperative learning styles. Regional culture and environment of university surely caused this difference. Deducting from these findings, larger proportion of management sciences students primarily preferred competitive style, while social sciences students had largely stuck to avoidant and dependent style and languages students manifested collaborative and dependent learning style. Findings of Safavi, Shooshtaryzad, Mahmoudi & Yarmohammadian (2010) are harmonious with these results. However, the findings of Ayati & Khosh-Daman (2012) and Hossein, Zadeh, Farmanbar, Yegan and Asadpour (2017) deny the existence of connection between subject / faculty and learning styles and this contradicts with these results. Hence it appears that in advancement of the process of teaching-learning, learning styles have a vital role and modifying methods of teaching and learning styles is a fruitful way of continuing learning. The genesis of such environment is necessary where thoughts and opinions can be expressed to get learners thinking. Undeniably, the involvement in group discussion and activities is of primary significance and appealing way for the fostering of creativity and innovation and social progress, and students can evolve their mental capabilities by becoming a part of these types of activities. The researchers concerning cooperative teaching methods have a firm believe since learning is a social practice, learning activities is necessary for harvesting of information and ideas. For achieving positive mental activity and different educational objectives, the teaching method with cooperative style roots aid that opportunity. Whereas student study for grades and marks because of the use of racing or competitive methods in teaching and learning. Nevertheless it enhances the motivation but not efficacious in context with quality learning, so by the nourishing participative and cooperative styles student learning can be enhanced.

Results have shown that management sciences students are more inclined towards doing things which require more interaction with others and they are more comfortable with interaction, competition and cooperation as compared to others. Whereas the reason of management sciences students having independent styles is their inclination towards doing things individually and desire of making decision and also they have less inclination towards dependence and collaboration. The results of Amir and Jelas (2010) are aligned with these as they concluded that in competitive and dependent style management sciences students got higher grades. Mahamod et al. (2010) also discovered that collaborative, participative and dependent styles are more used by social sciences students. O’Faithaigh (2000) expressed that because social sciences and languages students naturally have the underlying fear of failure, they are dependent upon educator, whereas males embrace competitive and independent styles. While discussing the learning styles preferences with respect to the field of science and humanities, Fuhrman and Grasha (1983) explain that participatory learning style is influenced more by the type of personality characteristics being involved while choosing particular area of study. Therefore, preferring a specific learning style and choosing the particular field of study may have some common grounds. Hence, people having extrovert nature would preferably opt for fields that require interaction whereas introverts would choose the other way round. Not only that, learning styles are not fixed, and therefore can vary in different circumstances depending on environment; thus, majors that provide greater opportunity of teamwork and collaboration, may gradually result in loss of an individual’s independence by solely focusing on cooperative and participative styles.

7. Conclusion
The findings of learning styles preferences of participants have shown that learning styles of participation will get affected by styles of teaching, choice of subjects, and classroom communication. Learners who possessed significant communication styles and had friendship web are more successful by the use of cooperative and independent learning (Cho et al., 2007) which results in top of the line academic result. The verdicts of current study also prevailed in expressing that languages and social sciences students have lower mean scores as compared to management sciences students on independent learning styles subscales. It is mentionable that higher level of education demands from its students to become self-directed learners. Grasha proposed that various learning styles of students and teaching styles should coincide with each other. Therefore, he proposed the use of various activities in classroom to encourage adaptability, flexibility, perpetual and independent learning devoid of choice of any subject. In order to uncover learner with both, familiar and unfamiliar paths of learning the mentors must possess set of skills that would assist them to use different pedagogical methods that may be in line with the fact that students possess various degree of learning styles. Empirically proven evidence exhibits that when students are able to manage and monitor their styles of learning, their accomplishments can be enhanced.

Learning styles preferences may vary from variation in choice of subjects, as pedagogy for each discipline varies. However, teachers may require to bring variation in teaching learning process to cater to the needs of diverse
learners. Students of Social Sciences and Languages manifest dependent learning style significantly as compared to their counter parts, so it is advisable for teachers to plan such learning activities which make them independent and self-directed learners. It is also recommended that situational factors such as nature of course requirements and motivation to attend the classroom could also have an impact on the preferred learning styles. Learning becomes more effective and meaningful when classroom managers/teachers understand how and why students think and learn.

References
Mansouri, N. (2000). Investigating the relationship between personality characteristics and learning styles and educational development of the female students learning, MA thesis in Educational Psychology of Alzahra University of Educational Psychology.
Najafi, M., Karimi, S.H., & Jamshidi, N. (2009). Comparing methods of learning and preferred teaching styles of the students. Fasa University of Medical Sciences, Arak University of Medical Sciences, 12(4), 82-95
Rafati, M. (2012). Investigation of the relationship between thinking styles and learning styles of high school students in Tehran, thinking and children, Institute for Humanities and Cultural Studies of the third year, No2, autumn and summer 63(2)
Resayi, K., Koohestani, H., Ganji, F., Anbari, Z. (2009). The learning style of the newly arrived students of Arak University of Medical Sciences, Arak University of Medical Sciences (Rahavard-e-danesh), 12(4), pp 44-51


Measuring Socioeconomic Stratification and Mobility Pattern: A Case Study of Intra-Generational and Intra-Temporal Household Mobility of Southern Punjab, Pakistan

Samra Khalid, Nabila Asghar

1PhD Scholar Economics Department University of the Punjab Lahore, Pakistan. samrakhalid88@yahoo.com
2Assistant Professor, Department of Economics and Business Administration, University of Education, Bank Road campus Lahore, Pakistan. drnabeelakhan.eco@gmail.com

ARTICLE DETAILS

History
Revised format: November 2018
Available Online: December 2018

Keywords
Household Stratification, Household Transformation, Intra-Generational Change, Intra-Temporal Household Mobility

JEL Classification: D10, D64

ABSTRACT

The stratification process and mobility pattern describe the socioeconomic changes in society over the time period rather than at one point in time. The main objective of this study is to analyze the socioeconomic stratification of society and mobility across the time on the basis of base and final year socioeconomic stratification indicators of Pakistan. For this purpose primary data has been collected from three districts of Southern Punjab on the basis of education as prevalence rate. The transformation results depict the sign of divergence of society with increasing size of ruler strata which is not due to reduction in the size of bottom strata. Furthermore, an increase in income has not much impact on consumption behavior of households rather it exerts emphasis on material achievements in Southern Punjab. The study concludes that the degree of socioeconomic mobility has been positively related to the life chances of society and shows the symptoms of pro-poor growth.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

1. Introduction

Stratification is the study of how one group may own and enjoys more economic resources than another, or it may be held in higher esteem, or it may be in a position to command other groups around. With the expansion of the capitalist era, the concept of socioeconomic (SE) stratification has become an important issue for economic practitioners and researchers. During the last few decades, attempts have been made to discover the SE structure of people living around the world, so that resources can be channelized to remove the gap among the various SE status belts around the society. In literature several criteria are available for measuring SE stratification but the most important criteria that have been recently used are socioeconomic status index (SESI) and social economic status (SES) scale. Socioeconomic status index (SESI) is a measure of economic and social position of an individual or family in relation to various SE indicators such as income, education, occupation, expenditure, physical assets, social position, and social participation, (Gaur, 2013). While SES scale uses more SE variables such as housing, material possession, education, occupation, monthly household income, land, social participation, and
understanding, (Tiwari, 2005). But majority of researchers are of opinion that appropriate method to measure the stratification should be objective criteria as compare to subjective approach including wealth, property, adjusted income, education and occupation.

The mobility measures the changes of society transition from traditional to developed one. The SE mobility is the movement of individuals, social groups or categories of people between the layers or strata in a stratification system between two different periods of time and this movement can be intergenerational (within a generation) or Intergenerational (between two or more generations). After the stratification and mobility of household, this study contributes to the extant literature by adding the consequences of SE mobility on the consumption pattern of transformed households. It is an important issue for rapidly evolving middle class population in emerging economies like Pakistan. The literature reveals that SE factors play an important role in determining class specific forms of consumption (DiMaggio, 1978). A variety of approaches have been employed to explain the consumption pattern of emerging class consumers. The researchers believe that the analysis offset mobility enables us to take dynamic view to gain an in depth understanding of the differentiated consumption behavior among the new middle class consumers, (for details see, Song, et al, 2015).

Given this context, the present study is an attempt to conduct stratification analysis with internal and external reliability criteria applicable to both urban and rural community. The present socioeconomic status index (SESI) measures intra-generational or intra-temporal household mobility with the use of GDP deflator to deflate the current observation to base year observation. This study estimates the household transformation pattern through leakage or injection in terms of intra-generational, and in the context of intra-temporal household mobility which means that SE resources should be leakage from rich and transferred toward poor and struggling class of the society.

The study constructs the household SESI and stratification profile of three districts of Southern Punjab (Sahiwal, PakPattan and D.G. Khan) and their transformation over the time period of almost twenty years from 2000 to 2017 as well as changes in consumption pattern with the help of appropriate statistical and econometric techniques. The novelty of the study is that it analyzes the comprehensive structure of the above mentioned three districts of Southern Punjab with the stratification of society into five socioeconomic strata, the pattern of society with transformation analysis and change in consumption pattern. The rest of the study is organized as follows. Section II discusses the most relevant studies related to the stratification process, transformation pattern and consumption pattern. Section III explains the theoretical and statistical methodology to measure the stratification process and transformation pattern. Section IV deals with the analysis and interpretation of results and the last section conclude.

2. Literature Review
Several studies are available in the literature that have discussed the social stratification, socioeconomic status (SES) scale, stratification mobility and SESI for developing and developed countries [see for example Davis et al (1945), Duncan (1961), Kuppuswamy (1967), Sobel (1983), Eijck and Oosterhout (2005) and Pareekh and Trivedi (2012)]. Song and Li (2015) try to use three widely recognized stratifying dimensions (income, education, and occupation) and point out that educational attainment is the strongest indicator which explains the variance in culture consumption among the middle class households, while occupation plays a relatively weak role in explaining their consumption patterns.

Nadrag et al. (2014) analyze the main concepts of SE stratification such as class and status. The study examines the particularities of SE stratification in the US, including factors leading to the stratification of society (e.g. wealth, income, education, occupation) and the three types of social classes: upper class, middle class, and lower class. Ghani (2014) tries to analyze the savings, earnings and consumption pattern of emerging middle class in Pakistan. The study concludes that the significant difference in consumption patterns leads to further rise in expenditures on non-essential “positional” goods, such as durables, festivals, and education, often used to attain a higher standard of living.

Cavusgil & Kardes (2014) analyze the key drivers of middle class growth in emerging markets which include urbanization, young population, rising wages, market liberalization, industrialization, modernization, reforms, and productivity growth. The study points out those middle class households have been targeted by multinationals as an attractive consumer segment due to their spending power and growing size. Nayyab (2011) analyzes the size of middle class in Pakistan using the data of Pakistan Social and Living Measurement Survey (PSLM), conducted in 2007-08 and measures the magnitude of the middle class through income and expenditure approaches. The study suggests a measure that consists of composite of five weighted sub-indices of factors (education, occupation,
income, lifestyle, and housing) which are considered to be important for being part of the middle class.

3. Theoretical Framework and Methodology
The targeted respondents of this study are head of household who are born between the years of 1960-1970. Current socioeconomic status (SES) is based on respondent’s current occupation, income, and other variables at the time of interview, when they are approximately more than 50 years old or near to retirement. Finally, the survey is directed to respondents who are between the age 45-65 actively working in the labor market. The year of 2000 is considered as a base year to measure the SES of household with deflate of the current values when majority of the respondents are engaged in occupation market and the year of 2017 is considered as a final year to measure the current socioeconomic status of households. The gap between “2000-2017” is almost 20 year and this economic cycle is enough to calculate the society transformation in terms of intra-generational and intra-temporal household mobility. The reason for inclusion of a particular age group is to make sure that the respondents and their children are being stable in the labor market on account of occupational income and educational achievements.

PCA is best considered as a summary empirical method for measuring the weights of SE indicators. (Milewska, et al., 2014). The present study derives the SESI through assigning the weights of indicators by using Principal Component Analysis (PCA). This study uses the factor scores from the first principal component as weights and average of the each domain indicator weight should be equal to one. The signs of the weights indicate the contribution of the variable in household SES. A negative sign of sub category reduces SES, while a positive sign positively contributes in the SES of the household.

The present study conducts stratification process through SESI of each household. If a household shows improvement for a given variable over the time period SESI increases which satisfy the monotonicity axiom as transforming the household into upper quartile. The SESI of a household can be measured in terms of n types of SE profile, each type of profile is composed of i types of sub indicators \( edui, occi, inci, expeni, assetsi_i \). The study assign a weight \( w \) to each indicator and then sum up the weighted variables to arrive at the final estimate of j household in a particular domain, (for details see, Moser and Felton, 2007). These weights show the importance of one variable as compared to other enlisting in socioeconomic index and also show the geographical importance of each variable in terms of urban and rural perspective. The appropriate equations are given below.

\[
SESI_{D0j} = f_{ei}w_e + f_{oi}w_o + f_{ini}w_i + f_{exi}w_{ex} + f_{ai}w_a \\
SESI_{D1j} = f_{ei}w_e + f_{oi}w_o + f_{ini}w_i + f_{exi}w_{ex} + f_{ai}w_a \\
SESI_{D2j} = f_{ei}w_e + f_{oi}w_o + f_{ini}w_i + f_{exi}w_{ex} + f_{ai}w_a \\
SESI_{DJ} = \sum_{i=1}^{n} f_{ij} * W_i
\]

The last step in stratification process is to develop SES score range divided into five strata categories through inclusive method of class interval, (for details see, Tiwari & Kumar, 2005). The present study uses similar criteria to make the score card of each domain. All tables related to intra-generational and intra-temporal mobility criteria, SESI, weight and mobility scores are displayed in appendix. Pakistan, like others developing countries has been under the process of different stages of SE transformation. It has experienced development initiatives through different national, regional and international factors that have been taken into account to influence development programs in Pakistan. This study provides a micro level insight on SE transformation journey of Southern Punjab based on 20 year economic cycle. The study answers the following questions.

- How much society had been transformed during 20 year economic cycle in terms of household socioeconomic profile?
- What were the important factors which played role in transformation of household’s income inequality?

In this study the targeted population is employed head of households of three districts of Southern Punjab. The reason for selecting only employed respondents is to analyze the labor market transformation and inequality. A stratified random sampling technique with population proportionate allocation has been used for data collection. Data quality in this study is ensured through a built-in system of checking of enumeration by the supervisors in the field with the support of Bureau of Statistics (BOS). The total sample is determined by using statistical formula.
Where \( \frac{z^2 \sigma^2}{e^2} \) where \( \sigma^2 \) shows the value of prevalence rate (overall literacy rate) which is calculated by average literacy rate of all districts of southern Punjab. Further this total sample is divided in three districts (Sahiwal, Pakpattan and D.G.Khan) which have highest, middle and lowest values of literacy rate respectively. Total sample (n) is allocated to each district on the basis of population proportionate allocation. \( \left( \frac{n}{N} \right) \) * Sample size of each zone where n is district population and N is total population of three districts of Southern Punjab zone. According to the census of 2017 the distribution of sample (n) in each district urban and rural cluster is 37% and 63% respectively. The details are presented in Table 1.

<table>
<thead>
<tr>
<th>Southern Punjab District Wise Sample Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District sample</strong></td>
</tr>
<tr>
<td>Sahiwal, n = 138</td>
</tr>
<tr>
<td>Pakpattan, n = 104</td>
</tr>
<tr>
<td>D.G. khan, n = 142</td>
</tr>
</tbody>
</table>

4. Analysis and Interpretation OF Results
The reliability of the scale has been determined by the test-retest method. The estimated SESI has been analyzed for a sample of 35 and 20 families (5% of sample population) from each zone of Southern Punjab and compiled their respective SES scores. After one month, it is again re-administered on the same sample and SES scores are calculated again. The two series of scores are arranged pair-wise, a pair being the scores of the candidate in two repetitions of the test. Karl- Pearson’s coefficient of correlation between the two series is taken which is widely used measurement of reliability in social science survey. Furthermore, for measuring the internal consistency of data Cronbach’S alpha coefficient has been used. The content validity has been tested of estimated SES scale by the opinion of a well-known resource person. Estimated SES by Visualized Analogue Scale(VAS) score of the each family is matched with SES by estimated SES scale of the head of a respective family. The two series of scores are arranged pair-wise. Karl- Pearson’s coefficient of correlation between the two series is taken as the measurement of validity. The results are given in Table 2.

<table>
<thead>
<tr>
<th>Tests</th>
<th>Reliability</th>
<th>Correlation with VAS (validity)</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Punjab Rural</td>
<td>0.92</td>
<td>0.96</td>
<td>0.71</td>
</tr>
<tr>
<td>Southern Punjab Urban</td>
<td>0.95</td>
<td>0.94</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Note: Source: Author’s own calculations

The final SESI was re-administered on 50 families through systematic sampling with a random start from Sahiwal district. In this scenario, the applicability and reliability have also observed in terms of test-retest and Cronbach alpha. The final estimated SESI has five variables to assess the SES namely education, occupation, income per capita, expenditure, housing and living condition. Education, occupation, expenditure are in ordinal categorical form while income-per-capita and assets are interval categorical form displayed in SESI to measure the stratification and mobility process. Income is linked with adjusted as well as deflated current income by GDP deflator to make it compatible in measuring the SESI for different domains of the household. The GDP deflator index of 2000-2001 and 2016-17 as a revised index is 108.02 and 256.25 respectively, have been used to deflate the current income. Each profile alternative scoring is conducted on seven categories from 0 to 7, where ‘0’ is the lowest category whereas ‘7’ is the highest category. The results are presented in Table 3.

Table 3 measures the extent of intra-generational and intra-temporal household mobility of each strata in urban and rural Southern Punjab. Left hand side of column measures the intra-generational and intra-temporal household mobility of urban Southern Punjab. Parenthesis values show the number of household which are transformed in upper strata. Unfortunately in D1 domain not a single household is transformed which means heavy underprivileged occupied strata as poor receive no SE benefits from the rich. The few number of household show leakage from lower strata (creepers, struggling and survivors) which is an indication of inequality and inefficiency structure. While in D2 domain, the scenario is almost same because the size of strata is equal due to few leakage toward upper strata and few injection from lower strata (leakage = injection). Creeping one step transformation has been observed among lowest three strata and hyper transformation has been witnessed between upper two strata.
(privileged toward ruler). The size of privileged strata dramatically is reduced due to more leakage toward ruler strata in case of both transformation domains. The right-hand side of Table 3 represents the scenario of rural Punjab where privileged strata is almost converted into ruler SE strata. In ruler area, the creeper socioeconomic strata and struggling socioeconomic strata become the victim in terms of the unskilled and unidentified agriculture labor having economic earning in terms of the non-monetary unit. The details of transformation of society are presented in Table 4.

Table 3: Intra-generational and Intra-temporal Mobility Analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of HH $D_0$</td>
<td>No of HH $D_1$</td>
<td>No of HH $D_2$</td>
</tr>
<tr>
<td>Privileged SE strata</td>
<td>20</td>
<td>9 (11)</td>
<td>6 (14)</td>
</tr>
<tr>
<td>Survivors/active occupation strata</td>
<td>22</td>
<td>19 (3)</td>
<td>17 (5)</td>
</tr>
<tr>
<td>Struggling/inactive occupation</td>
<td>41</td>
<td>39 (2)</td>
<td>38 (3)</td>
</tr>
<tr>
<td>Creeper SE strata</td>
<td>42</td>
<td>42 (0)</td>
<td>40 (2)</td>
</tr>
</tbody>
</table>

Note: Author’s own calculations, these values are calculated by the percentage change of parenthesis values of above table, these are the transformed number of households.

Table 4: Transformation of society during $D_0 \rightarrow D_1$ and $D_0 \rightarrow D_2$ during 2000 - 2017

<table>
<thead>
<tr>
<th>Socio Economic Stratification</th>
<th>$D_0 \rightarrow D_1$</th>
<th>$D_0 \rightarrow D_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban/Rural Analysis</td>
<td>How much society transformed during 20 year economic cycle</td>
<td>How much society transformed during 20 year economic cycle, all household SE profile</td>
</tr>
<tr>
<td>Ruler strata</td>
<td>No leakage only injection transformation</td>
<td>No leakage only injection transformation</td>
</tr>
<tr>
<td>Privileged SE strata</td>
<td>-0.5226</td>
<td>-0.44</td>
</tr>
<tr>
<td>Survivors/active occupation strata</td>
<td>-0.13</td>
<td>-0.11</td>
</tr>
<tr>
<td>Struggling/inactive occupation</td>
<td>-0.04</td>
<td>-0.04</td>
</tr>
<tr>
<td>Creeper SE strata</td>
<td>No transform</td>
<td>-0.05</td>
</tr>
</tbody>
</table>

Source: Author’s own calculations

Table 4 shows how many households have been transformed from each strata toward higher ladder with negative sign which is an indication of transformation of household during 20 year economic cycle. The results reveal that there is a divergence of society with increasing size of ruler strata not due to reduction in the size of bottom strata. While no change in the size of creeper SE strata. In case of intra-generational and intra-temporal household transformation only 4 percent decline is observed in the size of struggling and survivor SE strata. There is an erratic number of household who are transformed from lower strata which means society has failed to provide equal socioeconomic benefits to all groups. The most stimulated group as intra-generational or intra-temporal household mobility is privileged SE strata. It can be concluded that running transformation has been witnessed of privileged SE group and ruler strata become heavy commanding occupied strata. After transformation it has been observed that the lower group is not in the list of change of strata size. The size of ruler strata has increased dramatically due
to more injection of the household from privileged strata. Furthermore, the structure of Southern Punjab explains that there is stickiness among creeper, struggling and survivor socio economic strata while variability of transformation or mobility exists between upper two strata. The strata size of urban and rural Southern Punjab after mobility is depicted below:

**Figure 1: The strata size of Urban and Rural Southern Punjab after Mobility**

<table>
<thead>
<tr>
<th>% change in size of strata of urban southern punjab</th>
<th>% change in size of strata of rural southern punjab</th>
</tr>
</thead>
<tbody>
<tr>
<td>![](socuteiocio economic opportunity more in hand of upper strata only)</td>
<td>![](society face diveness trend among ruler and creeper socio economic strata)</td>
</tr>
<tr>
<td>0.93</td>
<td>0.86</td>
</tr>
<tr>
<td>-0.04</td>
<td>-0.04</td>
</tr>
<tr>
<td>-0.02</td>
<td>-0.04</td>
</tr>
<tr>
<td>-0.09</td>
<td>-0.41</td>
</tr>
<tr>
<td>-0.45</td>
<td>-0.41</td>
</tr>
</tbody>
</table>

Source: Author’s work.

The negative sign shows declining trend in household size in final year relative to base year domain and positive sign shows the upturn in household size growth among particular strata. As for as the consequences of mobility due to consumption change is concerned it presents the static picture of the possible consumption variation among transformed household. The study conceptualizes and proposes corresponding effects of mobility on their consumption patterns. However, some households achieve an advantaged social standing by simultaneously being intellectually developed (high education level), economically powerful (high income), and having an admirable professional or managerial jobs (high occupational prestige). Under some circumstances, these households successfully evolve in to qualified members and developed greater interest and easier affordability of material and culture consumption together.

5. Conclusion

The whole stigma of this study is based on the concept of current changes that lies in the structure and transformation of society due to socioeconomic development process which further entails the changes in the SE positions of societies from one generation to the other or within generation. In Pakistan, especially in the boundary of Punjab, no remarkable attempt has been made to analyze the SE stratification of society and mobility across the time on the basis of base and final year SE indicators. The stratification and mobility pattern have been analyzed using SE factors index with reliability and validity criteria in terms of intra-generational and intra-temporal household transformation. The structural changes of Southern Punjab has been studied from different domain patterns in terms of their endowments of social, human and physical capital and other SE characteristics. The assessment of incidence and nature of the extent of transformation would enable us to identify the process of convergence through which how much different SE groups attempt to improve their positions.

The results of the study show that mobility does little to alter the long-term positions of individuals in the SE distribution as most of the household remained non-transformed. The process of intra-temporal household income mobility is based on occupation and wage structural reforms of society. The provincial government must ensure that the regulation and legislation laws must affect income inequality directly by reducing the extreme ranges of the income distribution. An increase in minimum wages increases the earnings of low-wage workers who are often near the bottom of the income distribution. The institutions must take initiatives to reduce excessive wages that would help in reducing the growth of executive class and reduce or limit increase in income inequality by affecting the
upper SE strata of income distribution. Furthermore, higher degree of SE transformation appears to be positively related to the outcomes of life chances in society. The higher degree of a SE opportunity of life chances indicates greater portion of survivors and struggling SE strata and lower the portion of leaching out group (creeper SE strata).

References
Appendix

Table A1: Mobility Pattern/Socio Economic Status Index/Score Card and Weight Analysis

<table>
<thead>
<tr>
<th>Analysis criteria</th>
<th>$D_0$ = origin point of household (base year observation = 2000)</th>
<th>$D_1$ = current year observation, at the time of interview</th>
</tr>
</thead>
</table>
| **Intra-generational mobility,**  
The score of this domain is categorized into five socio economic strata | 1. Education (head of household education score)  
2. Occupation (head of household occupation score)  
3. Income deflator (deflate current income as base year of 2000 value because of age and economic cycle constraint assumption, use GDP deflator index of 2016-17 =256.25 to deflate back year GDP deflator index of 2000-2001 = 108.02²⁷(reference year)  
4. Expenditure pattern  
5. Asset + living status (it is based on subjective criteria, self-administered), | 1. Education (head of household education score, either improved or not from base year)  
2. Occupation (head of household occupation score, either improved or not from base year)  
3. Current occupation Income (adjusted as per capita income)  
4. Expenditure pattern  
5. Asset + living status (either it will be inherited or own hard work and how much total amount of physical and financial assets increased or decreased by the base year). |
| **Intra-temporal household mobility,**  
The score of this domain is categorized into five socio economic strata | 1. Education (head of household education score)  
2. Occupation (head of household occupation score)  
3. Income deflator (deflate current income as base year of 2000 value because of age and economic cycle constraint assumption, use GDP deflator index of 2016-17 =256.25 to deflate back year GDP deflator index of 2000-2001 = 108.02²⁷(reference year)  
4. Expenditure % of income (expenditure deflate to base year)  
5. Asset + living status (it is based on subjective criteria, self-administered) | 1. Occupation (Average score of all earners of household)  
2. Income (per capita earning = Head of household + Spouse + other member who share all subsistence of basic life)  
3. Expenditure % of income.  
4. Assets + living status (it will be inherited or own hard work, if both so how much it will be inherited of total assets). |

Table A2

<table>
<thead>
<tr>
<th>Socioeconomic Stratification of Southern Punjab</th>
<th>SES Score of each Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$D_0$</td>
</tr>
<tr>
<td>Ruler Socioeconomic Strata</td>
<td>≥ 20</td>
</tr>
<tr>
<td>Privileged Socioeconomic Strata</td>
<td>16 – 19</td>
</tr>
<tr>
<td>Survivors/active Middle Socioeconomic Strata</td>
<td>12 – 15</td>
</tr>
<tr>
<td>Struggling Socioeconomic Strata</td>
<td>8 – 11</td>
</tr>
<tr>
<td>Creeper SE Strata</td>
<td>4 – 7</td>
</tr>
</tbody>
</table>

Table A3

<table>
<thead>
<tr>
<th>Weight of Indicator</th>
<th>Southern Punjab Urban</th>
<th>Southern Punjab Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCA Method</td>
<td>$D_0$</td>
<td>$D_1$</td>
</tr>
<tr>
<td>Occupation</td>
<td>1.03</td>
<td>1.01</td>
</tr>
<tr>
<td>Income per Capita</td>
<td>1.05</td>
<td>1.17</td>
</tr>
<tr>
<td>Expenditure</td>
<td>0.77</td>
<td>0.79</td>
</tr>
<tr>
<td>Assets</td>
<td>1.12</td>
<td>1.03</td>
</tr>
<tr>
<td>Education</td>
<td>1.08</td>
<td>1.06</td>
</tr>
</tbody>
</table>

²⁷Current value deflate to back year = current value of income/ (GDP deflator of current year/GDP deflator to back year)  
²⁸Base year domain is same for intra-generational and intra-temporal household transformation ($D_0$)
<table>
<thead>
<tr>
<th>Education profile</th>
<th>Occupation profile</th>
<th>Deflated Income of $D_0$</th>
<th>Adjusted Income of $D_1$</th>
<th>Adjusted Income of $D_2$</th>
<th>Expenditure Pattern</th>
<th>Living status profile</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>Unemployed</td>
<td>&lt;1000</td>
<td>6000-14999</td>
<td>7000-15999</td>
<td>Income is less than basic expenditure $Y &lt; C$</td>
<td>&lt;3</td>
<td>&lt;4</td>
</tr>
<tr>
<td>Can read and write</td>
<td>Unskilled worker</td>
<td>1000-4999</td>
<td>15000-23999</td>
<td>16000-24999</td>
<td>Income fulfill basic necessity of life expenditure $Y = C$</td>
<td>3-5</td>
<td>5-7</td>
</tr>
<tr>
<td>Primary</td>
<td>Semi-skilled workers</td>
<td>3000-9999</td>
<td>15000-23999</td>
<td>25000-33999</td>
<td>Income fulfill basic education and health expenditure $Y = C$</td>
<td>6-8</td>
<td>8-10</td>
</tr>
<tr>
<td>High school</td>
<td>Skilled workers</td>
<td>10000-14999</td>
<td>24000-32999</td>
<td>25000-33999</td>
<td>Income is more than expenditure, Savers $Y &gt; C$</td>
<td>9-11</td>
<td>11-13</td>
</tr>
<tr>
<td>Intermediate + specialized training</td>
<td>Clinal owner of small business</td>
<td>15000-19999</td>
<td>33000-41999</td>
<td>34000-43999</td>
<td>Income is more than expenditure, Savers $Y &gt; C$</td>
<td>12-14</td>
<td>14-16</td>
</tr>
<tr>
<td>Graduate</td>
<td>Semi professional</td>
<td>20000-24999</td>
<td>42000-50999</td>
<td>44000-53999</td>
<td>Income fulfill culture and positional expenditure $Y &gt; C$</td>
<td>15-17</td>
<td>17-19</td>
</tr>
<tr>
<td>Master</td>
<td>Lesser professional / medium size business</td>
<td>25000-29999</td>
<td>51000-59999</td>
<td>54000-62999</td>
<td>Expenditure on increase the value of assets/ material consumption $Y &gt; C$</td>
<td>18-20</td>
<td>20-22</td>
</tr>
<tr>
<td>Professionals</td>
<td>Professional / executive class</td>
<td>$\geq 30000$</td>
<td>$\geq 60000$</td>
<td>$\geq 63000$</td>
<td>Expenditure on all above</td>
<td>$\geq 20$</td>
<td>$\geq 22$</td>
</tr>
</tbody>
</table>
Determinants of Cost Efficiency of Takaful and Conventional Insurance Firms of Pakistan

Muhammad Abbas, Salman Abbas, Allah Bakhsh Khan, Zeeshan Mahmood

Assistant Professor, Department of Business Administration, Air University, Multan Campus, Pakistan.
Assistant Professor, Department of Commerce, Rahbadzakria University, Multan, Pakistan.
Assistant Professor, Department of Commerce, Rahbadzakria University, Multan, Pakistan.
Assistant Professor, Department of Commerce, Rahbadzakria University, Multan, Pakistan.

ARTICLE DETAILS

ABSTRACT

This study investigates the Efficiency Performance of Takaful and Conventional Insurance Firms of Pakistan in terms of Cost, Allocative and Technical efficiencies for the period of 2010-2015. Six years panel data of Takaful and listed Conventional Insurance Firms of Pakistan is taken under consideration. The Methodology of Data Envelopment Analysis (DEA) is used in order to estimate efficiencies scores. Furthermore, Tobit Regression Analysis is carried out for determination of the real contributors of efficiencies in Insurance and takaful Industry of Pakistan. In Data Envelopment Analysis, Labor, Total Fixed Assets and Total Equity Capital are used as input variables. Simultaneously, the price variables are used along with input variables such as Price of Labor, Price of Total Fixed Assets and Price of Total Equity Capital. The output variables include Invested Assets, Investment Incomes and Net Premiums. In second Stage Analysis (i.e. Tobit regression), DEA efficiency scores are used as dependent variable, whereas Age, Size, and Leverage are used as independent variables along with the dummy for conventional and Takaful firms of Pakistan. This study found that Takaful and insurance firms have been operating on almost equal efficiency levels. Furthermore LEVERAGE is the main contributor for efficiency optimization, followed by the firm SIZE, whereas, firm’s AGE has no contribution in efficiency scores.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0


DOI:

1. Introduction

In current years there has been a noteworthy expansion in insurance sector of Pakistan all along with the opening of Takaful firms in business. This incredible information prompts us to embark on the efficiency and productivity examination of insurance and Takaful sectors. The intention of the study is to weigh up the efficiency of takaful and
conventional insurance companies of Pakistan by approximation the Allocative Efficiency, Technical Efficiency, and Cost Efficiency over the time of 2010 to 2015. This pragmatic examination is pedestal on both life and general insurance sub division of insurance sector in array to present as the whole picture of the competence in the insurance business of Pakistan.

In Pakistan, the Takaful rules are implemented in 2005 under the SECP. Before that, insurance sector was consisted of barely conservative insurance firms. Now 5 Takaful firms (2 family and 3 general Takaful firms) are operating with portfolio of Shariah compliant products in the market. Currently 5 life plus 27 general insurance companies are operating in Pakistan under private Conventional Insurance system. Total Premiums written by Conventional Insurance is 223 Billion whereas 10 Billion is the Total Premium written for Takaful Companies for 2015 year. (Insurance Association of Pakistan Year Book: 2015-16). Takaful is growing at a rapid pace, since it is a Shariah-compliant alternative to conventional insurance and its market share is potentially expected to improve up to 50 percent of overall sector share over the next five years. Total GDP share of the insurance industry is roughly 0.9 percent, while Islamic insurance build up 13 percent of the insurance business.

2. Literature Review

Early researches, about the efficiency of insurance industry using DEA as an analysis tool, provide information in order to interpret the performances of the insurance sector across the countries, such as in the case of USA conducted by Berger et al. (1997), Cummins et al. (1999), Meador et al. (2000), Gardner and Grace (2002), Cummins and Weiss (2002) and Cummins et al. (2010). The findings are reported in the form of Total Factor Productivity (TFP) growth and the Malmquist Index is used for TFP measurement.

The Japanese life insurance industry is analyzed by (Fukuyama, 1997) who concluded that there is an increased in TFP by 19% in Japanese insurance firms over the time span of 1988-1993. Whereas, Cummins et al. (1996) found that the TFP growth is 3.4% of Italian insurance industry from 1986 to 1993. In Spain, Cummins and Rubio-Misas (2001) reported that efficiency of Spanish insurance firms in terms of cost is recorded lower than to U.S. counterparts. In Germany, Rees and Kessner (2000) concluded that the mean levels of German insurance efficiency is 48% and lower than that of British companies which are at mean levels of 57%.

Barros et al (2008) investigated the technical efficiencies of Nigerian insurance companies under the period from 1994 to 2005 and found that the efficiency levels declined as a result of inadequacies in technology, scale and management. Adu, et al (2011) assessed insurance companies efficiencies in Ghana from the period of 2006 to 2008 and reported as the average efficiency score of life insurance in Ghana was higher than that of non-life insurance firms.

Abidin and Cabanda (2011) examined 23 Non-Life Insurance companies of Indonesia in term of the relative efficiency for the period of 2005 to 2007. They reported that the size of the insurance company has significant impact on the operational efficiency, thus confirming the theory of economies of scale. Dutta and Sengupta (2010) conducted a study to inspect the blow of technological innovation on the Indian insurance industry efficiency. They evaluated the panel data of 12 life insurance companies for the period of 2006-2009 and found that an increase in investment on IT-infrastructure significantly enhance technical and scale efficiency. In Pakistan perspective, most of the studies found on the financial efficiencies focusing only to the Banking financial sector of Pakistan, while the literature on insurance sector of Pakistan is scant.

Afza& Jam-e-Kausar (2010) examined technical, pure and scale efficiencies of general insurance firms of Pakistan. The sample size was consisted of 27 non life insurance firms of Pakistan. The study estimated the average scores of Technical efficiency (92.70%), Allocative efficiency (81.12%) and cost efficiency (75.44%). The results show that there is considerable need to improve the insurance company operations in term of overall efficiencies, so that inefficient insurance firms should struggle towards the efficient frontier of insurance industry. There are quite number of studies on conventional insurance efficiency but no visible studies is observed on the efficiency of takaful operators as compared to their counterpart. This Islamic Finance alternative bring the dual financial system within the same sector of economy and a new study area originated in order to evaluate comparative efficiencies of conventional insurance sector with Islamic insurance sector. i.e., Takaful sector. Furthermore, the results of these studies could be sources of guidelines for takaful and insurance operators, customers, investors, policy makers and regulatory bodies. In this connection some studies are given below:
Saad, et al. (2006) carry out a relative study of the efficiency of conventional life insurance and family takaful industry in Malaysia during the period 2002 to 2005. This study established that the competitiveness of the Malaysian Takaful industry has been significantly appreciated as a repercussion of increase in public awareness of Islamic finance. They found that Company Size has a significant impact on efficiency changes. Kader et al (2011) investigated the cost efficiency of Takaful firms operating in seventeen Islamic countries and concluded that average cost efficiency scores of Takaful firms are comparable with developed conventional insurers. Ismail et al. (2011) also found that efficiency score for Takaful firms' remains lower (i.e. 64 percent) than their conventional counterparts (i.e. 87 percent).

Ismail, Othman & Bacha (2011) investigated cost efficiency and investment performance of the takaful industry and the conventional insurance industry using DEA over the period of 2004-2009 and found that takaful had a lower significant return as compared to its conventional insurance counterpart. On the other hand, Yusop, et al (2011) found that the efficiency level of life insurance and takaful operators in Malaysia in regard to other risk management over the period of 2003-2007 was relatively high. Saad et al. (2012) concluded that, the overall efficiency of the Takaful companies was found below than its conventional counterparts. Only one takaful company, namely Prudential BSN Takaful Bhd recorded TFP performances above the industrial average. The remaining 5 takaful companies are ranked the lowest among the 28 companies in terms of Total Factor Productivity (TFP) performance.

Antonio et al (2013) compared the cost efficiency between Takaful and conventional insurance in Malaysia over the period of 2009-2011. The input-output data were analyzed to measure and compare the level of takaful and conventional insurance efficiency using Data Envelopment Analysis (DEA), which was measured by input approach (cost efficiency). This study found that the overall cost efficiency of conventional insurance companies in Malaysia was better than that of takaful companies in 2011 although takaful had better overall cost efficiency level in 2010 and 2009. Hidayat et al (2015) carried out a study on the comparative analysis of financial performance of the takaful and conventional insurance companies in Bahrain for the period of 2006 to 2011. This study found that conventional insurance companies in Bahrain performed better than Takaful companies in terms of profitability and efficiency during 2006-2011.

In Pakistan, few studies have been conducted and very less literature is available particularly in the subject of Takaful and Conventional Insurance comparison. Khan et al. (2014) analyzed the Takaful and conventional insurance companies of Pakistan in terms of efficiency and productivity for the period 2006-2010. The results indicated that the insurance firms were more technically efficient exhibiting 89% efficiency for the given period. Similarly, results also pinpointing the scale efficiency of 74%, which means a significant expansion in insurance sector of Pakistan is observed during the period of 2006 to 2010. This study also analyzed the Takaful and conventional insurance sectors in terms of Economies of scales. It is concluded that the Takaful firms are fighting efficiently with conventional insurance firms regardless of new in the field. Results indicate that the Takaful firms are supplementary efficient in comparison to conventional counterparts. Malmquist productivity index reported significant enhancement in scale efficiency. It is recommended that Takaful firms should increase their efficiency and win the competition by improving their services, product quality and marketability of their products.

3. Methodology

There are two different approaches which are generally used to measure insurance efficiency, generally known as parametric and non-parametric approach. If the data is statistically normal, then we use parametric approach otherwise non-parametric approach will be used. The most frequently practiced approaches in parametric approaches are stochastic Frontier Approach (SFA), Distribution Free Approach (DFA) and Thick Frontier Approach (TFA). Whereas, in the non-parametric approaches encompasses Data Envelopment Analysis (DEA) and Free Disposable Hull (FDH).

3.1 Data Envelopment Analysis

The methodology of Data Envelopment Analysis (DEA) which is based on the mathematical programming approach was introduced by Charnes et al. (1978). They drew this methodology upon the concept of efficiency which is reported in Farrell (1957). According to Charnes et al. (1978), Data Envelopment Analysis (DEA) calculates the efficiency under the supposition of constant returns to scale, whereas Banker et al. (1984) introduced Data Envelopment Analysis (DEA) approach under the concept of variable returns to scale. The Allocative Efficiency is traced back to M.J. Farrell (1957) and G. Debreu (1951) who originated many of the ideas underlying DEA. Fare, Grosskopf and Lovell (1985) developed linear programming formulations of these concepts.
The result would be in form of scores for each DMU, these scores represents percentages ratios and score ‘1’ mean 100% efficient and scores less than ‘1’ mean less than 100% and represents inefficiency of the given DMU with reference to the benchmark DMU which would be 100% efficient and scored ‘1’. Results of each Model for the selected sample year wise is given in the form of tables. Tobit regression model, furthermore termed as a censored regression model, is intended to approximate linear associations among linking variables provided, there is either left- or right-censoring in the dependent variable (also recognized as censoring from under and above, respectively).

3.2 Sample Selection
This paper attempted to represent the whole sector of conventional and Islamic insurance operating in Pakistan. Therefore, the sample size included in this research could be said as the representative of almost 100% of the market share of Pakistan’s insurance and takaful sector, such as listed firms of corporate sector, foreign firms and private firms. The Data Sample consist of 32 life and non-life conventional insurance firms of Pakistan’s Corporate Sector and 5 general and family Islamic insurance firms known as Takaful firms working in Pakistan. The 6 years panel data from company’s annual financial reports is gathered from the year of 2010 to 2015 obtained from their respective official websites as well as repository of IAP (Insurance Association of Pakistan).

3.3 Variables Descriptions of DEA
Different output variables are recognized by different studies to compute the efficiency and yield of insurance segment. Mostly, previous researches used "Premium Income" as a common gauge of risk pooling as policyholders in reality pay money for protection against risk by acquiring insurance policies. Since "Premium incomes" does not have direct impact on the income statement of the company, because "Claims" has to be deducted from these "Premium Incomes", remaining Premium incomes termed as "Net Premiums", which is more realized contribution in the company's annual incomes. So, this study used "Net Premiums" (Y1) as output variable instead of "Gross Premiums" or "Premium Incomes" in analysis. The measurement unit of this proxy is in the Pak Rupees (Rs).

Some researchers used the proxy of "Invested Assets" (Y2) such as Cummins et al. (1999), Worthington and Hurley (2002), Jeng and Lai (2005). Worthington and Hurley (2002), which believe that "Invested Assets" as a productivity variable with the reason that net profit of the insurance firms comes from the intermediation role of premiums from policyholders and investment incomes. The measurement unit of this proxy is in the Pak Rupees (Rs). Furthermore, "Investment Incomes" (Y3) is also considered as output variable for first stage DEA analysis. The fact behind selection of this output variable is that, "Investment Incomes" is the one out of many streams of company's annual revenues, which is earned from the different investments in market. Finally, considering the previous researches this study incorporates "Labor" (X1), "Total Fixed Assets" (X2) and "Equity Capital" (X3) as participatory input variables for the cost efficiency analysis. In order to estimate the cost efficiencies of selected insurance firms, unit Prices of all input variables also accounted in the data for analysis, these unit prices are known as Price variables. Keeping in view three input variables, there are simultaneously three price variables named as:

3.3.1 Price of Labor (P1)
It is measured as total wages paid for the year divided by total numbers of employees of the company. This data is collected on annual basis, of course employee turnover should also be kept in mind. This is calculated as average salary of each employee. The measurement of this proxy is in (Rs).

3.3.2 Price of Total Fixed Asset (P2)
It is measured as yearly accumulated depreciation divided by total asset worth, it will result average price of total assets year wise. The measurement of this proxy is in (Rs).

3.3.3 Price of Equity Capital (P3)
This proxy measurement is carried out by dividing the annual Dividend dispersed with the Total Equity Capital. The resultant is the average charge of the Equity Capital. The measurement is also in the form of (Rs).

3.4 Variables Descriptions of Tobit Regression:
The second stage analysis of this study is the Tobit Regression. The need for this two-step analysis is to make projection on the determinants of cost efficiency of research sample of this study. In this connection certain explanatory variables are used in order to estimate dependent variable. These independent variables are as under:

3.4.1 Age
This independent variable represents the company's years of operation within the Pakistan Insurance sector or
Takaful sector. This proxy addresses the phenomena of 'learning curve theory', in which individuals or organizations collectively repeat a particular process, as time passes, they gain better and better skills or efficiencies from their experience and resultantly improved technical, operational and cost efficiencies over time.

### 3.4.2 Size
This proxy can be measured on Total Sales of the company or Total Assets of the company. This research used company's Total Asset as proxy for firm size, measured in Rupees and denoted by "S" in the regression model. Hardwick (1997) argued that there is a constructive association among the performance and size of the firm due to operational cost efficiency which boost output and cut down the unit cost. Large company sizes also facilitate insurers to successfully branch out their understood risks and react more rapidly to alterations in market conditions.

#### Table 1: DEA Variables Description

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Variable</th>
<th>Type (V)</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>Invested Assets</td>
<td>Output</td>
<td>Amount in (PKR)</td>
</tr>
<tr>
<td>Y2</td>
<td>Investment Incomes</td>
<td>Output</td>
<td>Amount in (PKR)</td>
</tr>
<tr>
<td>Y3</td>
<td>Net Premiums</td>
<td>Output</td>
<td>Amount in (PKR)</td>
</tr>
<tr>
<td>X1</td>
<td>Labor</td>
<td>Input</td>
<td>Wages in (PKR)</td>
</tr>
<tr>
<td>X2</td>
<td>Total Fixed Assets</td>
<td>Input</td>
<td>Amount in (PKR)</td>
</tr>
<tr>
<td>X3</td>
<td>Total Equity Capital</td>
<td>Input</td>
<td>Amount in (PKR)</td>
</tr>
<tr>
<td>P1</td>
<td>Price of Labor</td>
<td>Price</td>
<td>Wages/T. Employees</td>
</tr>
<tr>
<td>P2</td>
<td>Price of TFA</td>
<td>Price</td>
<td>Acc. Dep / Total Assets</td>
</tr>
<tr>
<td>P3</td>
<td>Price of Equity Capital</td>
<td>Price</td>
<td>Dividends / Total Equity</td>
</tr>
</tbody>
</table>

#### Table 2: DEA – Cost Efficiency Scores

<table>
<thead>
<tr>
<th>(Input Variables)</th>
<th>(Price Variables)</th>
<th>(Output Variables)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor - X1</td>
<td>Price of Labor – P1</td>
<td>Invested Assets – Y1</td>
</tr>
<tr>
<td>Total Fixed Assets - X2</td>
<td>Price of TFA – P2</td>
<td>Investment Incomes – Y2</td>
</tr>
<tr>
<td>Equity Capital - X3</td>
<td>Price of Equity - P3</td>
<td>Net Premiums - Y3</td>
</tr>
</tbody>
</table>

### 3.4.3 Leverage
The third independent variable for cost efficiency determinant analysis is Leverage. Leverage is the sum of debt which is used to finance a firm's assets. A firm with considerably additional debt than equity in order to finance its assets is considered as highly leveraged. There are two types of leverages i.e., financial leverage (Debt/Equity or Debt/Asset) and operating leverage. This study used only financial leverage and the measurement of this proxy is carried out in term of Total Debt / Total Asset ratios instead of Total debt / Total Equity ratios of the company.

The Dependent Variable used in this study is the CCR-I, BCC-I & COST-C efficiency score of Data Envelop Analysis. Furthermore, independent variables are used to explain further determinants of the cost efficiency of different firms of sample population. The past 10 years relationship between the variables is analyzed to predict future behavior of the cost efficiency determinants. It is represented as "CE" in the regression model. The Dummy or indicator variables used in this study are "Takaful Firms" and "Conventional Insurance Firms". Dummy variable with code "0" value is considered absent while dummy variable with code "1"is considered present in the regression.

#### 4.5 Regression Equation

- DEA Scores CCR-I (it) = \( \alpha + \beta_1 A \ (it) + \beta_2 S \ (it) + \beta_3 L \ (it) + \beta) \ tkf_{d} + \epsilon \ (it) \)
- DEA Scores BCC-I (it) = \( \alpha + \beta_1 A \ (it) + \beta_2 S \ (it) + \beta_3 L \ (it) + \beta) \ tkf_{d} + \epsilon \ (it) \)
- DEA Scores COST-C (it) = \( \alpha + \beta_1 A \ (it) + \beta_2 S \ (it) + \beta_3 L \ (it) + \beta) \ tkf_{d} + \epsilon \ (it) \)
5. Results

5.1 DEA Efficiency Scores

The 1st stage analysis of this study is based on the evaluation of efficiency scores with the help of Data Envelopment Analysis software. For this purpose, different approaches of DEA are used such as CCR-I, BCC-I and COST-C models. The results indicate efficiency scores of Takaful and Insurance firms along with the ranking of whole sample for that period. These statistical results show the top ranked firms as 100% efficient firms and remaining firms are ranked with their respective scores. These scores are further analyzed for the determination of which sector (either Takaful or Insurance) is performing more efficiently over competitor sector. In simple words we are interested in the determination of leading and lagging sectors in takaful and insurance industry.

5.2 Independent Sample T-Test Analysis

The Independent Samples T-test evaluates the mean values of two independent set of samples, such as Takaful firms (TKF) and conventional Insurance firms (CIF), with the aim to establish statistical proof concerning the sample means, whether significantly dissimilar or not. From Year 2010 to 2015, the probabilities of Levene's Test are greater than desired significant level i.e., \( p \leq 0.05 \), so that it gives us path to consider the values of ‘Equal Variance Assumed’ in results and accept the null hypothesis (H\(_0\)) for homogeneity of variance. While on the other side, the probabilities of T-test results are also higher than significance level, i.e., \( p \leq 0.05 \), so that accept the (H\(_0\)) and achieved that the average differences of CCR-I efficiency scores for conventional Insurance Firms and Takaful firms are insignificant. Based on the results, we can conclude that, during the year 2010 to 2015, there is no significant mean difference between the CIF and TKF firms found and both groups are operating at almost equal levels in CCR-I, BCC-I and in COST-C Scores.

### Table 3: Efficiency Scores Comparison of Takaful and Insurance Sectors under CCR-I

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of firms</td>
<td>CIF</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TKF</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mean</td>
<td>CIF</td>
<td>0.451</td>
<td>0.523</td>
<td>0.397</td>
<td>0.462</td>
<td>0.370</td>
</tr>
<tr>
<td>TKF</td>
<td>0.355</td>
<td>0.325</td>
<td>0.30</td>
<td>0.338</td>
<td>0.332</td>
<td>0.202</td>
</tr>
<tr>
<td>St. Dev</td>
<td>CIF</td>
<td>0.320</td>
<td>0.348</td>
<td>0.375</td>
<td>0.376</td>
<td>0.335</td>
</tr>
<tr>
<td>TKF</td>
<td>0.317</td>
<td>0.257</td>
<td>0.327</td>
<td>0.382</td>
<td>0.306</td>
<td>0.148</td>
</tr>
<tr>
<td>Levene's Test</td>
<td>Prob.</td>
<td>0.964</td>
<td>0.09</td>
<td>0.369</td>
<td>0.337</td>
<td>0.513</td>
</tr>
<tr>
<td>T-test</td>
<td>Prob.</td>
<td>0.540</td>
<td>0.231</td>
<td>0.598</td>
<td>0.500</td>
<td>0.815</td>
</tr>
<tr>
<td>MD</td>
<td>0.095</td>
<td>0.198</td>
<td>0.094</td>
<td>0.123</td>
<td>0.0376</td>
<td>0.108</td>
</tr>
</tbody>
</table>

### Table 4: Efficiency Scores Comparison of Takaful and Insurance Sectors under BCC-I

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of firms</td>
<td>CIF</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>TKF</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mean</td>
<td>CIF</td>
<td>0.726</td>
<td>0.731</td>
<td>0.626</td>
<td>0.697</td>
<td>0.640</td>
</tr>
<tr>
<td>TKF</td>
<td>0.720</td>
<td>0.650</td>
<td>0.715</td>
<td>0.662</td>
<td>0.689</td>
<td>0.626</td>
</tr>
<tr>
<td>St. Dev</td>
<td>CIF</td>
<td>0.238</td>
<td>0.267</td>
<td>0.310</td>
<td>0.303</td>
<td>0.326</td>
</tr>
<tr>
<td>TKF</td>
<td>0.297</td>
<td>0.279</td>
<td>0.323</td>
<td>0.342</td>
<td>0.295</td>
<td>0.346</td>
</tr>
<tr>
<td>Levene's Test</td>
<td>Prob.</td>
<td>0.665</td>
<td>0.718</td>
<td>0.895</td>
<td>0.834</td>
<td>0.287</td>
</tr>
<tr>
<td>T-test</td>
<td>Prob.</td>
<td>0.960</td>
<td>0.533</td>
<td>0.554</td>
<td>0.816</td>
<td>0.754</td>
</tr>
<tr>
<td>MD</td>
<td>0.006</td>
<td>0.081</td>
<td>-0.089</td>
<td>0.034</td>
<td>-0.049</td>
<td>-0.035</td>
</tr>
</tbody>
</table>

5.3 Tobit Regression Analysis

This results section deals with the estimates of Tobit regression equation, as the final purpose of this research is to estimate the determinants of different DEA Efficiency scores. In this connection, dependent variable is considered as CCR-I, BCC-I and COST-C scores and simultaneously three Tobit regression equations have been estimated. The results of these regression results are as under:

5.4 CCR-I Model Interpretation

This regression results used CCR-I balanced pooled Data file for the estimates. So that all the coefficients are positive in nature except Dummy variable which tells that Takaful Firms (D=1) compare to conventional Insurance
firms (D=0) have a lower CCR-I scores with the magnitude of 0.196. Leverage and Takaful dummy variable is significant at level 1, while SIZE variable is significant at level 2. Whereas, AGE variable is insignificant (p value = 0.9056). So out of three independent variables, two variables (SIZE & LEVERAGE) is significantly affecting the dependent variable i.e., DEA CCR-I scores and the impact of AGE variable on CCR-I scores is statistically insignificant.

Table 5: Efficiency Scores Comparison of Takaful and Insurance under COST-C

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of firms</td>
<td>CIF</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>TKF</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mean</td>
<td>CIF</td>
<td>0.285</td>
<td>0.311</td>
<td>0.184</td>
<td>0.277</td>
<td>0.262</td>
</tr>
<tr>
<td></td>
<td>TKF</td>
<td>0.267</td>
<td>0.176</td>
<td>0.171</td>
<td>0.210</td>
<td>0.294</td>
</tr>
<tr>
<td>St. Dev</td>
<td>CIF</td>
<td>0.277</td>
<td>0.290</td>
<td>0.204</td>
<td>0.282</td>
<td>0.284</td>
</tr>
<tr>
<td></td>
<td>TKF</td>
<td>0.285</td>
<td>0.173</td>
<td>0.165</td>
<td>0.176</td>
<td>0.255</td>
</tr>
<tr>
<td>Levene's Test</td>
<td>Prob.</td>
<td>0.928</td>
<td>0.205</td>
<td>0.833</td>
<td>0.57</td>
<td>0.919</td>
</tr>
<tr>
<td>T-test</td>
<td>MD</td>
<td>0.892</td>
<td>0.323</td>
<td>0.938</td>
<td>0.612</td>
<td>0.813</td>
</tr>
</tbody>
</table>

5.5 BCC-I Model Interpretation

AGE and SIZE variables are negatively correlated with dependent BCC-I scores variable which means as AGE and SIZE of the firm increased it will affect BCC-I scores of the firm negatively. While on the other side LEVERAGE variable has positive impact on BCC-I scores, as Leverage of the firm increased it will affect BCC-I score of the Firms. Takaful Firms (D=1) compare to conventional Insurance firms (D=0) have a lower BCC-I scores with the magnitude of 0.0992. Only LEVERAGE is highly significant with Level-1, rests of the variables are insignificant, which means only Leverage has confirmed significant effect on the scores of BCC-I of firms.

Table 6

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>CCR-I</th>
<th>BCC-I</th>
<th>COST-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept C</td>
<td>0.253717</td>
<td>0.577840</td>
<td>0.115376</td>
</tr>
<tr>
<td>AGE</td>
<td>0.000116</td>
<td>-0.000626</td>
<td>-0.000208</td>
</tr>
<tr>
<td>SIZE</td>
<td>2.01E-06</td>
<td>-5.41E-07</td>
<td>1.76E-06</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>0.534984</td>
<td>0.441212</td>
<td>0.535680</td>
</tr>
<tr>
<td>TKF_D</td>
<td>-0.195923</td>
<td>-0.099279</td>
<td>-0.132064</td>
</tr>
</tbody>
</table>

*: Statistically Significant at 10%, **: Statistically Significant at 0.05 %, ***: Statistically significant at 1%

Table 7: Descriptive Statistics of DEA efficiency scores

<table>
<thead>
<tr>
<th></th>
<th>CCR-I</th>
<th>BCC-I</th>
<th>COST-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.403838</td>
<td>0.669504</td>
<td>0.252047</td>
</tr>
<tr>
<td>Median</td>
<td>0.262810</td>
<td>0.650231</td>
<td>0.151126</td>
</tr>
<tr>
<td>Maximum</td>
<td>1.000000</td>
<td>1.000000</td>
<td>1.000000</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.040642</td>
<td>0.077928</td>
<td>0.001651</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.342953</td>
<td>0.299143</td>
<td>0.257344</td>
</tr>
<tr>
<td>Observations</td>
<td>222</td>
<td>222</td>
<td>222</td>
</tr>
</tbody>
</table>

Table 8: Descriptive Statistics of Tobit Regression

<table>
<thead>
<tr>
<th></th>
<th>AGE</th>
<th>SIZE</th>
<th>LEVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>32.53153</td>
<td>7770.544</td>
<td>0.293879</td>
</tr>
<tr>
<td>Median</td>
<td>22.50000</td>
<td>1613.555</td>
<td>0.167210</td>
</tr>
<tr>
<td>Maximum</td>
<td>83.00000</td>
<td>292227.0</td>
<td>1.023844</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.000000</td>
<td>17.34000</td>
<td>0.002586</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>24.14261</td>
<td>22630.18</td>
<td>0.292226</td>
</tr>
<tr>
<td>Observations</td>
<td>222</td>
<td>222</td>
<td>222</td>
</tr>
</tbody>
</table>
5.6 **COST-C Model Interpretation**

Third column of the table shows the results of Tobit regression analysis with dependent variable COST-C score, in which independent AGE variable is negatively correlated with the COST-C scores of the firm, means as older the firm it will be less cost efficient as compared to new incorporated insurance firms. This is just because of the reason that as insurance firm get older its claim side become bigger and simultaneously expenses also increases which results negative impact on COST-C scores of the firm. Whereas, SIZE and LEVERAGE variables are positively correlated with the COST-C scores of the firms. It means, as volume of total assets of the firm increases, and then firm would be more efficient in COST-C score. SIZE, LEVERAGE and Dummy Takaful variable are significant at level 1, while as AGE variable is not significant with the COST-C dependent variable. Dummy Variable coefficient is also negative in direction which tells us that Takaful Firms (D=1) compare to conventional Insurance firms (D=0) have a lower BCC-I scores with the magnitude of 0.132, controlling for the other independent variables.

6. **Conclusions**

We found that among the top ranked list (100% efficient), conventional insurance firms are higher in numbers compared to takaful firms, but no statistical significant efficiency mean difference is found among the takaful and conventional insurance firms. That mean on average both sectors are operating on equal performance basis in either (CCR-I, BCC-I, COST-C) case of efficiency measure. In input oriented scale efficiency (CCR-I) regression results, we found that SIZE and LEVERAGE is significant at level 2 and level 1 respectively and coefficients are positive in nature, so concluded that volume of Total Assets and firm’s financial leverage is highly correlated has positive relations with firm’s CCR-I efficiency scores. Whereas dummy variable states that the marginal contributions of Takaful firms are less than conventional insurance firms and reported as highly significant at 100%. Only AGE variable is insignificant in estimates which means firm’s no of operational year have no impact on the firm’s CCR-I scores.

In input oriented Technical efficiency (BCC-I) regression results, we found that only LEVERAGE is significant at level 1 and coefficient is also positive in nature, where as AGE and SIZE variables are insignificant, so concluded that volume of Total Assets and firm’s age are not correlated with firm’s BCC-I efficiency scores. Whereas dummy variable states that the marginal contributions of Takaful firms are less than conventional insurance firms and reported as insignificant Only LEVERAGE variable is significant in estimates which mean firm’s financial leverage has impact on the firm’s BCC-I scores. In Cost efficiency (COST –C) regression results, we found that SIZE and LEVERAGE is significant at level 1 and coefficients are positive in nature, so concluded that volume of Total Assets and firm’s financial leverage is highly correlated has positive relations with firm’s COST-C efficiency scores. Whereas dummy variable states that the marginal contributions of Takaful firms are less than conventional insurance firms and reported as highly significant at 99%. Only AGE variable is insignificant in estimates which means firm’s no of operational year have no impact on the firm’s COST-C scores.

The firm’s AGE is the only independent variable which found insignificant in every estimate of regression, so for this finding, we can conclude that firm’s age has no impact on the efficiency scores of the firm. Although this is contradictory with the theory of Learning curve, but in case of insurance sector, as firm age is increasing, its claims and other liabilities also increases which means that Age is not one of the determinants for efficiency measurement. This phenomenon is also evident from the year wise efficiency scores of CCR-I, BCC-I and COST-C, as different firms emerged as top ranked firms in different years, only some firms are consistently emerged as bench mark firms. So, AGE factor is not significant as determinant of efficiency score.

In order to achieve benchmarked frontier, Takaful firms should emphasis on total assets of the firm, as Total Asset is positively significant with the firm’s efficiency scores.Since the financial leverage is also the significant contributor in cost efficiencies, so that firms should emphasis on increasing Assets with the fuel of external funds. It is further suggested that Takaful firms should reduce their operating cost and management expenses and should improve their investment assets and incomes by investing in healthy projects.Furthermore, takaful firms on average competing with the conventional counterparts in overall efficiencies so that there is quite good opportunity for takaful firms to pull the existing customers which are currently on conventional insurance platform, and bring them under the Shariah compliant takaful system.Finally, there is quite good opportunity for new entrants in the insurance sector as age doesn’t matter in the performance of the firms Mean while firms should construct their total asset volume at higher levels as size of the firm does matter in efficiency scores.
References


Exploring the Impact of Financial Development on Inequality: Evidence from Three Asian Countries

Abdul Qayyum Khan, Muhammad Haroon Hafeez, Naima Saleem, Muhammad Azam

Department of Management Sciences, COMSATS University Islamabad, Wah Campus, Pakistan. qayyum72@ciitwah.edu.pk
Institute of Management Sciences, Bahauddin Zakria University, Multan, Pakistan. haroonhafeez@bzu.edu.pk
Department of Management Sciences, COMSATS University Islamabad, Wah Campus, Pakistan. naimasaleem@ciitwah.edu.pk
Department of Management Sciences, Abdul Wali Khan University Mardan, KPK-Pakistan. drazam75@yahoo.com

ARTICLE DETAILS

The broad objective of the present study is to investigate the impact of financial development along with some other variables namely GDP per capita, inflation rate, human capital, and trade openness for three developing Asian countries—Bangladesh, India, and Pakistan. Annual time series data during the period 1980-2014 have been used for empirical investigation. After employing appropriate tests and estimation techniques, it is found that the financial development is statistically insignificant for all three countries, it implies that yet these developing countries are not efficiently allocating domestic private credit to poor segments of population. The results also reveal that inflation impedes income inequality for Bangladesh and India. GDP growth rate is insignificant for India and Pakistan however it is significant for Bangladesh having statistically positive relationship with income inequality. It means that GDP growth rate is linked with growth of income of elite class rather than bottom segments of population. National income improves inequality for Bangladesh but have insignificant affect on income inequality for India and Pakistan. Similarly, trade openness is insignificant for India and Pakistan, however it is significant for Bangladesh having statistically positive relationship with income inequality, which indicates that there is increasing unemployment in these countries due to lesser employment opportunities for skilled and unskilled labour. Empirical results of human capital shows insignificance for India and Pakistan whereas it is significant for Bangladesh; hence revealing that these countries failed to optimally utilize their resources in educational sector.

© 2018 The authors, under a Creative Commons Attribution-NonCommercial 4.0

DOI: 10.26710/reads.v4i2.419
1. Introduction
Academic debate on the issue of Inequality has radically increased in recent years. Previously, this issue was regarded as a highly sensitive political matter, thus, most of the researchers preferred to avoid rather than embrace it for scholarly investigation. Since last decade, there has been a growing concern over this issue among social scientists in general and economists in particular. In addition, the issue of inequality has received greater attention by International Labor Organization (ILO), United Nations (UN) and World Bank who have acknowledged that economic growth and well being of any nation or region is largely reliant on diminishing income inequality (Ortiz and Cummins, 2011). There are several types of inequalities that prevail in any society in terms of access to food, water, shelter, education, information and health. However, the exclusive focus of this paper is on exploring the issue of Income Inequality in selected Asian countries.

Income inequality concerns with the degree to which there exists inequity and disparity of income among the members of a given population. Income inequality is frequently discussed in terms of the percentage of income to a percentage of population. Cross-country variations in terms of income disparities and prevalent scenarios with reference to poverty are quite alarming. It is quite stunning that 1.2 Billion people (22 percent of global population) are struggling to live below $1.25 per day. The problem becomes further intensified if the poverty line is raised to $2.50 per day. It exhibits that 2.7 Billion (50 percent of global population) people are living below the poverty line. Similarly, 44.4 percent (730 Million) people in South Asia are striving to live on $1.25 to $2.50 per day (Human Development Report, 2014). Furthermore, according to Fuentes-Nieva and Galasso (2014) the wealth of 3.5 Billion poor people equals that of 85 richest people in the world. It definitely is a shocking statistic that signifies inequality prevailing in the developed as well as developing countries. In case of developing countries income inequality has ascended by 11 percent during 1990-2010 (United Nations Development Programme, 2014). Income inequality poses highly severe threats to people as it refers to inequality of opportunities to meet the requirements of life. In unequal societies, the social and economic consequences are quite worse as compared to societies where there are lesser inequalities. People living in countries where there are less income inequalities face lesser health associated risks, have longer lives, lesser probability to encounter mental disorders, perform better in their studies, are socially mobile, try to avoid indulgence in crime and violence, have lesser tendency towards illegal narcotics and other drugs, and there is lesser likelihood of giving teenage births (Wilkinson and Pickett, 2010).

Due to aforementioned consequences of income inequalities, economic growth and development of unequal societies is severely hampered. In literature, many causes of income inequality have been discussed such as entrepreneurial skills and competencies of individuals, migration from rural to urban areas, inflation, unemployment, access to credit and finance and financial instability (Ang, 2010; Bittencourt, 2010; Shahbaz and Islam, 2011). In order to tackle with the issue of Income Inequality, numerous past and contemporary researchers have emphasized on financial stability through financial sector development (Greenwood and Jovanovic, 1990; Levine, 2005; Beck, Demirguc-Kunt and Levine, 2007; Demirguc-Kunt and Levine, 2009; Bittencourt, 2010; Shahbaz et al., 2015; Sehrawat and Giri, 2015). According to Beck et al. (2007) financial development can have a significant impact on income distribution and poverty levels. They further added that financial development can lessen the disparities in income inequality and poverty levels through aggregate economic growth. The role of financial sector development in the context of developing countries is deemed to be more prominent. It is because of the fact that majority of poor people do not have access to credit and finance. It has been highlighted in the literature that people living in developing countries in Asia such as Iran, Pakistan and India, toil hard to get access to finance due to their inability in terms of fulfilling collateral requirements and lack of established relationships with financial institutions (Ang, 2010; Shahbaz and Islam, 2011; Shahbaz et al., 2015; Sehrawat and Giri, 2015).

Consequently, Asian countries are ranked at the bottom in terms of Inequality-Adjusted Human Development Index developed in 2014. For instance, India, Bangladesh and Pakistan are ranked 135, 142 and 146 out of 187 countries. Gini Coefficient (income inequality indicator) for India, Bangladesh and Pakistan for years 2003-2012 was 33.9, 32.1 and 30.0 respectively (Human Development Report, 2014). However it is interesting to note that all of Asian countries did not perform poorly in terms of Income Inequality, Thailand and Malaysia can be referred to as exemplary nations where income inequality has reduced significantly during the last decade (Human Development Report, 2014). By probing the issue of income inequality in selected Asian countries, this paper makes a noteworthy contribution in understanding the role of financial development in alleviation of poverty and reducing disparities in income distribution among the population. Therefore, the broad objective of the present study is to explore empirically both the short and long run relationship between financial development and income inequality in developing Asian countries namely Bangladesh, India, and Pakistan. The outcomes are expecting to guide the
policy makers to formulate prudent public policy and thereby reduce income inequality and improve social welfare of the people. The rest of the paper is structured as follows. Section 2 reviews the literature with respect to relationship between financial development and income inequality. Section 3 elaborates data and methodology. Section 4 exhibits the findings of the study; Section 5 entails discussion, implications and conclusion. Lastly, section 6 offers recommendation for future research.

2. Literature Review

The relationship between financial development and economic growth has been extensively studied in the past. There are numerous studies that have linked financial development to economic growth (see, for instance, Schumpeter, 1934; Robinson, 1952; McKinnon, 1973; Shaw, 1973; King and Levine, 1993; Levine, Loayza and Beck, 2000; Benhabib and Spiegel, 2000; Christopoulos and Tsionas, 2003; Ang and McKibbin, 2007; Ang, 2010, Kar et al, 2011; Nyamongo et al, 2012). It clearly indicates that the relationship between financial development and economic growth has grabbed the attention of several past as well as contemporary researchers. One of the underlying rationales pertaining to financial development and economic growth relationship is that financial development substantially improves the allocation of capital and lessens capital market imperfections (Levine, 2005). However, the most intriguing question in this regard is that who actually exploits the maximum benefits arising from such economic growth. It may benefit the poor in terms of generating employment opportunities; however, to a greater extent it could be advantageous for the wealthier because of incremental returns and profits. In order to answer this question, it is imperative to study the financial development and income inequality linkage. With reference to income inequality, the scholastic debate was initiated by Kuznets (1955) who investigated the dynamics of income inequality with particular reference to developing nations. Surprisingly, there exist a very few noteworthy studies that have attempted to explore the relationship between financial development and income inequality. According to extant literature, there are two major theoretical hypotheses with respect to financial development and income inequality relationship. Greenwood and Javanovich (1990) envisaged an inverted U shaped relationship; whereas, a negative linear relationship was predicted by some of the other researchers (see for example, Banerjee and Newman, 1993; Galor and Zeira, 1993; Aghion and Bolton, 1997, Mookherjee and Ray, 2003, 2006).

The inverted U-shaped relationship implies that during the early phases of financial development, only beneficiaries would be the wealthier people in the society as they would be able to extract returns and profits from the newly developed financial markets. Resultantly, income inequality would be intensified. However, as the financial markets would further develop and become mature, the poor people would also be able to get access to financial markets. Hence, inequality would gradually decrease because the larger population of the society would reap the merits of financial development (Tan and Law, 2012). Non linear relationship between financial development and income inequality can be explained in terms of finance-inequality widening phenomenon and finance-inequality narrowing phenomenon.

Finance-inequality widening refers to the situation in which rich people of the society reap the benefits of financial development as they can fulfill the collateral requirements in order to get access to financial institutions, consequently their various personal and professional projects are financed by the financial intermediaries, whereas the poor and deprived section of the society fail to meet preliminary requisites pertaining to access to financial institutions. Finance-inequality widening is quite evident from the study conducted in United States by Jerzmanowski and Nabar (2013) who used a measure of banking deregulation and concluded that financial market development benefits highly educated and skilled workers more than the less educated and low-skilled workers. Thus, the inequality gap between the privileged and the deprived social class keeps on widening. Contrarily, finance-inequality narrowing refers to the scenario in which the inequality gap between the wealthier and the poor population of the society is narrowed as the poor people gradually get access to financial intermediaries. As the financial markets become more mature and liberalized, the larger section of the society can yield the benefits of financial development as they can invest for better health, education and housing facilities. Hence, financial development results in reducing income inequality (Shahbaz et al., 2015).

3. Empirical methodology

3.1 Data sources and variable explanation

Annual time series data covering the time period 1980 to 2014 has been used in this study. Data have been collected from World Bank Development Indicators (2015) and House Hold Income Inequality from Penn World Data (2014). Financial year 1990 has been used as the base year in order to convert current price data into constant price
time series.

The present study also takes the natural logarithm of Gini coefficient which were used in recent empirical works like Liang (2006a), Liang (2006b), Ravallion and Chen (2007). Gini coefficient makes direct comparison of population irrespective of their sizes and incorporates full information measures by looking at all parts of the population distribution. Therefore, in economic literature, Gini coefficient is the broadly used measure for inequality. Existing literature suggested many variables to be proxy for financial development like Rousseau and Wachtel (1998), Rioja and Valev (2004) and Levine et al. (2000) used ratio of liquid liabilities including central bank, deposit money bank and financial institutions to GDP denoted by LLY to measure the overall size financial intermediary sector. To avoid the problem of ignoring the allocation of capital Demetriades and Hussein (1996) and King and Levine (1993) used the ratio of credit to the private sector to GDP denoted by PRIVO. The present study uses the ratio of money supply $M_2$ to GDP as Financial Depth, suggested by Levine et al. (2005).

In addition to the measure of Gini coefficient and financial development, this paper incorporates other variables which control other factors linked with either financial development or income inequality. Following Beck et al. (2007) and Ang (2010), the other variables included are: the growth rate of per capita GDP (GRO), inflation rate (INF), Human Capital that is Government expenditure on education, total (% of GDP), financial depth Money and quasi money (M2) as percentage of GDP and trade Openness (TR=EXPORT+IMPORT/GDP) are used. It is evident from the literature like Barro (2000), Beck et al. (2007) and Ang (2010) concluded that the increase in growth rate of per capita supports is lessening the income inequality. Hence, the association between the GRO and Gini coefficient should be negative. The literature remains indecisive about the effect of INF on the income inequality. Cutler and Katz (1991), Clarke et al. (2006) and Ang (2010) pointed out that the inflation and income inequality have positive relationship. Easterly and Fischer (2001) and Beck et al. (2007) believed that inflation has a negative effect on the income inequality, on the other side Bulir (2001) argued that the inflation rate improves the income inequality in the low inflation economies while in high inflation economies inflation rate worsens the income inequality. TRO is the sum of exports and imports as a percentage of GDP. Barro (2000) and Ang (2010) pointed out that trade openness positively affects income inequality.

Before starting to perform any empirical estimation of the model, it is required to analyze the time series data. The analysis of data depends on finding out whether the series is stationary or non–stationary. Augmented Dickey-Fuller (ADF) test examines the hypothesis that the variable in question has a unit root. The Akaike Information Criterion (AIC) is used to select the optimum ADF lag. Stationarity of the variables is checked once when an intercept is included, and then when both an intercept and a linear deterministic trend are included. If the series is found to have a unit root differencing the data is appropriate to make it stationary.

3.2 Methodology

To test the hypothesis that income inequality depends on financial development along with other variables such as inflation rate, trade openness and growth rate of per capita GDP, % of GDP, Human capital and financial Depth, the following econometric regression equation is used:

$$\ln GINI_{ti} = \alpha_0 + \alpha_1 \ln FD_{ti} + \alpha_2 GRO_{ti} + \alpha_3 TRO_{ti} + \alpha_4 INF_{ti} + \alpha_5 HUMAN_{ti} + \alpha_6 GDP_{ti} + \epsilon (1)$$

Where GINI is used to measure the income inequality, FD is the financial depth, GRO is the growth rate of per capita GDP, INF is the inflation rate, HUMAN is used for Human capital, GDP is growth rate and TRO is used to represent trade openness. In order to check the existence of long run relationship among the variables included in this study, Johansen Likelihood Ratio (LR) test is used. Once it is found that the regression variables have long term relationship (cointegration), and then Error Correction Mechanism (ECM) is used to ascertain the short term behavior of the variables. In Error Correction Mechanism (ECM), first, difference of dependent variables are regressed on first difference of all independent variables and the lag value of residual is obtained from regression of variables at level. The parameters of all independent variables show short term effects of independent variables on dependent variables, and parameter of lag value of residual will show rapidity in which the short term disequilibrium will be restored. Therefore, the following error correction model is estimated:

$$\Delta \ln GINI_{ti} = \alpha_0 + \alpha_1 \Delta FD_{ti} + \alpha_2 \Delta GRO_{ti} + \alpha_3 \Delta TRO_{ti} + \alpha_4 \Delta INF_{ti} + \alpha_5 \Delta GDP_{ti} + \alpha_6 \Delta HUMAN_{ti} + \alpha_7 \mu_{t-1} + \epsilon (2)$$

Where, in Error Correction Mechanism (ECM) equation, dependent variable depends on the equilibrium error term $(u_{t-1})$ besides other independent variables. The parameter of equilibrium error term is expected to be negative. The
positive/negative value of $u_{t-1}$ acting with their respective parameter brings equilibrium in short term. If all other independent variables have positive short-term aggregate impact on dependent variables, then $u_{t-1}$ must be positive, so that the negative parameter makes it negative and restores the equilibrium. In similar fashion if all other independent variables have negative short-term aggregate impact on dependent variables, then $u_{t-1}$ must be negative, so that the negative parameter makes it positive and restores the equilibrium. The absolute value of parameter indicates how quickly the equilibrium will be restored.

4. Results and Discussion
4.1 Empirical Results
4.1.1 Normality of the Data
It is quite obvious to check normality before analysis of linear model for its coefficient determination. Histograms and Normal Probability Plot of the residuals were obtained for all the three countries from linear regression model as mentioned before. The results are shown in following histograms.

Graph 1: Histogram & Normal Probability Plot of Residual (Bangladesh)

Graph 1.1

Graph 2: Histogram & Normal Probability Plot of Residual (India)
Graph 2.1

Graph 3.1

Graph 3: Histogram & Normal Probability Plot of Residual (Pakistan)
A visual study of the histograms & Normal Probability Plot for (Graph 1, Graph 2 and Graph 3) as shown above, reveal that most of the residuals lie within the normal curve, very few residual lie outside, either on left or right side, showing positive and negative Skewness, some residual lies outside on top peak, causing a little Kurtosis. As a whole data for all the three countries are normally distributed as mostly the residuals lie inside the normal curve.

4.1.2 Model Stability Test
It is important to test model stability as country shift might affect it. In this regard Cumulative Sum of Recursive Residuals (CSUSM) and their squares (SUCSUSM) are used for model stability as proposed by Brown et al. (1975).

Graph 4: Plot of Cumulative Sum of Recursive Residuals (CSUSM) For Bangladesh

Graph 5: Plot of Cumulative Sum of Recursive Residuals (CSUSM) For India
Graph 6: Plot of Cumulative Sum of Recursive Residuals (CSUSM) For Pakistan

Both (CSUSM) and their square (SUCUSM) shown above in Graph 4 depicts that residuals of the model lie in the critical region indicates the model is stable throughout the period for all the three countries.

4.1.3 Park Test
Park test is being used for detection of Heteroscedasticity. First we run the log linear model for all the three countries data and save the residuals, then took the square of the saved residual and regress all the independent variables on the square of the residual. The results of Park test are given below in table 4.1.3A, 4.1.3B and 4.1.4C for Bangladesh, India and Pakistan respectively. Coefficient of all independent variables for the three models (Bangladesh, India and Pakistan) are statistically insignificant as the calculated t-statistics in absolute term for most of the variables are smaller than the tabulated value, showing no Heteroscedasticity in the models.

Table 1: Park Test Coefficients for Bangladesh

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
<td>Sig.</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.002</td>
<td>.001</td>
<td></td>
<td>3.810</td>
<td>.001</td>
</tr>
<tr>
<td>LnFD</td>
<td>.000</td>
<td>.000</td>
<td>-.271</td>
<td>-.609</td>
<td>.548</td>
</tr>
<tr>
<td>LnHUMAN</td>
<td>.001</td>
<td>.000</td>
<td>.625</td>
<td>2.706</td>
<td>.011</td>
</tr>
<tr>
<td>LnTRO</td>
<td>.000</td>
<td>.000</td>
<td>-.567</td>
<td>-.504</td>
<td>.144</td>
</tr>
<tr>
<td>LnGDP</td>
<td>.000</td>
<td>.000</td>
<td>-.582</td>
<td>-.500</td>
<td>.145</td>
</tr>
<tr>
<td>LnGRO</td>
<td>.000</td>
<td>.000</td>
<td>.618</td>
<td>1.893</td>
<td>.069</td>
</tr>
<tr>
<td>LnINF</td>
<td>-0.0000840</td>
<td>.000</td>
<td>1.287</td>
<td>1.251</td>
<td>.221</td>
</tr>
</tbody>
</table>

Where LnFD is natural log of Financial Development, LnHuman is natural log of Human Capital, LnTRO is natural log of trade openness, LnGDP is natural log of GDP growth %, LnGRO is natural log of National Income (GDP per capital growth) and LnINF is Inflation GDP Deflator index. a. Dependent Variable: c2

Table 2: Park Test Coefficients for India

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
<td>Sig.</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.004</td>
<td>.001</td>
<td></td>
<td>2.657</td>
<td>.013</td>
</tr>
<tr>
<td>LnFD</td>
<td>.000</td>
<td>.001</td>
<td>-1.005</td>
<td>-1.340</td>
<td>.191</td>
</tr>
<tr>
<td>LnHUMAN</td>
<td>.000</td>
<td>.000</td>
<td>-.159</td>
<td>-.941</td>
<td>.355</td>
</tr>
<tr>
<td>LnTRO</td>
<td>.000</td>
<td>.000</td>
<td>.904</td>
<td>1.480</td>
<td>.150</td>
</tr>
<tr>
<td>LnGDP</td>
<td>.000</td>
<td>.000</td>
<td>-.395</td>
<td>-.949</td>
<td>.351</td>
</tr>
<tr>
<td>LnGRO</td>
<td>0.0000710</td>
<td>.000</td>
<td>.206</td>
<td>1.083</td>
<td>.288</td>
</tr>
<tr>
<td>LnINF</td>
<td>-0.00002.87</td>
<td>.000</td>
<td>-1.287</td>
<td>-2.287</td>
<td>.777</td>
</tr>
</tbody>
</table>

Where LnFD is natural log of Financial Development, LnHuman is natural log of Human Capital, LnTRO is natural log of trade openness, LnGDP is natural log of GDP growth %, LnGRO is natural log of National Income (GDP per capital growth) and LnINF is Inflation GDP Deflator index. a. Dependent Variable: c2
4.1.4 Non Stationarity of the Time Series

Before conducting empirical estimate of the model, it is important to examine the time series data. The analysis of the data depends on findings whether the series is stationary or non-stationary. Correlations between variables have been analyzed by Pearson Correlation Matrix. ADF; Augmented Dickey-Fuller (1981) test examines the hypothesis that the variable is in tenancy of a unit root. When the series was found to p

Table 3: Park Test Coefficients for Pakistan:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficient</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.001</td>
<td>.005</td>
<td>.217</td>
<td>.830</td>
<td></td>
</tr>
<tr>
<td>LnFD</td>
<td>.000</td>
<td>.001</td>
<td>.036</td>
<td>.190</td>
<td>.851</td>
</tr>
<tr>
<td>LnHUMAN</td>
<td>.000</td>
<td>.001</td>
<td>-.269</td>
<td>-1.476</td>
<td>.151</td>
</tr>
<tr>
<td>LnTRO</td>
<td>0.0000717</td>
<td>.000</td>
<td>.037</td>
<td>.195</td>
<td>.847</td>
</tr>
<tr>
<td>LnGDP</td>
<td>.000</td>
<td>.000</td>
<td>.388</td>
<td>1.415</td>
<td>.168</td>
</tr>
<tr>
<td>LnGRO</td>
<td>.000</td>
<td>.001</td>
<td>-.219</td>
<td>-1.162</td>
<td>.255</td>
</tr>
</tbody>
</table>

Where LnFD is natural log of Financial Development, LnHuman is natural log of Human Capital, LnTRO is natural log of trade openness, LnGDP is natural log of GDP growth %, LnGRO is natural log of National Income(GDP per capital growth)and LnINF is Inflation GDP Deflator index.a. Dependent Variable: e²

Table 4: ADF Test for Stationarity (Bangladesh, India and Pakistan)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Include Intercept Only</th>
<th>Include Intercept and Trend</th>
<th>Test statistics</th>
<th>Critical Value</th>
<th>Test statistics</th>
<th>Critical Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNINF_Bang</td>
<td>-3.913414 [0]</td>
<td>-3.639407</td>
<td>-8.112252</td>
<td>-4.262735</td>
<td>I(1)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNINF_India</td>
<td>-2.341988 [0]</td>
<td>-3.639407</td>
<td>-2.74965</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNINF_Pakistan</td>
<td>-8.893337² [0]</td>
<td>-3.646342</td>
<td>-8.732783</td>
<td>-4.262735</td>
<td>I(1)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGRO_Bang</td>
<td>-4.568532 [0]</td>
<td>-3.639407</td>
<td>-4.667377</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGRO_India</td>
<td>-13.20575 [0]</td>
<td>-3.646342</td>
<td>-6.766725</td>
<td>-4.273277</td>
<td>I(1)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGRO_Pakistan</td>
<td>-4.894563 [0]</td>
<td>-3.639407</td>
<td>-6.588460</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGRO_Bang</td>
<td>-3.728861 [0]</td>
<td>-3.639407</td>
<td>-3.677150</td>
<td>-3.548490²</td>
<td>I(0)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGRO_India</td>
<td>-7.894563 [0]</td>
<td>-3.639407</td>
<td>-13.20253</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGRO_Pakistan</td>
<td>-2.587407 [0]</td>
<td>-3.639407</td>
<td>-3.772542</td>
<td>-4.252879</td>
<td>I(1)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGDP_Bang</td>
<td>-8.576389 [0]</td>
<td>-3.646342</td>
<td>-8.515513</td>
<td>-4.262735</td>
<td>I(1)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGDP_India</td>
<td>-3.775109 [0]</td>
<td>-3.639407</td>
<td>-7.811738</td>
<td>-4.262735</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNGDP_Pakistan</td>
<td>-15.65151 [0]</td>
<td>-3.646342</td>
<td>-10.88266</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNTRO_Bang</td>
<td>-2.475607 [0]</td>
<td>-3.639407</td>
<td>-10.88266</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNTRO_India</td>
<td>-0.016148 [0]</td>
<td>-3.639407</td>
<td>-3.087843</td>
<td>-4.252879</td>
<td>I(0)*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.2 Co-integration Analysis

Summary of the detail of regression estimates of the Johansen co-integration test as specified by Bayer and Hanck (2013) are given in Table 4.1.5. As shown below, where the result indicates that first three for Bangladesh, first four for India and first and last null hypothesis for Pakistan are rejected as Maximum Likelihood Ratio statistics are greater than critical value at 0.05 percent level of significance which indicates that there exists four, three and five co-integrating relationships among the variables for Bangladesh, India and Pakistan respectively.

**Table 4.1.5: Cointegration Test Results**

<table>
<thead>
<tr>
<th>Countries</th>
<th>N. Hypothesis</th>
<th>A. Hypothesis</th>
<th>Maximum Likelihood Ratio Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Statistics</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>r=0</td>
<td>r=1</td>
<td>219.2813**</td>
</tr>
<tr>
<td></td>
<td>r=1</td>
<td>r=2</td>
<td>150.6484**</td>
</tr>
<tr>
<td></td>
<td>r=2</td>
<td>r=3</td>
<td>88.27245**</td>
</tr>
<tr>
<td></td>
<td>r=3</td>
<td>r=4</td>
<td>45.00191</td>
</tr>
<tr>
<td></td>
<td>r=4</td>
<td>r=5</td>
<td>27.39630</td>
</tr>
<tr>
<td></td>
<td>r=5</td>
<td>r=6</td>
<td>11.45244</td>
</tr>
<tr>
<td></td>
<td>r=6</td>
<td>r=7</td>
<td>2.081861</td>
</tr>
<tr>
<td></td>
<td>r=0</td>
<td>r=1</td>
<td>187.1146**</td>
</tr>
<tr>
<td></td>
<td>r=1</td>
<td>r=2</td>
<td>121.5844**</td>
</tr>
<tr>
<td></td>
<td>r=2</td>
<td>r=3</td>
<td>86.77489**</td>
</tr>
<tr>
<td></td>
<td>r=3</td>
<td>r=4</td>
<td>54.75572**</td>
</tr>
<tr>
<td></td>
<td>r=4</td>
<td>r=5</td>
<td>28.64669</td>
</tr>
<tr>
<td></td>
<td>r=5</td>
<td>r=6</td>
<td>8.670479</td>
</tr>
<tr>
<td></td>
<td>r=6</td>
<td>r=7</td>
<td>0.022283</td>
</tr>
<tr>
<td>India</td>
<td>r=0</td>
<td>r=1</td>
<td>147.3298**</td>
</tr>
<tr>
<td></td>
<td>r=1</td>
<td>r=2</td>
<td>91.09221</td>
</tr>
<tr>
<td></td>
<td>r=2</td>
<td>r=3</td>
<td>61.67796</td>
</tr>
<tr>
<td></td>
<td>r=3</td>
<td>r=4</td>
<td>44.32651</td>
</tr>
<tr>
<td></td>
<td>r=4</td>
<td>r=5</td>
<td>28.14463</td>
</tr>
<tr>
<td></td>
<td>r=5</td>
<td>r=6</td>
<td>14.14139</td>
</tr>
<tr>
<td></td>
<td>r=6</td>
<td>r=7</td>
<td>5.271451**</td>
</tr>
<tr>
<td>Pakistan</td>
<td>r=0</td>
<td>r=1</td>
<td>144.2269**</td>
</tr>
<tr>
<td></td>
<td>r=1</td>
<td>r=2</td>
<td>91.929921</td>
</tr>
<tr>
<td></td>
<td>r=2</td>
<td>r=3</td>
<td>64.67796</td>
</tr>
<tr>
<td></td>
<td>r=3</td>
<td>r=4</td>
<td>44.32651</td>
</tr>
<tr>
<td></td>
<td>r=4</td>
<td>r=5</td>
<td>28.14463</td>
</tr>
<tr>
<td></td>
<td>r=5</td>
<td>r=6</td>
<td>14.14139</td>
</tr>
<tr>
<td></td>
<td>r=6</td>
<td>r=7</td>
<td>5.271451**</td>
</tr>
</tbody>
</table>

*Figures in square brackets besides each statistic represent optimum lags selected using the minimum AIC value, *Figures in Parentheses are first difference of variables, AT 5% Significant level, * Show result when the intercept is only included, ** Show results when intercept and trend is included.*
4.3 Result of Linear Regression Models

The result of the linear regression model for all the three countries are presented in Table 4.1.6, shown below, the results are logical because the explanatory power of $R^2$ is fairly high for Bangladesh, moderate for India and low to moderate for Pakistan; and there is no serious autocorrelation problem as shown in Durban-Watson Statistics.

Table 4.1.6 Regression Result for Bangladesh, India and Pakistan

<table>
<thead>
<tr>
<th>Variables</th>
<th>Bangladesh</th>
<th>India</th>
<th>Pakistan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>t-statistics</td>
<td>Prob</td>
</tr>
<tr>
<td>C</td>
<td>3.600</td>
<td>84.425</td>
<td>.000</td>
</tr>
<tr>
<td>LnINF</td>
<td>-.014</td>
<td>-2.973*</td>
<td>.006</td>
</tr>
<tr>
<td>LnGRO</td>
<td>-.025</td>
<td>-2.410**</td>
<td>.023</td>
</tr>
<tr>
<td>LnGDP</td>
<td>.069</td>
<td>3.207*</td>
<td>.003</td>
</tr>
<tr>
<td>LnTRO</td>
<td>.065</td>
<td>2.951*</td>
<td>.006</td>
</tr>
<tr>
<td>LnHUMAN</td>
<td>.106</td>
<td>3.825*</td>
<td>.001</td>
</tr>
<tr>
<td>LnFD</td>
<td>-0.000007</td>
<td>.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*indicates statistical significant at 1% level of significance, ** indicate statistical significant at 5% level of significance, a. Dependent Variable: LnIE

The estimates of linear regression illustrate that INF is negatively related to income inequality (IE) in Bangladesh and India -.014 and -.013 respectively. It raised positively in case of Pakistan with .001. The coefficient of INF is statistically significant at 1% level of significance for Bangladesh and India, while for Pakistan, it is statistically insignificant at 10% level, as it’s P-Value is 0.888 so, INF doesn’t affect the income inequality in Pakistan. The result shows that 1% increase in INF leads to decrease in income inequality by 1.4% and 1.3% for Bangladesh and India respectively. These findings are similar with Satti et al. (2015), Shahbaz et al. (2010), and Ang (2010) pointed out that the inflation and income inequality have positive relationship.

National income (GRO) is insignificant for India and Pakistan whereas it is significant for Bangladesh having statistically negative relationship with income inequality i.e. -.025. The coefficient of GRO is statistically significant at 5% level of significance for Bangladesh. The result shows that 1% increase in GRO leads to decrease in income inequality by 2.5% for Bangladesh. Theses findings contradict with Barro (2000), but are consistent with Satti et al. (2015), Shahbaz et al. (2010) who believed that growth of income improves inequality. GRO have no affect in income inequality in India and Pakistan. Growth rate (GDP) is insignificant for India and Pakistan; however, it is significant for Bangladesh having statistically positive relationship with income inequality which is .069. The coefficient of GDP is statistically significant at 5% level of significance for Bangladesh. The result shows that 1% increase in GDP leads to increase in income inequality by 6.9% for Bangladesh. These empirical findings are similar with Satti et al. (2015), Shahbaz et al. (2010), but they are in contradiction with Barro (2000) who reported negative impact of GDP on income inequality in low income countries. GDP have no significant affect on income inequality in India and Pakistan.

Trade Openness (TRO) is insignificant for India and Pakistan, however it is significant for Bangladesh having statistically positive relationship with income inequality which is .065. The coefficient of TRO is statistically significant at 5% level of significance for Bangladesh. The result shows that 1% increase in TRO leads to increase in income inequality by .65% for Bangladesh. TRO have no significant effect on income inequality in India and Pakistan. Human Capital (HC) shows insignificance for India and Pakistan whereas it is significant with 1% level of significance for Bangladesh with .106. The result shows that 1% increase in HC leads to increase in income inequality by 10.6% for Bangladesh. HC have no significant effect on income inequality in India and Pakistan. P-value of Financial Depth (FD) is insignificant for all three countries namely Bangladesh, India and Pakistan. The results of FD contradict with Sebastian and Sebastian (2011) for 138 developed and under developing nations, Tan and Law (2012) for malaysia, Leing-Zhang and Xia-Lia (2012) for China, Satti et al., (2015) for Kazakhstan but consistent with the results of the studies conducted by Clarke et al. (2006) for 83 developed and undeveloped.
4.4 Error Correction Mechanism

Once it is found that the regression variables have long term relationship (cointegration), Error Correction Mechanism (ECM) is used to ascertain the short term behavior of the variables. In Error Correction Mechanism (ECM) first difference of dependent variables are regressed on first difference of all independent variables and the lag value of residual obtained from regression of variables at level. The parameters of all independent variables show short term effects of independent variables on dependent variables, and parameter of lag value of residual shows rapidity in which the short term disequilibrium will be restored. Therefore, the following error correction model is estimated:

\[
\Delta \ln GINI_{it} = \alpha_0 + \alpha_1 \Delta FD_{ti} + \alpha_2 \Delta GRO_{ti} + \alpha_3 \Delta TR_{ti} + \alpha_4 \Delta INF_{ti} + \alpha_5 \Delta GDP_{ti} + \alpha_6 \Delta HUMAN_{ti} + \alpha_7 \mu_{t-1}
\]

Where, in Error Correction Mechanism (ECM) equation, dependent variable depends on the equilibrium error term \((u_{t-1})\) besides other independent variables. The parameter of equilibrium error term is expected to be negative. The positive/negative value of \(u_{t-1}\) acting with their respective parameter brings equilibrium in short term. If all other independent variables have positive short-term aggregate impact on dependent variables, then \(u_{t-1}\) must be positive, so that the negative parameter makes it negative and restores the equilibrium. In similar fashion if all other independent variables have negative short-term aggregate impact on dependent variables, then \(u_{t-1}\) must be negative, so that the negative parameter makes it positive and restores the equilibrium. The absolute value of parameter indicates how quickly the equilibrium will be restored.

<table>
<thead>
<tr>
<th>Country</th>
<th>ECM Equation</th>
</tr>
</thead>
</table>
| Bangladesh | \[
\Delta \ln GINI_{it} = 0.005 - 0.035 \Delta FD_{ti} - 0.012 \Delta GRO_{ti} + 0.023 \Delta TR_{ti} - \\
(2.595) (-1.336) (-3.182) (2.902) \\
0.003 \Delta INF_{ti} + 0.028 \Delta GDP_{ti} + 0.007 \Delta HUMAN_{ti} - 0.197 \mu_{t-1} \\
(1.735) (0.409) (-1.514) (-1.787) \\
R^2 = 0.470, D = 1.718
\] |
| India    | \[
\Delta \ln GINI_{it} = 0.002 + 0.031 \Delta FD_{ti} - 0.000 \Delta GRO_{ti} + 0.009 \Delta TR_{ti} + \\
(0.949) (0.780) (-0.00) (0.586) \\
0.00 \Delta INF_{ti} + 0.028 \Delta GDP_{ti} - 0.002 \Delta HUMAN_{ti} + 0.524 \mu_{t-1} \\
(0.20) (2.093) (-0.236) (4.839) \\
R^2 = 0.530, D = 1.866
\] |
| Pakistan | \[
\Delta \ln GINI_{it} = 0.002 - 0.000 \Delta INF_{ti} + 0.000 \Delta GRO_{ti} - 0.002 \Delta GDP_{ti} + \\
(0.817) (-0.017) (-0.201) (-0.454) \\
0.006 \Delta TR_{ti} - 0.008 \Delta HUMAN_{ti} + 0.008 \Delta FD_{ti} - 0.191 \mu_{t-1} \\
(0.850) (-0.739) (0.189) (-1.808) \\
R^2 = 0.150, D = 2.069
\] |

GINI equation for Error Correction Mechanism (ECM) indicate that first difference of income inequality \((\Delta \ln GINI)\) depends on first difference of real output \((\alpha_0)\), first difference of financial depth \((\Delta FD_{ti})\), first difference of net income that is GDP growth per capita \((\Delta GRO)\), first difference of \((\Delta TR_{ti})\), first difference of inflation \((\Delta INF_{ti})\), first difference of GDP \((\Delta GDP_{ti})\), first difference of Human capital \((\Delta HUMAN_{ti})\) and equilibrium error term \(u_{t-1}\). The result in Table 4.1.7 as shown above for Bangladesh indicates that short-run changes in real output have statistically significant positive impact on short-run changes in income inequality. Financial depth to income inequality in short-run have negative but statistically significant impact on the short-run changes in income inequality. The short-run changes in GRO have statistically significant negative impact on the short-run changes in inequality. GDP, Human and TRO to income inequality in short-run have positive but statistically insignificant impact on income inequality. The result also indicates that about 0.197 of discrepancy in previous year is eliminated this year. It means that 19.7% short term disequilibrium will be adjusted in first year while 80.3% will carry forward to the next period.

Empirical result on India indicates that short-run changes in real output have statistically significant positive impacts on short-run changes in income inequality. Inflation (INF), financial depth (FD), GDP and trade openness (TRO) to income inequality in short-run have positive but statistically insignificant impact on the short-run changes
in income inequality. The short-run changes in Human and income (GRO) have statistically significant negative impact on the short-run changes in inequality. The result also indicates that about 0.524 of discrepancy in previous year will further inflate in next year. The coefficient of equilibrium error term indicates that any disequilibrium in short run in previous year will further inflate the disequilibrium in long run. The result for Pakistan indicates that short-run changes in real output have statistically significant positive impact on short-run changes in income inequality. Financial depth to income inequality in short-run have positive but statistically significant impact on the short-run changes in income inequality. The short-run changes in GRO and TRO have statistically significant impact on the short-run changes in inequality. GDP, Human and inflation (INF) to income inequality in short-run have negative but statistically significant impact on income inequality. The result also indicates that about 0.191 of discrepancy in previous year is eliminated this year.

5. Conclusion and recommendation
This study makes an empirical attempt by using time series data over the period of 1980-2014 in examining both the short and long run relationship between financial development and income inequality in three developing Asian countries-Bangladesh, Pakistan and India by endogenising other factors, such as GDP, GDP growth per capita (income), inflation, financial depth, human capital and trade openness. A visual study for Normality test indicates that whole data for three countries are normally distributed as most of residual lies inside normal curve. Stability test findings show that CUSUM and SUCUSUM (Brown et al., 1975) lies in the critical region. No heteroscedasticity has been detected by Park test in the model. When the series is found to preserve data in a unit root difference, it is appropriate to make it stationary in the congressional procedure, in order to avoid the problem of spurious regression of non-stationarity of the time series, thus the findings indicate that all variables are stationary by taking values at level for both cases. There is no serious auto-correlation problem as shown by the Durbin–Watson statistics. Cointegration relationship between all variables for three countries leads us to accept hypothesis as there exist cointegration relationship among independent n dependent variables.

It is found that empirical model fulfills the assumptions of CLRM (classical linear regression model) as inflation impedes income inequality for Bangladesh and India while it has no shown for Pakistan. Growth rate (GDP) is insignificant for India and Pakistan however it is significant for Bangladesh having statistically positive relationship with income inequality. It means GDP is linked with growth of income of elite class rather than bottom segments of population. National income improves inequality for Bangladesh but have insignificant affect in income inequality for India and Pakistan. Trade Openness (TRO) is insignificant for India and Pakistan, however it is significant for Bangladesh having statistically positive relationship with income inequality which means there is increasing unemployment in countries by lowering employment opportunity for skilled and unskilled labour comparatively. Human Capital (HC) shows insignificance for India and Pakistan where as it is significant for Bangladesh; it means these countries have not efficiently used these resources in educational sectors. Financial Depth (FD) is insignificant for all three countries Bangladesh, India and Pakistan. It means these developing countries are not efficient for allocating domestic private credit to poor segments of population.

Our findings indicate that income-inequality relationship for developing countries has contradictory results. In case of Bangladesh, financial development increases income inequality; These results are consistent with Wahid et al. (2011) and Barro (2000); but in case of Pakistan and India financial development mitigates income inequality, these findings are consistent with Law and Tan (2009); Shahbaz and Islam (2011); Arora (2012); Ang (2010) and Shahbaz et al. (2015) for Malaysia, Pakistan, India and Iran respectively who reported financial development impairs income distribution. The results for Bangladesh, India and Pakistan indicate that short-run changes in real output have statistically significant positive impact on short-run changes in income inequality. The empirical findings demonstrate that though the relationship is not highly cogent, but the expansion of financial sector development is indispensable.

Furthermore, the findings of this study imply that a certain level of financial development is prerequisite for reducing income inequality. There is no denial to the fact that large imbalances in distribution of income would result in highly detrimental socioeconomic impacts. As emphasized by Pickett and Wilkinson (2015) societies with higher proportions of income inequalities suffer from worse health issues which may lead to violence and other social problems in the society. Hence, it is imperative for the governments to outline policies for narrowing the income differences and ensure that merits of financial development are not limited only to the privileged section of the society. Pro-rich financial development will lead to irreversible social and economic tribulations. Thus, it is fundamental that the deprived section of the society must be benefitted from financial development in order to enhance socioeconomic development holistically. Nevertheless, it is highly plausible that different nations get
affected by distributional shocks differently as determined by their respective political and institutional set-up as well as nature of distributional shocks. It is anticipated that future researchers would give adequate attention to such details which might result in enhancing our insight about income inequality to a greater extent.

References
AUTHOR GUIDELINES

Open Access and Copy Right Policy
The authors submitting and publishing in READS agree to the copyright policy under creative common license 4.0 (Attribution-Non Commercial-Share Alike 4.0 International). Under this license, the authors published in READS let others remix, tweak, and build upon their work non-commercially. Yet all the other authors using the content of READS are required to cite author(s) and journal and publisher in their work.

Language
All manuscripts should be in English language (US English). Research papers should be thoroughly checked by the author(s) to avoid grammatical, typographical and syntax errors.

Length of paper
5,000 words including tables and references.

Title page
It should include concise, specific, relevant and informative title (avoid abbreviations in the title). Please indicate the full name of author(s) clearly. Present the authors affiliation below the names. Provide the full address of each affiliation, including the country name, correct e-mail address, and telephone number of each author. Please clearly indicate who (corresponding author) is willing to handle correspondence at all stages of peer review and publication.

General rules for text
Please use the following rules for whole text, including abstract, keywords, heading and references.
Font: Times New Roman; Size: 12
Paragraph Spacing: 12 pt
Line Spacing: fixed – Single
Heading: Times New Roman; Size-12; Bold;
A concise and factual abstract is required (maximum length 200 words). The abstract should state briefly the purpose of the research, data set, methodology, results, major conclusions and usefulness of the study.

Keywords
Immediately after the abstract, provide 6-8 keywords specific to the research paper.

Introduction
This section may cover overall background and description of the study, narrow down to research objectives, motivation of the topic, importance/significance, proposed tasks and novelty. Abbreviations should be described in parentheses when first time they appear in the text.

Literature review
This sections may critically describe/evaluate literature relevant to research problem, establish context, compare and contrast the most recent developments in literature and trends. Search gaps after concentrating on thought leaders’ work and linking the research with relevant theories.

Methodology
This section may describe population structure, sample, instrumentation, data collection, hypotheses, equations, statistical tool and its justification.
Data analysis
This section may cover in depth interpretation through applying higher order thinking skill of analysis and develop novel arguments based on significance of statistical relations. Establish interconnections among and within variables. Testing hypotheses and comparing with literature.

Discussion and recommendations
It may be broken into meaningful sections, i.e. hypotheses supported/rejected, alternative explanations, conclusion, theoretical/methodological contribution, practical implications, recommendations, future study directions and limitations.

Figure legends, figures, schemes
Present them in order (suitable heading and specific number; Arabic numerals) wherever appropriate in the text. High-resolution (black and white only) graphs must be provided in the main text of the paper.

Tables
Present tables with suitable heading and specific number (Arabic numerals) at the appropriate place of the article. Use the Table option of Microsoft Word to create tables. Ensure that the data presented in tables do not duplicate results described elsewhere in the article. Refer to table number wherever appropriate in the text of the paper.

References
Citations in the text should follow the referencing style used by the American Psychological Association (APA).

Appendix
Background information, list of respondents, list of companies or questionnaire may be described in this section if required by the editor/reviewer.

Plagiarism Policy
In accordance with the guidelines of Higher Education Commission (HEC) Pakistan and Committee on Publication Ethics (COPE), Review of Economics and Development Studies (READS) observes Zero Tolerance to plagiarism. We use Turnitin for all research papers submitted to detect possible plagiarism. If similarity is more than 20%, the paper is returned to the author(s) immediately. If plagiarism or other unethical practices are detected after publishing the paper, editorial board has the authority to correct or retract the paper plagiarism policy.