# Journal of Accounting and Finance in Emerging Economies

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ARTICLE DETAILS

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ABSTRACT

This paper examines how equity liquidity affects firms’ investment decisions. We use an unbalanced panel data for a sample of 360 non-financial firms of Pakistan for the period 2001-2016. We apply the Hausman specification test to identify whether fixed or random effects model is appropriate. Using two alternative measures of equity liquidity, we find that equity liquidity has a significant positive impact on firms’ investment decisions. We also show that several firm-specific factors are significant in determining firms’ investment policy. The findings of the paper have significant implications for both policymakers and firm managers. Our results support the liquidity premium hypothesis.

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1. Introduction

Understanding the links between equity liquidity and investment is important in corporate finance. Why stock liquidity is considered important for firms’ investment decisions? How equity liquidity lessens the uncertainty about obtaining funds from equity market? Do liquid stocks really reduce the cost of issuing new equity? These questions have recently motivated the financial economists to examine empirically the effect of equity liquidity on firms’ valuation and financial policies.

There are several theories regarding the role of equity liquidity in firms’ capital structure and investment decisions. Several studies including Hovakimian et al. (2004), Frieder and Martell (2006), Lipson and Mortal (2009), and Udomsirikul et al. (2011) have documented significant evidence that stock market liquidity is an important factor in determining firms’ capital structure. One of the main findings of these studies is that the cost of issuing new equity is low for firms with more liquid stocks, and hence, they reduce uses of debt to finance their assets, reducing their leverage ratio significantly. Analogously, Dittmar and Thakor (2007) examine the issuance of security and point out that at the time of high stock prices, firms are more expected to raise funds by issuing new equity. Similarly, some other studies have
also documented that firms opt to raise funds by issuing new equity to fulfill their capital requirements at the time of high stock prices (see, for example, among many others, Asquith and Mullins (1986), Baker and Wargler (2002), Jung et al. (1996), and Mikkelson and Partch (1986)). Similarly, another study by Butler et al. (2005) provides evidence that investment banks charge low fees for seasoned equity offered by firms with higher stock liquidity.

One of the important questions regarding liquidity is that whether firms having liquid stock do more investment? According to finance theory, stock liquidity is significantly related to expected stock returns. Investors required liquidity premium for investing in illiquid stocks. Further, as in Amihud and Mendelson (1986, 1988), the increased equity liquidity results in higher firms’ financial value. This is because when the liquidity of stock improves, then the assets in place are discounted at a lower cost of capital. Several other empirical studies have documented evidence supporting these theoretical predictions (Amihud and Mendelson (1989), Haugen and Baker (1996), Anshuman et al. (2001), and Easley and O’Hara (2004)).

Equity liquidity is positively related to firm investment through two channels. First, equity liquidity positively affects the investment of corporate firms by increasing the market value of the existing assets and expanding the pool of viable investment opportunities available to the firms. Indeed, according to Myers (1977), the existing assets of a firm and the available investment opportunities both together constitute the value of the firm. Owing to increased equity liquidity, the required returns on stocks would be lower, and hence, the cost of capital would be lowered. Given this context, one can expect that not only the investment opportunity set would expand but also the market value of assets in place would rise due to increases in equity liquidity. Therefore, we suppose that firms that have relatively more liquid stocks are likely to do more investment spending. Secondly, the liquidity of stock increases firms’ investment expenditures by lessening financial constraints. Thus, firms those stocks are more liquid are expected to raise required amount of capital easily and relatively at low costs and thus, they do more investment. Therefore, we, in this paper, departing from most of the existing literature, test in a relatively different way the implication of the liquidity premium supposition by investing the impact of equity liquidity on firm investment.

Tice et al. (2009) provide evidence that the improved firms’ stock liquidity can improve firms’ worth because liquidity triggers trade by informed investors that results in more informative prices of stock and better marginal inducement. Xiong (2016) explains that stock liquidity can help firms to avail investment opportunities by investigating the relationship between stock liquidity, firm investment, and capital allocation efficiency.

Reviewing the empirical literature we observe that examination of the equity liquidity effects on firms’ investment decisions is still an understudied area of research, particularly in developing and emerging countries like Pakistan. However, for a complete understanding of how equity liquidity affects corporate firms, it would be worthwhile to investigate this issue for developing and emerging economies. The empirical evidence on the effects of equity liquidity on firm investment policy would definitely enhance our understanding about the role of liquidity in firm evaluation and financial decisions.

Keeping in view the gaps given in the existing literature, this paper aims to contribute into the literature by examining the role of equity liquidity in determining firms’ investment. While examining the equity liquidity effects we consider several firm-specific factors as control variables in our empirical analysis. We use two alternative measures of equity liquidity, namely, “Pastor and Stambaugh’s (2003) measure of equity liquidity” and “Amihud’s (2002) measure of equity liquidity” to ensure that our findings are robust to different measures of liquidity. We apply the Hausman specification test to make a choice between random and fixed effects model. By presenting strong evidence on the effect of equity liquidity on firm investment, we compliment the literature supporting the liquidity premium hypothesis.
The paper is structured as follows. Introduction is presented in Section 1. Section 2 presents the brief review of the studies regarding the role of equity liquidity. Section 3 deals data, variables, and estimation methods. Section 4 presents the empirical results. Finally, Section 5 concludes the paper by providing concluding remarks and some policy implication.

2. Literature Review and Theoretical Justification

Amihud (2002) was the first person to initiate the concept of equity liquidity. After this initiative, a lot of research has been done on the equity liquidity effects. He finds that investors generally require a higher required rate of returns for investing in illiquid stocks. This suggests that the liquidity of stocks is negatively linked to the cost of equity financing. According to Ready et al. (1996), stock liquidity is an important aspect of trading equities.

Wurgler et al. (2002) examine that stock prices significantly affect firms’ investment that are equity dependent. Choi & Cook (2006) study the stock market liquidity of Japan and find that due to equity liquidity managers can be benefited by information for enhancing investment. Crowin (2003) finds that there is a negative and significant relationship between the level of market liquidity and to the low pricing of seasoned equity offerings. Hennessy and Whited (2005) argue that that firms’ stock liquidity makes easy for firms to raise funds by doing external financing because it decreases the cost associated with issuing new equity. Similarly, another study by Butler et al. (2005) also finds that the liquidity of stock market has a significant influence on firms’ decision to raise funds through external sources.

Thokar et al. (2007) show that in periods when stock prices are higher, firms opt to raise external capital by issuing stocks, suggesting the negative association between stock liquidity and the cost of capital. Kim and Lee (2014) estimating the “liquidity-adjusted capital asset pricing model” find that liquidity is a significant priced factor, suggesting that equity liquidity is negatively related to the required rate of return.

Zhang et al. (2017) show that there is a positive and statistically significant association between firms’ value and stock liquidity. Stulz et al. (2013) explore the links between the issuance of new equity and the liquidity of stock market. They provide strong evidence that equity issuance is significantly and directly related to lagged changes in equity market liquidity. Becker-Blease and Pual (2006) also provide evidence of a positive association between equity liquidity and firm investment spending. Specifically, they show that the liquidity of stocks effectively increases the pool of positive NPV projects, which enables firms to do more investment. Kang et al. (2017) investigate how the investment policy of corporate firms is affected by changes in stock liquidity. They find the positive and significant association between firms’ investment spending and liquidity of stocks.

Martel et al. (2006) document evidence that equity liquidity has a significant and positive effect on firms’ leverage decisions. Their findings suggest that firms having more liquid stocks significantly reduce their leverage. According to the authors, firms with more equity liquidity carry less proportion of debt because firms having more liquid stocks will prefer equity to debt while raising funds from external sources. However, Anderson (2002) finds a direct relation between equity liquidity and leverage of British companies.

After reviewing the existing literature we can conclude as follows. First, equity liquidity negatively affects the cost of capital by reducing the required rate of returns. Second, equity liquidity effectively enlarges the pool of viable investment opportunities. Third, equity liquidity is one of the important priced factors in asset pricing, supporting the hypothesis of liquidity premium in equity returns. Fourth, we find hand-full evidence suggesting the significant and positive link between equity liquidity and the investment decisions of firms. We notice that the existing empirical studies have examined the role of equity liquidity mainly for developed markets and therefore, we have very limited empirical evidence on
the equity liquidity effects on the investment decisions of firms in emerging and developing markets. Therefore, this paper aimed at filling the gaps given in the literature by investigating the effects of the liquidity of stock on investment spending of firms in Pakistan.

3. Data, Variables, and Methodology
To achieve the objectives of the paper, we carry out the empirical analysis for a large sample of 360 non-financial firms listed at “Pakistan Stock Exchange (PSX)” over the period 2001-2016. Our dataset is an unbalanced annual panel as we allow entry and exit to avoid the survival bias. The data are taken from “Balance Sheet Analysis of Non-Financial Firms” published by “State Bank of Pakistan” (SPB). The data on money supply and GDP are collected from World Bank Indicators, World Bank Database. The standard deviation of cash flows of firms is used as a proxy for business risk.

We achieve the objectives of the study by estimating several models for firm investment. Our model of firm investment includes the variable of interest equity liquidity and several firm-specific control variables. Further, we include firm-specific and year-specific effects. The model takes the following form

\[ I_{it} = \beta_1 + \beta_2 EL_{it-1} + \beta_3 FCF_{it-t} + \beta_4 TQ_{it-1} + \beta_5 Lev_{it-1} + \beta_6 Size_{it-1} + \beta_7 CH_{it-1} + \beta_8 Div_{it-1} + \beta_9 Age_{it-1} + \beta_{10} BR_{it-1} + f_i + y_t + \epsilon_{it} \]  

(1)

where \( I_{it} \) represents the investment of firms. It is the ratio of total capital expenditure to total book assets of firms, EL represents equity liquidity which is proxied by two alternative measures namely “Pastor and Stambaugh’s (2003) measure of equity liquidity” and “Amihud’s (2002) measure of stock liquidity”, FCF is free cash flow defined as the ratio of cash flow from operations to total book assets, TQ is Tobin’ Q ratio. It is constructed as the ratio of market to book value of total assets of the firms. The variable Lev is the financial leverage defined as the ratio of liabilities to assets, Size is firm size, which is proxied by the log of assets normalized by inflation, CH is the ratio of cash holdings to assets, Div is the ratio of cash dividends to firms’ book assets, Age is the age of a firm, which is defined as the total number of years in the given year the firm had been in the business, BR is business risk, which is proxied by the standard deviation of cash flows, \( f_i \) is firm-specific effects, \( y_t \) is year-specific effects, and finally \( \epsilon_{it} \) is the error term.

3.1 Measuring Equity Liquidity
Liquidity of stock can be measured through several ways. In this paper, we apply the following two measures. Both measures are highly used in the literature.

3.1.1 Pastor and Stambaugh’s (2003) Equity Liquidity Measure
According to Pastor and Stambaugh (2003), lower liquidity of stocks results in higher volume adjusted stock returns. Pastor and Stambaugh’s equity liquidity measures reflects the trading cost. To measure equity liquidity, we estimate the model given in Eq. (5) by applying the ordinary least squares (OLS) estimation method.

\[ R_{i,d+1,t}^e = \alpha_{it} + \beta_{it} \times R_{i,d,t}^e + \lambda_{i,t} \times \text{sign}(R_{i,d,t}^e) \times TV_{i,d,t} + \epsilon_{i,d+1,t} \quad d = 1,\ldots,D \]  

(5)

where \( R_{i,d,t} \) is the stock return on stock \( i \) on the day \( d \) in the month \( t \), \( \beta_{i,t} \) is the liquidity beta. \( R_{i,d,t}^e \) is defined as the difference of \( R_{i,d,t} \) and \( R_{m,d,t} \) representing the access market return, \( TV_{i,d,t} \) is the trading volume, \( \text{sign}(R_{i,d,t}^e) \) is equal to 1 if \( R_{i,d,t}^e > 0 \), -1 if \( R_{i,d,t}^e < 0 \), and 0 if \( R_{i,d,t}^e = 0 \). The estimated coefficient of term \( \text{sign}(R_{i,d,t}^e) \times TV_{i,d,t} \times (\hat{\lambda}_{it}) \), represents equity liquidity for each stock included in the sample in month \( t \). It can be viewed as the “cost” of liquidity in terms of higher stock return. One should note that we estimate month wise regression only for the stocks those have trading at least 15 days in the underlying month.

Next, we measure the liquidity innovations of \( i \)th stock in month \( t \) as follows:
\[ \Delta \hat{\lambda}_{it} = (mv_{it} / mv_{i1}) \times (\hat{\lambda}_{it} - \hat{\lambda}_{it-1}) \quad i = 1, \ldots, N_t \] (6)

where \( mv_{it} \) is the market value of \( ith \) stock in month \( t \) and \( mv_{i1} \) is its market value in first observation month. This type of scaling incorporates the time value of liquidity, making the liquidity measure inflation adjusted.

### 3.1.2 Amihud’s (2002) Liquidity Risk Measure

We construct our second measure of equity liquidity in spirit of Amihud (2002) as follows.

\[ ILLIQ_{it} = \frac{1}{D_t} \sum_{d=1}^{D_t} |R_{itd}|/(TV_{itd}/N_{it}) \quad i = 1, \ldots, N_t \] (7)

where \( ILLIQ_{it} \) is the measure of illiquidity of \( ith \) stock in the month \( t \), \( D_t \) denotes the total number of trading days in month \( t \), \( N_{it} \) is the total number of stocks in month \( t \), \( R_{itd} \) is the return of \( ith \) stock in the month \( t \) on day \( d \), \( TV_{itd}/N_{it} \) represents the average trading volume per \( ith \) stock in month \( t \). We multiple the illiquidity measure \( ILLIQ_{it} \) by \(-1\) to get the liquidity measure.

### 4. Empirical Results

We start by presenting the summary statistics of our both equity liquidity measures and the other variables included in the analysis in Table 1. The statistics show that on average, the sample firms invest about 11 percent of their total assets in fixed assets. The estimated figure of standard deviation of investment reveals that firm investment expenditures significantly vary across the firm-year observations. The mean values of equity liquidity measure 1 (Pastor and Stambaugh’s (2003) measure) and measure 2 (Amihud’s (2002) measure) are 0.219 and 0.000, respectively. However, the value of standard deviation shows that equity liquidity measure 1 is more volatile as compared to equity liquidity measure 2. We observe that the average values of cash flows and Tobin’s Q ratio are 0.14 and 4.333, respectively. On average, firms keep about 4.8% of total assets in cash reserves. The mean value of firm size is 14.471. The average life of the sample firms is 31.69 years. We can see from the table that on average, firms pay 2.5% of total assets in terms of cash dividends. Finally, the mean value of business risk is 0.131.

### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std.Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>5124</td>
<td>0.114</td>
<td>0.143</td>
</tr>
<tr>
<td>Pastor liquidity measure</td>
<td>4606</td>
<td>0.219</td>
<td>14.542</td>
</tr>
<tr>
<td>Amihud liquidity measure</td>
<td>4595</td>
<td>0.000</td>
<td>0.004</td>
</tr>
<tr>
<td>Cash Flow</td>
<td>5356</td>
<td>0.140</td>
<td>2.302</td>
</tr>
<tr>
<td>Tobin Q</td>
<td>5356</td>
<td>4.333</td>
<td>13.700</td>
</tr>
<tr>
<td>Size</td>
<td>5356</td>
<td>14.471</td>
<td>1.733</td>
</tr>
<tr>
<td>Leverage</td>
<td>4519</td>
<td>0.279</td>
<td>0.378</td>
</tr>
<tr>
<td>Cash Holding</td>
<td>5353</td>
<td>0.045</td>
<td>0.088</td>
</tr>
<tr>
<td>Dividend Ratio</td>
<td>4814</td>
<td>0.025</td>
<td>0.119</td>
</tr>
<tr>
<td>Age</td>
<td>5379</td>
<td>31.697</td>
<td>17.736</td>
</tr>
<tr>
<td>Business Risk</td>
<td>5414</td>
<td>0.131</td>
<td>0.931</td>
</tr>
</tbody>
</table>

To get the preliminary evidence on the relationship between dependent variables and a set of explanatory variables, we estimate correlations. The correlation estimates are given in Table 2. It can be observed from the table that both of equity liquidity measures are positively related to investment. Similarly, firm size, and Tobin’s Q ratio have positive and significant correlations with firm investment. Although leverage is negatively related to both investments, firms’ cash holdings are negatively and significantly correlated with firm investment. The table reveals that the correlation between firm age and firm investment is negative and statistically significant at the acceptable level of significance. Further, we find that business risk is also negatively correlated with investment.
Table 2:

<table>
<thead>
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<th></th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pastor liquidity</td>
<td>0.0136</td>
</tr>
<tr>
<td>Amihud liquidity</td>
<td>0.0111</td>
</tr>
<tr>
<td>Cash Flows</td>
<td>-0.0306*</td>
</tr>
<tr>
<td>Tobin Q</td>
<td>0.00230</td>
</tr>
<tr>
<td>Size</td>
<td>0.0879*</td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.0674*</td>
</tr>
<tr>
<td>Cash Holding</td>
<td>-0.0536*</td>
</tr>
<tr>
<td>Dividend Ratio</td>
<td>-0.0150</td>
</tr>
<tr>
<td>Age</td>
<td>-0.0420*</td>
</tr>
<tr>
<td>Business Risk</td>
<td>-0.1007*</td>
</tr>
</tbody>
</table>

To achieve the first objective of study, we estimate two models of investment. In Model 1, we consider “Pastor and Stambaugh’s (2003) measure of equity liquidity” while in Model 2 we consider “Amihud’s (2002) measure of equity liquidity”. We carry out our empirical analysis in several different steps. First of all we identify whether the data should be pooled or it should be considered as a panel. Therefore, we test pooled regression versus fixed effect model.

4.1 Testing pooled regression versus fixed effects model

To identify whether pooled regression or fixed effects model is appropriate we apply the coefficient restriction test on the estimated coefficient of individual firms. The test has the following null and alternative hypotheses.

Ho: Pooled regression is appropriate
H1: Fixed effects model is appropriate

The test results are given in Table 3

Table 3: Pooled regression versus fixed effects model

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-stat.</td>
<td>1.810</td>
<td>1.810</td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The calculated F-statistic and its p-value suggest that we reject null hypothesis and conclude that pooled regression is not appropriate. After having confirmed that pooled regression is not suitable for our data set we examine the appropriateness of pooled regression against random effects model.

4.2 Random Coefficient Models (Another Poolability test)

Table 4 presents the estimated value of chi-square for both models. The test has the following hypotheses.

Ho: Pooled regression is appropriate, i.e., variance of residuals is equal to zero.
H1: Random effects model is appropriate, i.e., variance of residuals is not equal to zero.

Table 5: Pooled regression versus random effects model

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>29.27</td>
<td>29.01</td>
</tr>
<tr>
<td>P-value</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

* p<0.10, ** p<0.05, *** p<0.01

It is clear from the Table the p-values associated with the chi-square statistics are zero. Thus, we reject the null hypothesis. Therefore, we conclude that the variance of the residuals is not equal to zero, suggesting that we cannot pool the data. Rather, the test suggests that the random effects model is appropriate.
4.3 Random versus fixed effects model

After having rejected the pooled regression against both fixed as well as random effects models, we next identify whether the fixed or random effects model is appropriate. For this purpose, we apply the Hausman specification test. This test has the following null and alternative hypotheses.

- $H_0$: Random effects model is appropriate
- $H_1$: Fixed effects model is appropriate

The results of the Hausman test are given in Table 5. The estimated values of chi-square provide strong evidence to reject the null hypothesis. Therefore, we conclude that the appropriate estimator for both models is fixed effects. We proceed further by applying fixed effect estimator to examine the impact of equity liquidity on firm investment decisions. The results of both models are given in Table 6.

The results indicate that equity liquidity is positively and statistically significantly related to the investment decisions of firms. The positive and significant impact of equity liquidity on the investment decisions of firms hold for both proxies of liquidity used in the study. Specifically, the estimated coefficient of the equity liquidity measure of Pastor and Stambaugh (2003) is positive and statistically significant at any acceptable level of significance. This finding implies that firms those stock are more liquid do more investment, on average. The positive relationship between equity liquidity and firm investment is explained as follows:

Liquid stocks provide more information about firm-specific information that managers do not know as well as investors that helps in making more investment. This implies that firms those stocks are more liquid do more investment. This is because as these firms may easily raise required capitals by issuing new equities as their stock are liquid and required less premium, decreasing the cost of capital. By improving in stock market liquidity we can reduce cost of raising capital for firms. The finding of positive impact of equity liquidity on investment is consistent with the findings of pervious study (e.g. Deveureux and Schiantarelli (1989)). However, our findings are not consistent with the studies that have provided evidence of the negative links between stock market liquidity and the investment decisions of firms (Fang et al. (2014) and Ha and Vinh (2017)).

<table>
<thead>
<tr>
<th>Table 6: Random versus fixed effects model</th>
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<tbody>
<tr>
<td>Model 1</td>
</tr>
<tr>
<td>Chi-square</td>
</tr>
<tr>
<td>P-value</td>
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<table>
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<tr>
<th>Table 7: Results of Fixed Effects Model</th>
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<tbody>
<tr>
<td>(1)</td>
</tr>
<tr>
<td>Coff./Std</td>
</tr>
<tr>
<td>Pastor liquidity measure</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Amihud liquidity measure</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Cash Flow</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Tobin Q</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Size</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Leverage</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Cash Holding</td>
</tr>
</tbody>
</table>
Dividend Ratio | 0.0617 | 0.0618 | -0.021 | -0.021 | (0.0419) | (0.0419)
Age | -0.007*** | -0.007*** | 0.0011 | 0.0011 | (0.0011) | (0.0011)
Business Risk | 0.218*** | 0.223*** | 0.0670 | 0.0581
Constant | -0.098 | -0.095 | 0.0747 | 0.0749
No. firms | 346,000 | 346,000
No. obs. | 3378,000 | 3371,000
F-stat. | 9.36 | 9.56
p-value | 0.000 | 0.000

* p<0.10, ** p<0.05, *** p<0.01

The results of control variables indicate that free cash flows, Tobin’s Q, firm size are positively related to firms’ investment decisions. On the flip side, the cash ratio, leverage, dividend ratio, Business risk, and firm age are negatively related to firm investment spending. The negative relation of leverage with the investment policy of firms is consistent with the findings of Ogawa (2013) and Westphal et al. (2017). We also find that firms having more free cash flow do more investment spending. This finding is consistent with the free cash flow theory, stating firms having excess cash flow are expected to increase their investment spending. Further, the positive impact of free cash flow of investment is in line with the findings of several existing studies (e.g., Guariglia (2008), Soumaya (2012), and Kazu Ogawa (2013)).

The estimation results also reveal that firms having more growth opportunities do more investment. This finding strongly compliments the findings of Beck and Levine (2004), who also shows the positive association between firm investment policy and growth opportunities. The finding regarding firm size suggests that the larger the firm the higher the investment. A possible explanation for this finding is that large firms generally have more human capital and enjoy more economies of scale and scopes. Therefore, they do more investment spending. Several studies in the literature like Soumaya (2012) also find the positive impact of firm size on firm investment.

The results for the model where we include Amihud’s (2002) equity liquidity measure are generally consistent, in terms of both sign and statistically significance, with the results of the model where we include “Pastor and Stambaugh’s (2003) measure of equity liquidity”. Practically, Amihud’s (2002) equity liquidity measure is also positively and significantly related to the investment decisions of firm. This indicates that our findings of the positive impact of equity liquidity on firms’ investment decisions are robust to different proxies of equity liquidity. The results of the control variables included in the specification are also consistent with our earlier findings. Although the magnitude of the estimated coefficients is different in both models, they are quite similar in terms of sign and statistically significant.

5. Conclusions
In this paper, we empirically examine the impact of equity liquidity on firms’ investment decisions. Our empirical analysis is based on a large unbalanced panel dataset of Pakistani non-financial firms listed at “Pakistan Stock Exchange”. The study covers the period 2001-2016. We apply “Fixed effects model”. We use two different measures of equity liquidity namely, “Pastor and Stambaugh’s (2003) measure of equity liquidity” and “Amihud’s (2002) measure of equity liquidity”.

Our empirical results suggest that the both measures of equity liquidity have positive and significant effects on the investment decisions of firms operating in Pakistan. This implies that firms those stocks are more liquid do more investment. This is because as these firms may easily raise required capitals by
issuing new equities as their stock are liquid and required less premium, decreasing the cost of capital. The finding of the positive sensitivity of firm investment to equity liquidity is in support of the liquidity premium hypothesis. The results also reveal that cash flows, Tobin’s Q ratio, business risk, and the size of firm size have significant positive effects on firms’ investment decisions. On the other hand, the variables namely, leverage, dividends ratio, and cash holdings are significantly and negatively linked with the investment decisions of firms. Finally, we show that mature firms do less investment.

Our findings are of great interest to policymakers and firm managers. In particular, the findings suggest that the liquidity of firms’ stocks has a very important role to play for determining firms’ investment policy. Our findings regarding firm-specific control variables have also several policy implications for investors and firm managers.

Reference


The Relative Efficiency of Commercial Banks in Pakistan with Respect to Size and Ownership Structure During and After Global Financial Crisis

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ARTICLE DETAILS

Purpose: This study has been carried out to find out the relative efficiency of the commercial banks in Pakistan over a five-year period from 2006 to 2010 using Frontier Approach of efficiency. The commercial banks included in this research paper are public sector banks, privatized banks, domestic private banks, and foreign banks. In addition to overall efficiency comparison of the commercial banks, this study has also tested the effect of size and ownership structure of the commercial banks in Pakistan on their efficiency.

Data/Design/Methodology/Approach: Out of 44 banks, 21 commercial banks have been chosen, which, in terms of deposits, account for about 94 percent of total deposits of the banking sector (Rs. 5,124,308 million) as on December, 2010. Secondary data of the banking firms have been gathered from their audited financial statements. Intermediation approach has been used by employing Data Envelopment Analysis. The relative efficiency of the commercial banks has been investigated in context of intermediation approach which transforms labor and capital into advances/loans and investments.

Findings: Over all a very few commercial banks have achieved 100% efficiency. It is, however, found that privatized and domestic private banks have shown better efficiency in terms of financial intermediation as compared to public sector and foreign banks. The size of the banks has a very slight effect on the relative efficiency of the banks. The global financial crisis has affected the efficiency of some of the commercial banks but for a small period of time.

Originality: This paper is an attempt to find out the relative efficiency of the commercial banks during the mentioned period which lies during the Global Financial Crisis. Its findings would be of great value for every stratum of society including bankers, business community, academicians, and government and of course, the investors.

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1. Introduction
The financing activities of firms are one of the key financial decisions. Firms have to issue/create debt and equity instruments for financing their operations and investments. Broadly, there are two main sources of finances available: financial institutions and capital markets. In some countries like USA and UK, capital markets have been predominantly used while in countries such as Germany, Italy, Japan etc. the banks have been the major source of finances. The commercial banks are also the major source of finances in developing countries like Pakistan as capital markets are not very much developed over there.

The banks have been comparatively more efficient especially in terms of cost and information as compared to the capital markets. The advantage of capital markets being the provider of large size finances has also been subsided by the introduction of syndicated loans. An early description of the informational advantages of financial intermediation, obtaining funding through an intermediary is found in the 1977 article by Leland and Pyle, which focused on the moral hazard problem between borrowers and lenders. The financial institutions may have more accurate information about the borrowers and their projects due to their professional expertise and that are relatively low cost than capital markets. The shareholders of firms realize positive returns following the announcement that their firm has obtained a loan from a commercial bank (James, 1987; Magginson, Poulsen, and Sinkey, 1995).

Banking sector’s contribution to the national economy is substantial and financial intermediation provided by them in screening and monitoring borrowers can solve moral hazard and adverse selection issues faced in the information provided by borrowers and lenders (Hughes, 2008). Financial sector plays a crucial role in development and progress of a country’s economy.

The banking sector in Pakistan provided domestic credit equivalent to 46.28 percent of Gross Domestic Product (GDP) in the year 2010 which was 48.44 percent in the year 2009. The same was 53.21 percent in 2008. Pakistan inherited not very progressive financial sector at the time of independence. In Pakistan, financial sector comprises of regulator (SBP), commercial banks, investment intermediaries, development finance institutions, saving banks and stock markets. The banking history of Pakistan is as old as Pakistan itself. Due to the high regulations and more intervention of government authorities, the performance of banking sector was not up to the satisfactory level in the 70s and early 80s when most of the financial institutions were in public sector. Hence, the banking efficiency remained very low. According to Fitch ratings, an international credit rating agency (at New York and London), the Pakistani banking sector has gradually evolved from a weak state-owned system to slightly healthier and active private sector driven system. Pakistani banking sector has not been affected by the external shocks especially the financial crisis 2007-08, as it influenced the banks in Europe and USA.

Financial reforms were introduced in different phases since 1991 and as a result, Pakistan banking sector moved towards liberalization and financial sector deregulation. Since then the banking sector has made tremendous growth but still a lot of competitive deficiencies prevail in the sector. The number of commercial banks has been established in the private sector, some major public sector banks have been privatized (ABL, HBL, MCB, UBL) and a number of commercial banks have merged into other banks (The Royal Bank of Scotland, Pakistan into Faisal bank, Atlas bank into Arif Habib bank renamed as Summit bank). The total number of commercial banks including public sector banks, domestic private banks, privatized banks and foreign banks are 44 (SBP website 2011).

The commercial banks in Pakistan now are working within a competitive environment and thus the management of every bank is striving hard to improve the efficiency of their bank so as to become more
efficient or at least to maintain their previous rating among the peers. The State Bank of Pakistan, since its autonomy in 1990s has provided all the banks with a very innovative policies and a level playing field for healthy rather tough competition. The regulator, the government departments, public from all walks of life and even employees and management of the banks remain concerned with the performance of the banks. Intuition and a vast amount of empirical evidence have proved that a best bank in one year may not maintain its superiority in the following or next years. Being a very sensitive sector, a good performing bank may fall in troubles and even may go into bankruptcy as has happened around the globe during 2007-08 such as Lehmon Brothers (one of the America’s largest financial services entity) which filed for bankruptcy on September, 2008.

In Pakistan, a few studies have been carried out on the efficiency measurement of commercial banks but most of them are conducted before the global financial crisis 2007-08. It is therefore imperative to investigate the efficiency of the banks during and after this crucial period. This study has therefore been carried out to look for the relative efficiency of the commercial banks over a five- year period from 2006 to year 2010 by employing Data Envelopment Analysis and SPSS. The commercial banks included in this research paper are i) public sector banks, ii) privatized banks, iii) domestic private banks, and iv) foreign banks. This study has excluded domestic saving banks and specialized financial institutions because of very different nature of their operations. It has also excluded the newly emerging Islamic banks due to their different parameters of efficiency measurement.

This study will be of great value for the government, its various departments, the regulator, general public, business community, employees and management of the banks as well as investors, both foreign and local. It will be a good enough addition in the practical and academic knowledge. The specific objectives of the study are:

To measure the overall relative efficiency of the commercial banks in Pakistan for each year in the period 2006 to 2010

To measure the relative efficiency of the commercial banks in Pakistan over the same period with respect to their ownership structure (private, public, foreign, privatized).

To evaluate the relative efficiency of the commercial banks in Pakistan with respect to the size of the banks.

2. Literature Review

There have been several efforts to investigate the efficiency of the commercial banks in the world over and in Pakistan as well. Given below is a brief description of the researches made in different countries including Pakistan.

Saha and Ravisankar (2000) evaluated technical efficiency of 25 Indian commercial banks by using the DEA and computed the efficiency of a bank in transforming inputs into outputs in relation to its peer group. Their results depicted that the public sector banks have made improvements over the years.

Zajc (2006) in his comparative study of bank efficiency in Central and Eastern Europe criticized the studies of the performance of banks which often focus on the presentation of financial ratios and the analysis of scale and scope economies. He preferred for using non-parametric efficiency estimation techniques such as DEA and the free disposable hull (FDH), and three major parametric techniques: the stochastic frontier analysis (SFA), the distribution free approach (DFA) and the thick frontier approach (TFA). His study concluded that foreign banks are less cost efficient than domestic banks.

Supachet Chancern (2008) examined the relative efficiency of commercial banks in Thailand for a period
of 4 years by utilizing a non-parametric analytical technique: Data envelop analysis. In this study, DEA model has been used under two different approaches in evaluating the relative efficiency of commercial banks in Thailand: Operating approach and Intermediation approach. The operating approach evaluated the efficiency from the cost/revenues management and showed average efficiency of the Thai commercial banks over 90 percent in every year where as by intermediation approach though high but volatile with the average efficiencies about 86 percent in 2003, 72% in 2004, again 86 percent in 2005 and 72 percent in 2006.

Hughes (2008) gives an overview of two general empirical approaches to measuring bank performance: nonstructural and structural. The nonstructural approach compares performance among banks and considers the relationship of performance to investment strategies and other factors such as characteristics of governance. The structural approach is choice-theoretic and, as such, relies on a theoretical model of the banking firm and a concept of optimization.

Some recent research work made with respect to efficiency of Pakistani commercial banks is narrated below:

Akhter (2002) made studies on concept of X-efficiency of commercial banks for the year 1998 taking cross sectional data and by using DEA approach. He investigated technical efficiency and allocative efficiency of 40 banks. Private banks in Pakistan emerged as efficient on both fronts i.e. technical efficiency and allocative efficiency, compared to their counterparts, the public and foreign banks.

Ahmad (2008) in his doctoral thesis on the subject used DEA to capture multiple outputs. He used input oriented of DEA under constant returns to scale (CRS) and variable returns to scale (VRS). He opted for intermediation approach to define the inputs and outputs of the commercial banks. Besides, non-parametric approach, he used Tobit Model to develop the relationship between efficiency scores and factor efficiency. He concluded that commercial banks can improve the efficiency by increasing profits, assets, mark-up interest earnings and non-mark up interest earnings , and decreasing liabilities, mark-up interest expenditures and non-mark-up interest expenditures among the bank specific variables.

Akmal and Saleem(2008) analyzed the technical efficiency of thirty Pakistani Banks over a period 1996-2005 by using DEA approach. They concluded that overall banks in Pakistan improved their performance especially after 2000. It was found that there was about 12 percent technical inefficiency under CRS and 9 percent under VRS assumptions. It found 4 percent scale inefficiency in the banking sector.

Rehman and Raoof (2010) made a comparison between public, private and foreign banks efficiencies. They analyzed 40 commercial banks for the period of ten year (1998-2007) and employed data envelopment analysis (DEA) to compute their efficiencies. Their study show results show that foreign and private sector banks were well ahead of pubic sector in term of technical efficiency in the initial years but in the next years public sector banks were the best. The reason stated by them was massive privatization which resulted into the inefficiency of private sector in comparative terms.

Janjua and Malik (2011) analyzed cost inefficiency of 15 Pakistani commercial banks during 1990 to 2006. The cost structure of banks has been defined under intermediation approach. For results estimation, free distribution approach has been used. The study mainly finds that cost inefficiency varies across the banking industry. If ranked, a foreign private bank is found as the best practice bank or a cost frontier. As regards the contributory factors of cost inefficiency, these are non-performing loans which contributed largely to the cost inefficiency of banks, followed by financial prices, advances, and investment. In terms of cost efficiency, foreign private bank was found to be the best practice bank and estimated as a cost frontier. The relative efficiencies of other banks worked out in the range of 97.13 percent (foreign bank) to 59.23 percent (a privatized bank).
It is concluded from the above studies that both parametric such as SFA, DFA or TFA and non-parametric approach i.e DEA can be used to evaluate the relative efficiency of the commercial banks in terms of technical, allocative, scale and operating context.. For working out the technical efficiency of the commercial banks, DEA can be comfortably used.

3.Data Collection and Research Methodology
The data has been taken from the annual financial reports of the respective banks and various statistics published by State Bank of Pakistan. The study has collected data on 21 commercial banks with different ownership structure and different sizes, out of total 44 scheduled banks as per website of the state Bank of Pakistan 2011 which according to State Bank of Pakistan monthly statistics, account for about 94 percent in term of total deposits of the banking sector in Pakistan (December 2010). Except three foreign banks, all other banks (18) are listed with the Karachi Stock Exchange. The total listed number of banks is 26. The cross sectional data for each commercial bank, as an entity, has been taken for each calendar year from 2006 to 2010.

3.1 Efficiency Measurement approach and Variables
The study has taken three inputs: deposits, total expenses and labour, and two outputs: total advances and investments. Intermediation approach has been used for measuring the relative efficiency of the commercial banks which uses labour and capital to convert deposits into advances, loans and investments. The input and output variables for the chosen approach are given below:

Input 1= no of employees (staff strength excluding outsourced)
Input 2= total expenses (in thousand Rupees)
Input 3= total deposits (in thousand Rupees)
Output 1=Total advances and loans (in thousand Rupees)
Output 2= investments (in thousand Rupees)

This study has initially taken the following banks for the year 2006 to 2008.

Public sector Banks:
1. National Bank of Pakistan  
2. The Bank of Khyber  
3. The bank of Punjab

Privatized Banks:
1. Habib Bank Limited  
2. Allied Bank Limited  
3. United Bank Limited  
4. MCB Bank Limited

Private Domestic Banks:
1. NIB bank  
2. Atlas Bank Limited  
3. Summit Bank (formerly Arif Habib Bank limited)  
4. Askari Commercial Bank  
5. Bank Alfalah limited  
6. Bank Al Habib Limited  
7. Soneri Bank limited  
8. Standard Chartered Bank  
9. Habib Metropolitan Bank  
10. The JS Bank

Foreign Banks:
1. The Bank of Oman  
2. The Faisal Bank Limited  
3. HSBC Bank  
4. Citi Bank

In the year 2009, the data of 20 banks have been taken due to non-availability of annual report of the bank of Punjab for the year where as number of banks taken in 2010 reduced to 19 as Atlas bank has been merged into Summit Bank(formerly Arif Habib bank).

3.2 Research Methodology:
As mentioned above, the study has focused on the intermediation approach for the investigation into relative efficiency of the commercial banks. For analysis purpose, Data envelopment analysis is being employed. The study is investigating the efficiency from three perspectives: i) overall relative efficiency of each of the commercial banks in Pakistan during the five year period 2006-2010. ii). Relative
efficiency of the banks with respect to Size, where total assets have been taken as the proxy for size categorization. iii) the relative efficiency of the banks with respect to their ownership structure i.e., Public sector banks, Privatized banks, Domestic private banks and Foreign banks.

As per ownership structure, these four categories have been analyzed and with respect to size of total assets, all the banks have been classified into three different classes: large, medium and small.

In data envelopment analysis, Score 1 is taken as 100% efficiency and the banks with score 1 will be declared as the best bank(s). The banks with score less than 1 will be termed as inefficient. A bank obtaining a score closer to 1 will be near to efficiency and vice versa. An efficiency frontier is developed by different combinations of the best banks, which in turn becomes the yardstick for measuring the efficiency or otherwise of the other banks. The farther a bank is from efficient frontier, the more efforts it will need to achieve efficiency.

3.2.1 Data Envelopment Analysis:

There are two analytical techniques being used to measure the relative efficiency of financial institutions: parametric and non-Parametric. The parametric approaches include the SFA (stochastic frontier approach), the TFA (thick frontier approach) and the DFA (distribution free approach). The non-parametric approaches include the DEA (data envelopment approach) and the FDH (free disposal hull). Most of the studies on efficiency of commercial banks around the world and in Pakistan have used the DEA (Akhter, 2002; Ahmad, 2008; Akmal and Saleem, 2008). This study is also using DEA to measure the relative efficiency of the commercial banks in context of their intermediation.

The DEA utilizes cross sectional data of decision making units (DMUs) with multiple inputs and multiple outputs. It is imperative to mention here that the inputs and outputs of DMUs being compared should be same to employ DEA. In this non-parametric analytical technique, first of all a benchmark is worked out and then inefficiencies of other DMUs are found with respect to the benchmark. A study by Farrel (1957) is quoted where DEA was first used to analyze the technical efficiency of production taking one input and one output. However, Charnes, Cooper and Rhodes (1978) developed this single input-output model into multiple inputs and multiple outputs situations latterly referred to as CCR model. The DEA was further extended by Banker, Charnes and Cooper in 1984. The difference between the last two developments is that the former study assumed a constant return to scale whereas the later, also added the assumption of variable return to scale.

DEA can be thought of like a regression analysis but with the difference that DEA does not require a functional relationship between inputs and outputs as required in case of regression analysis. Moreover, regression analysis compares different DMUs with the average value of all DMUs where as DEA first determines a best DMU as benchmark and then compares other DMUs (entities) with the benchmark.

3.2.2 Model Specification

This study uses CCR model in order to measure the relative efficiency of each commercial bank in Pakistan. The CCR model considered in this study is an output-oriented model which means to produce the highest level of output with a given amount of input. His model defines the efficiency as under:

Efficiency= weighted sum of outputs/Weighted sum of inputs

The weights of the ratio are determined by the ratio by the restriction that the similar ratios for every DMU.

Max \( h_o \) \((u,v) = \frac{\sum^y r=1 v_ry_0}{\sum^m i=1 u_ix_0}\)

subject to

\[\frac{\sum^y r=1 v_ry_j}{\sum^m i=1 u_ix_j} \leq 1\]  \hspace{1cm} j=1,2,\ldots,n

\(u_{\geq0}; i=1,2,\ldots,m\)
Where

\[ x_{ij} = \text{the amount of input I utilized by the jth DMU} \]
\[ y_{rj} = \text{the amount of output r produced by the jth DMU} \]
\[ u_i = \text{weight given to input i} \]
\[ v_r = \text{weight given to output r}. \]

4. Results:

4.1 Overall Efficiency Analysis of Commercial Banks in Pakistan.

The summary results of the selected banks are given in Table 1. The efficiency of the banks varies from 100% to 47%. The average efficiency of Pakistani commercial banks ranges from 80% to 92% in the study period which is quite reasonable from the perspective of other developing countries. However, out of 21, seven banks were found efficient in the year 2006 while two-thirds of the selected banks remained inefficient from 1% to 41%. The Bank of Oman witnessed the lowest efficiency.

In 2007, the number of efficient banks in Pakistan reduced to five out of whom four were the same as in 2006 i.e. MCB bank, Summit bank, Habib Metropolitan Bank, and Faisal bank. The average efficiency also dropped from 89% to 85.9%.

In the year 2008, the number of efficient banks reduced to four, three of which were again the same i.e. MCB bank, Habib Metropolitan Bank, and Faisal bank. The average efficiency declined further to about 80 percent.

In the year 2009, the number of efficient banks increased to six out of which two banks namely Habib Metropolitan Bank, and Faisal Bank retained their efficient position whereas MCB Bank remained short of efficient bank by 65. The average efficiency of the banks increased to 89%.

In the year 2010, the number of efficient banks further increased to eight in which Habib Metropolitan Bank still remained efficient for the fifth consecutive year. The MCB bank once again achieved 100% efficiency after some inefficiencies (6%) in the previous year. ABL and UBL who achieved 100% efficiency in 2009, also maintained their efficient position in the year 2010. The average efficiency of the banks during the year experienced another improvement and achieved an efficiency of 92%.

The following banks have never been able to achieve the 100% efficiency position throughout the study period of five years.


The Habib Metropolitan bank remained an efficient bank over the entire study period whereas MCB bank and Faisal bank remained efficient for the four years while slightly short of the target in one year.

Table 1: Relative efficiency of commercial banks in Pakistan

<table>
<thead>
<tr>
<th>Name of bank</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
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<td>NBP</td>
<td>0.780515</td>
<td>0.893586</td>
<td>0.912862</td>
<td>0.888442</td>
<td>0.854202</td>
</tr>
<tr>
<td>HBL</td>
<td>0.906235</td>
<td>0.895104</td>
<td>0.715292</td>
<td>0.911195</td>
<td>0.947178</td>
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<tr>
<td>ABL</td>
<td>0.842925</td>
<td>0.797859</td>
<td>0.797359</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ACB</td>
<td>0.841442</td>
<td>0.824692</td>
<td>0.681627</td>
<td>0.852349</td>
<td>0.855008</td>
</tr>
<tr>
<td>UBL</td>
<td>0.852922</td>
<td>0.934731</td>
<td>0.794115</td>
<td>1</td>
<td>1</td>
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<td>Bank Alfalah</td>
<td>0.680013</td>
<td>1</td>
<td>0.67342</td>
<td>0.771989</td>
<td>1</td>
</tr>
<tr>
<td>MCB</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.943517</td>
<td>1</td>
</tr>
<tr>
<td>NIB</td>
<td>1</td>
<td>0.864359</td>
<td>0.846418</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Summit (Arif Habib)</td>
<td>1</td>
<td>1</td>
<td>0.881917</td>
<td>0.793155</td>
<td>0.840803</td>
</tr>
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<td>---------------------</td>
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<td>-----------</td>
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<td>-----------</td>
</tr>
<tr>
<td>Habib Metropolitan Bank</td>
<td>0.997036</td>
<td>0.788451</td>
<td>0.703041</td>
<td>0.885639</td>
<td>0.950482</td>
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<td>Standard Chartered Bank</td>
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<td>0.685483</td>
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<td>Soneri Bank</td>
<td>0.591303</td>
<td>0.560227</td>
<td>0.471352</td>
<td>0.661276</td>
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<td>Bank of Oman</td>
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<td>0.938731</td>
<td>1</td>
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<td>-</td>
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<td>Bank of Khyber</td>
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<td>0.84391</td>
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<td>CITI Bank</td>
<td>1</td>
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<td>0.807539</td>
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<td>JS Bank</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>0.967584</td>
</tr>
<tr>
<td>Faisal Bank</td>
<td>0.855718</td>
<td>0.90009</td>
<td>0.71241</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bank of Punjab</td>
<td>0.890724</td>
<td>0.85877</td>
<td>0.804941</td>
<td>0.919433</td>
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</tr>
</tbody>
</table>

### Table 2: Efficiency of commercial banks with respect to ownership structure (2006-2010)

<table>
<thead>
<tr>
<th>GRP1</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public sector banks</td>
<td>.8568</td>
<td>.06780</td>
<td>.71</td>
<td>.94</td>
</tr>
<tr>
<td>Privatized banks</td>
<td>.9169</td>
<td>.08931</td>
<td>.72</td>
<td>1.00</td>
</tr>
<tr>
<td>Domestic private banks</td>
<td>.8877</td>
<td>.10663</td>
<td>.66</td>
<td>1.00</td>
</tr>
<tr>
<td>Foreign Banks</td>
<td>.8284</td>
<td>.15856</td>
<td>.47</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>.8721</td>
<td>.12097</td>
<td>.47</td>
<td>1.00</td>
</tr>
</tbody>
</table>

4.2: Analysis of commercial banks with respect to ownership structure

The commercial banks in Pakistan fall into four categories with respect to ownership structure. Category 1 consists of three public sector banks which include the National bank of Pakistan, the Bank of Punjab and the Bank of Khyber. The second category includes the four privatized banks namely Habib bank limited, Allied Bank limited, MCB bank limited and United Bank limited. These banks have been in the public sector since nationalization of banks in 1974 and have been privatized in the last decade or so. The third category consists of newly established commercial banks set up in the private sector after financial liberalization in the late 1990s and afterward. These are Askari commercial bank, bank Alfalah, NIB bank, Summit (Arif Habib) bank, Habib Metropolitan bank, Soneri bank, bank al Habib, Atlas and JS Bank. The foreign banks have been placed in the fourth and last category. They are Standard Chartered bank, The Bank of Oman, HSBC bank, Faisal bank and CITI bank.

An overall analysis of the selected commercial banks in terms of ownership structure has been made by using DEA and then SPSS for the period under study. The results are given in table 2. The mean value column of the table depicts that on average none of the class was found as efficient banking category. However, privatized banks and the domestic private banks showed better efficiency than public sector banks and foreign banks. The last category is the most inefficient in their intermediation role. This may be due to the lowest efficiency of the Bank of Oman and then Standard Chartered bank. These two foreign banks remained highly efficient during the years 2007 & 2008.

4.3: Analysis of Commercial banks’ Efficiency with respect to size classification.
As a last and final analysis, the study has investigated the relative efficiency of the commercial banks by classifying the sample banks into three broad classes on the basis of total assets (2010): large, medium and small. Keeping the range of total assets of the selected banks, the study has made three ranges of classification. Banks having total assets of Rs.0.500 billion and above, have been placed in large category; the medium range contains the banks with total assets from Rs.0.100 billion to Rs0.499 billion and third category designated as small consists of the commercial banks with total assets of less than Rs0.100 billion.

According to this scheme of classification, the banks are placed as against the relevant category, as under:

<table>
<thead>
<tr>
<th>Category</th>
<th>Name of the banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>National Bank, Habib Bank, Allied Bank, United Bank, MCB bank</td>
</tr>
<tr>
<td>Medium</td>
<td>Askari bank, Bank Alfalah, NIB bank, Habib Metropolitan Bank, Standard Chartered, Soneri Bank, Bank al-Habib, Faisal Bank &amp; Bank of Punjab</td>
</tr>
<tr>
<td>Small</td>
<td>Summit bank, Bank of Oman, HSBC Bank, Bank of Khyber, Citi Bank and JS Bank</td>
</tr>
</tbody>
</table>

The relative efficiency analysis of the commercial banks according to size is given in table 3. When grouped into three categories, none of the class shows 100 % efficiency. It is, however observed that large banks are comparatively more efficient than the medium and small group of banks. The result tends to state the size of the bank does matter in assessing relative efficiency of the commercial banks. However, this result can not be generalized due to average of efficient and inefficient banks in each class as witnessed in the analysis of banks individually and over the year.

<table>
<thead>
<tr>
<th>GRP2</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large banks</td>
<td>.9067</td>
<td>.08487</td>
<td>.72</td>
<td>1.00</td>
</tr>
<tr>
<td>Medium banks</td>
<td>.8910</td>
<td>.11215</td>
<td>.67</td>
<td>1.00</td>
</tr>
<tr>
<td>Small banks</td>
<td>.8226</td>
<td>.14015</td>
<td>.47</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>.8721</td>
<td>.12097</td>
<td>.47</td>
<td>1.00</td>
</tr>
</tbody>
</table>

5. Conclusion
From the above analysis, it is found that the relative efficiency of the banks in Pakistan varies from 100 % to 47% during the period 2006 to 2010. The average efficiency of Pakistani commercial banks ranges from 80% to 92 % which is quite reasonable from the perspective of other developing countries. A very few banks have been found almost efficient consistently. The privatized banks especially MCB bank has performed efficiently during the period where as Allied Bank and United Bank have become efficient in the last two years (2009 & 2010). Over all, the Habib Metropolitan bank, a domestic private bank, has been found an efficient bank throughout the period of analysis. The Faisal bank has also been an efficient bank during the year 2006 to 2009. However, its efficiency slightly decreased in the year 2010.

As far as relative efficiency of the commercial banks is concerned with respect to ownership structure, the privatized and the domestic banks have been more efficient than public sector banks as well as the foreign banks. Moreover, there seems to an effect of size on the efficiency of the banks but it is not that significant to be generalized. One important empirical finding of this study is that the commercial banks were affected by the global financial crises up to some extent as their average efficiency declined in the

This research has certain limitations such as all commercial banks have not been included in the study. Though the left over banks account for a very small proportion of total banking sector, it would have been preferable that all the banks might have included. Moreover, the determinants of efficiency may be found using second stage analysis. This study, however, has given a fair enough view of the banks’ efficiency.

References


Impact of Financial Literacy and Parental Socialization on the Saving Behavior of University Level Students

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ABSTRACT

This is an explanatory study on the impact of financial literacy and parental socialization on the saving behavior of university level students. Using primary data collection method, 400 questionnaires were distributed to the students of universities across Pakistan. Pearson correlation and multiple regression analysis are employed by using SPSS. Our results demonstrate that financial literacy and parental socialization positively influence the saving behavior of students. Our result revealed that the students who have financial literacy exhibit more saving behavior as compared to others who do not have financial knowledge. It is also concluded that the student willingness to save increased due to receiving financial education from their parents.

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1. Introduction

Over the few past decades, savings are playing a major role in the economic development of the countries. Saving is the portion of income which is not spent on current consumptions. The consumption pattern of individuals determines their savings decisions (Browning & Crossley, 2001; Baidoo, Boateng & Amponsah, 2018). Saving is considered as a major factor that affects the economic growth of developing countries (Jagadeesh, 2015). In developing countries, saving is an essential element of households’ welfare. For people and family units, savings give security against future crises while for national savings it gives resources that are required for the development of the country (Gedela, 2012; Jagadeesh, 2015). Savings are essential for the economic growth of country because if the savings rate is low, then the investment will also be low leading to the low capital formation. According to Horrod (1939) and Domar (1946), the savings rate and the ability to save help out to determine the speed of economic growth.
because an increase in the saving rate will lead to an increase in the rate of investments in the countries and therefore it stimulates economic growth of countries.

National Savings are essential for accomplishing high economic growth (Jagadeesh, 2015; Auerbach, & Kotlikoff, 1983). An increase in the rate of saving can bring more investments (Cheema et al., 2018). It will finally lead to industrial growth, business era, change in the nature of items, stable costs, and higher growth (Ayadi, Ben Omrane, Lazrak, & Yang, 2018). The savings of household and individuals are the essential segment of national saving in both developed and developing nations (Ayadi et al., 2018). During the 1960s, the national savings rate of Pakistan was around 10 percent of GDP and it increased to 15% in 2000s but after that it continuously declined. The saving rate in Pakistan is unfavorable in comparison to neighboring countries. The average saving rate of last five year was 31.9% in India, in Sri Lanka 24.5% and in Bangladesh 29.7% (SBP, 2016). When people save their money in different financial institutions then they will have more reserves. Due to increase in reserves, these institutions will give loans on the low interest rate for investment purpose. This aspect will enhance investment level and the economic growth in the country (Ahmed, 2015).

The best way to increase the national saving rate is to encourage the individuals for savings. The financial literacy can be provided to individuals through different educational programs and seminars. This will increase their knowledge and encourage them for making future financial plans, and pick the most reasonable financial instrument to accomplish and achieve their financial objectives.

To assess the saving behavior, several studies have been conducted in Pakistan (Khan, Hasan, Malik, & Knerr, 1992; Mehmood & Qasim, 1992; Nasir, Khalid & Mehmood, 2004; Ahmed, 2015; Cheema, Saleem ur Rehman & Atif, 2018). Akhtar (1987) analyzed the impact of dependency, urbanization, education on household savings. Also, Iqbal (1993) analyzed the impact of income level, domestic interest rate, domestic credit, foreign interest rate, private capital outflow, terms of trade, inflation rate, dependency ratio, worker’s remittances, net foreign capital outflow, real wage rate, export earnings and debt service on saving behavior. Azhar (1995) worked on the determinants of savings in the rural area. Shaikh (2012) analyzed the impact of income, exports, debt, government expenditure and inflation on national saving.

In most of the studies, it is concluded that saving is an important component of an economy (Cheema et al., 2018). The higher level of savings can stimulate investment in the economy. Many factors can influence the savings behavior of university level students. The financial literacy and parental socialization are among such factors (Sarpong- Danquah, Gyimah, Poku, & Osei-Poku, 2018). The exact identification of such factors can facilitate in boosting savings and mobilize these for efficient utilization. How financial literacy and parental socialization can affect the saving behavior is a question of concern. The difference in the saving pattern of students is also another question so this study is an attempt to address these questions. This study will be helpful for different banks and other financial institutions, policy makers and parents in getting the most appropriate information about the university level students.

2. Literature Review

Saving is the partition of the income which was not spent on current consumptions (Ahmed, 2015; Cheema et al., 2018). The people save their money for different purposes. Saving is beneficial not only for the individuals but also for the whole country and it helps in infrastructure development and long-run investments in the country likewise saving act as a hurdle for countries against financial crisis and economic downturns (Jagadeesh, 2015; Baidoo et al., 2018). Clark and Madeleine (2008) demonstrated that financial literacy and financial plans are extremely successful in defeating the reduction in saving. The association between financial illiteracy and miss management of different financial matters may be obvious. The Theory of Planned Behavior supports the idea that financial literacy and parents are playing an important role in shaping the financial habits of individuals. In Theory of Planned Behavior, Ajzen (1991) stated that the behavior of the individuals influenced by their
intentions formed by attitude, subjective norm and perceived behavioral control.

Hogarth (2002) defined financial literacy as it is the way that how individuals managed their financial resources in the form of investment, insurance, budgeting, and saving. Financial literacy is an expertise or skill that can help individuals to make an effective financial decision. The individual’s way of managing and saving behavior changed due to financial literacy. It describes in some studies that the financial literacy act as the awareness of different financial ideas and capability to deal their financial issues (Hogarth, 2002). Due to financial literacy, the individuals can get several benefits. Monticone (2012) argue that there are three main advantages of financial literacy. First, it enhances the attractiveness of different financial products and services, and also the capacity to utilize. Thus, this can increase the demand for these financial items. Second, due to financial literacy, the individuals can better manage their resources. Third, money related education can engage helpless people to effectively oversee and grow a small-scale business, enhancing their administrative abilities and the proper utilization of financial items for their organizations. Individuals who have financial information, aware about different financial threats and opportunities and the individuals who are conscious about their duties and rights in connection to monetary foundations can facilitate in developing the financial markets.

Beal and Delpachtra (2003) analyzed the financial knowledge of the university students in Australia and they found that financial literacy of business students is better as compared with others. They further argued that the Individuals who had higher financial literacy were better able to manage their money, make proper planning, decrease their spending and also invest more than others. Murphy (2005) documented that the majority of business student have more financial literacy than the non-business students and the students who belong to educated families are also more financially literate than the students who belong to a less educated family. Lusardi and Mitchell (2007) noted that an increase in the capabilities and financial knowledge help in promoting the effective decision-making in different financial matters, therefore, it enables the individuals to effectively manage their different life events such as schooling, illness, purchasing, and retirement.

There is practical evidence that parents can build up the skills of their kids that are imperative for savings. Furnham (1999) studied the habit of savings and spending of youngsters. He argued that saving behavior of young people is caused by parental requirements and requests. Parents can play a significant role in encouraging their kids toward savings (Lusardi & Mitchell, 2014). There are two types of parents. First, the parents who always try to protect their kids from different financial difficulties and responsibilities. Such types of parents do not involve their kids in different financial matter discussions. Second, there are some parents who try to educate their children about the different financial matters because they know that it is important for them to know about it to manage their budget and also to increase their savings (Leiser & Ganin, 1996; Ribeiro, Fonseca, & Soares, 2018).

Homan (2016) argued that the parental education and socialization can help out in boosting the saving of individuals and decrease their borrowing. The saving habits of individuals can be developed when parents teach their kids during childhood. The parent’s discussion of financial matters and guidance affect the saving and borrowing habits of their kids. The bad habits of children already formed if the parents start financial teaching too late. Parents can control the spending of their children by monitoring their expenditure regularly (Fatoki, 2014; Batty, Collins & Odders-White, 2015). Wong (2013) stated that the individuals whose financial habits monitored by their parents during childhood had effectively managed their own money.

Based on the literature, we hypothesize that:

**H1:** There is a positive relationship between parental socialization and saving behavior.

**H2:** There is a positive relationship between financial literacy and saving behavior.
Figure 1: Research Model

![Financial Literacy](#) ![Parental Socialization](#) → **Saving Behavior**

Source: Adapted from Thung et al. (2012)

### 3. Methodology

This is an explanatory study on the factors influencing the saving habits of university students in Pakistan. This is a cross-sectional study in which the data was collected at one time from the university level students of Azad Jammu & Kashmir, Pakistan. The target population for this study was all the students who were enrolled in different universities of Azad Jammu & Kashmir. For this study, 400 students of Master of Business Administration were selected as samples from four universities of Azad Jammu & Kashmir. By using the quota sampling technique, 100 samples were selected from each university including the University of Poonch Rawlakot, University of Kotli Azad Jammu and Kashmir, Mirpur University of Science and Technology and the University of Azad Jammu and Kashmir, Muzaffarabad. In this study, primary data was collected using questionnaires. Pearson correlation and multiple regression analysis was applied using SPSS. The following regression model was applied for empirical analysis:

\[
SB = \beta_1 + \beta_1 FL + \beta_2 PS + \epsilon
\]

### 3.1 Results and Discussion

#### Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>391</td>
<td>1.00</td>
<td>2.00</td>
<td>1.3990</td>
<td>.49032</td>
</tr>
<tr>
<td>Age</td>
<td>391</td>
<td>1.00</td>
<td>5.00</td>
<td>3.5575</td>
<td>.98248</td>
</tr>
<tr>
<td>Monthly Allowance</td>
<td>391</td>
<td>1.00</td>
<td>5.00</td>
<td>2.5396</td>
<td>1.28615</td>
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<td>Part-time Job</td>
<td>391</td>
<td>1.00</td>
<td>2.00</td>
<td>1.8849</td>
<td>.31954</td>
</tr>
<tr>
<td>FL</td>
<td>391</td>
<td>1.00</td>
<td>5.00</td>
<td>3.4848</td>
<td>1.03632</td>
</tr>
<tr>
<td>PS</td>
<td>391</td>
<td>1.00</td>
<td>5.00</td>
<td>3.7081</td>
<td>.88277</td>
</tr>
<tr>
<td>SB</td>
<td>391</td>
<td>1.00</td>
<td>5.00</td>
<td>3.6995</td>
<td>.74211</td>
</tr>
</tbody>
</table>

The above table shows that saving behavior has the highest mean score of 3.699; while gender has the lowest mean score of 1.399. For standard deviation, monthly allowance has the highest score of 1.286; whereas .3195 is the lowest value scored by part-time job.

#### Correlations

<table>
<thead>
<tr>
<th></th>
<th>FL</th>
<th>PS</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>FL</td>
<td>1</td>
<td>.657**</td>
<td>.498**</td>
</tr>
<tr>
<td>PS</td>
<td>.000</td>
<td>1</td>
<td>.567**</td>
</tr>
<tr>
<td>SB</td>
<td>.391</td>
<td>.391</td>
<td>1</td>
</tr>
</tbody>
</table>
The above table shows that the financial literacy and parental socialization both have a positive association with saving behavior of university level students. The parental socialization has strong ($r = 0.567$) relationship with the saving behavior of university level students while financial literacy has ($r = 0.498$) association with saving behavior. The relationship between parental socialization with financial literacy is stronger in comparison with other because the financial literacy level of individuals not only increase due to getting financial education but also due to parent’s guideline and encouragement.

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

### Table 3: Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Beta</th>
<th>t</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Variable</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Age</td>
<td>4.359</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Allowance</td>
<td>4.489</td>
<td>.129**</td>
<td>.125</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Financial Literacy</td>
<td>0.153*</td>
<td>4.163</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parental Socialization</td>
<td>0.322**</td>
<td>7.412</td>
<td>.422</td>
<td>.416</td>
</tr>
</tbody>
</table>

Note. **p < .01

Table above indicates 0.422 value of R square which means that FL and PS explained 42.2% variation in the saving behavior of university-level students. In regression analysis, the F-value is 70.435 which shows the fitness of model in this study. The above results revealed that the parental socialization ($\beta= 0.322$) has a strong influence on SB this means that by holding other variables constant, an increase in the unit of PS will result in 0.322 units increase in the SB, therefore H1 is accepted. Similarly the FL ($\beta= 0.153$) has second strong influenced on SB and it is also show that if one unit of FL will increase then .153 units of SB will increase, thus, H2 is accepted also.

### 4. Conclusion

This study aimed to analyze the impact of FL and PS on the SB of university-level students in AJ&K, Pakistan. The results of this study demonstrate that the FL and PS both have positive impact on SB of university-level students. Our result revealed that the students who have financial literacy exhibit more saving behavior as compared to others who do not have financial knowledge. It is also concluded that the student willingness to save increased due to receiving financial education from their parents (Fatoki, 2014; Mahdzan & Tabiani, 2013). The parents are the best source who can control the spending of their kids and can encourage them for savings. So both FL and PS positively influence the savings of individuals which not only increase their financial resources but also beneficial for the whole economy because an increase in the savings will help in infrastructure development and long-run investments in the country and it will directly influenced on GDP and finally affect the economic growth of the countries (Cheema et al., 2018).

This study will provide direction to policy makers and other regulating authorities to make appropriate strategies to increase the saving of youngsters. They need to organize different financial training programs to increase the financial literacy of students. This study will help different banks to gain better understanding of saving behavior of university level students of AJ&K. Therefore they can develop...
financial products or services according to the needs and preferences of university students to convert these students as their valuable customers. In this study, parental socialization is a good predictor of their children’s saving behavior. Parents always play the central role in facilitating and promoting their children’s saving behavior. This study will enable the parents to get the information about the financial behavior of their children and so due to this they can be able to control their spending and can encourage them for savings.

References


A Conceptual Framework for the Role of Corporate Social Responsibility in Palestinian Firm Performance

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Objective: This research study has shed light on the perceptions of Corporate Social Responsibility (CSR) which identified in four dimensions of CSR including community, environmental, ethical, and consumer protection responsibilities.

Methodology: This paper provides conceptual arguments that allow for better understanding of the role of CSR in the Palestinian society.

Findings: The literature on CSR has increased substantially over the past decade, but existing research document mixed and inconclusive results on the role of CSR and firm performance.

Implication: Although the link between CSR and firm performance have been studied, a significant research gap remains when considering the relationship between CSR and firm performance in the Palestinian context. This is because the CSR research has been neglected in the context of Palestine. For companies, this study proposes that they should put more efforts on enhancing the role of the CSR. Moreover, this study suggests for the management to re-think and re-strategize their CSR policies to improve their performance.

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Keywords: Corporate Social Responsibility, Community Involvement, Environmental CSR, Human Resources, Products and Customers Disclosure.

1. Introduction
The corporate social responsibility (CSR) has been seen as one of the main factors that enhance the ability of firms to reach their economic goals and enhance the performance of firms. The concept of social responsibility was discussed as early as the 1930s (Carroll, 1979). Corporate social performance (CSP) model or CSR has become major philosophy for most of organization to contribute in social issues and this model developed by Carroll (1979).
Development of this model is due to pressures in humanity and environment which has increased in business world also the purpose of this model is to decrease level of pressures occurred (Turker, 2009). Previous studies in this study indicated literature offers different definition of CSR such as Bowen (1953) which referred CSR as manager’s responsible in decision making which aligned with objectives and values of society. It also can be defined as firm behavior that could affect social and nonsocial stakeholders and economic interest (Turker, 2009).

In the rapid change of economic world, organization must portray good side of them such as socially responsible organization especially in the contemporary globally competitive market. Being as socially responsible companies, this would benefit them in offering them advantages in pursuing goals especially organization that operated in multiple countries in order to avoid action taken by government in term of regulation, environmental restrictions, issues on labor exploitation. On top of that, CSR could help them in prolong their profitability and sustainability of the company also reputation in long term period (Islam, Ahmed & Hassan, 2012).

Among most global companies, some simply view CSR as a costly and misapplication of resources and should be applied only to value-adding activities for shareholders (Lima Crisóstomo, Souza Freire & Cortes de Vasconcellos, 2011). Nonetheless, other studies have claimed that companies have a responsibility to a broader group of stakeholders and hence should undertake the obligations inherent in CSR (Schueth, 2003). The presence of these two perspectives refers to clear inconsistencies exist in the literature review with regard to the nature of the relationship between CSR and firm performance. Some authors such as (Gherghina, Vintila, & Dobrescu, 2015; Lima Crisostomo, de Souza Freire & Cortes de Vasconcellos, 2011: Menassa, 2010: Nollet, Filis & Mitrokostas, 2016) have argued that a negative relationship exists between CSR and firm performance. Yet, others such as (Alafi & Hasoneh, 2012: Flammer, 2015: Frooman, 1997: Kotler & Lee, 2005; Sims, 2003: Skare & Golja, 2012: Rehman, Baloch, & Sethi, 2015; Waddock & Graves, 1997) claimed that CSR affects firm performance in a positive way.

In Palestine, Palestinian Securities Exchange (PSE) believes very strongly in the value of CSR that the published disclosure system issued by PSE notes that listed companies on the PSE are responsible for serving the environment and the local community as a function of their social responsibility (PSE, 2016). However, Palestinian studies argued that the disclosure of social responsibility was weak and non-existent in some of the companies listed in PSE which has a direct impact on the Palestinian society (Abu Samra, 2009; Alsenawi & Banat, 2014). This led to misunderstand the importance of applying the CSR in the Palestinian firms. Therefore, an urgent need exists for an in-depth study into corporate social disclosure and identification of areas for improvement in the future.

Moreover, the Palestinian political situation that destroyed the state economy also considers as an incentive to study the subject of CSR of companies towards this category of society. High percentage on unemployment, pollution, socio-economic has affect Israel’s occupation and policies towards Palestinian society (Palestinian Central Bureau of Statistics, 2014). This is a wake-up call for companies in helping community through social responsibility in overcome dangers around them (Alsenawi & Banat, 2014). Alsenawi and Banat (2014) stated that some companies have escaped from their social responsibility for several reasons including a lack of CSR culture, no oversight role of the government in regard to CSR disclosures, and a lack of seminars and workshops. Alsenawi and Banat (2014) recommended more study to evaluate CSR projects in Palestinian society that have not yet been evaluated. Therefore, this study adopted the four-dimensional classification, which is borrowed from Usman and Amran (2015)'s study based on CSR dimensional approach including 1) community, 2) environmental, 3) ethical and 4) consumer protection responsibilities. This provides a useful means of conceptualization of CSR in emerging, yet volatile, market like Palestine.
This paper is organized in four sections, section one is the introduction, section two is the literature review related to CSR and the underpinning theory, section three is the research model, section four is the discussion of the study, lastly section five presents the conclusion of the study.

2. Literature Review
In their review of the historical development of Corporate Social Responsibility, Usman and Amran (2015) identified four dimensions of CSR based on CSR dimensional approach, including: 1) community, 2) environmental, 3) ethical and 4) consumer protection responsibilities. Community responsibility refers to the contribution of the company to the general welfare of society and improvements in the personnel department leading to the improvement of production capacity, which thus leads to improvement of the performance of the company as a whole (Lakhder & Shanini, 2011). Environmental responsibility is related to the reduction of the environmental impacts of production processes and the elimination of toxic emissions and waste (Muhammad, Scrimgeour, Reddy & Abidin, 2015). Ethical responsibility refers to working with an ethic framework within institutions to prevent bribes and corruption, protect consumer rights, and make ethical investments. Lastly, consumer protection is related to the non-manipulation of prices and preventing monopoly products (Carroll, 1999).

2.1 The Concept of Corporate Social Responsibility
Palmer (2012) stated that recently many well-known international companies have added CSR programs to their business operations as CSR has become a fundamental priority in current society. However, focusing on the question about whether CSR or firm performance comes first remains vital. Waddock and Graves (1997) and Dean (1999) analysed this question by applying the slack resource theory and the good management theory. According to slack resource theory, a firm should obtain a good financial level first so that they can later engaged in corporate social responsibility. That is because to engaged social responsibility, funds are needed from successful firm performance. Based on this theory, then, firm performance should come first.

Conversely, stakeholder theory states that social responsibility should come first. This theory explains that a company should first build a good reputation, which will, in turn, help a company to achieve good firm performance (Waddock & Graves, 1997) Stakeholder theory also emphasizes that, when firms voluntarily release pertinent information on their social and environment, they can be better positioned. Thus, the profitability of a firm is seen as contingent upon the ability of the firm to achieve its social and economic objectives (Frooman, 1997). This means that corporate social responsibility comes first.

Many scholars have studied the relationship between CSR and firm performance. Alafi and Hasoneh’s (2012) study of banks in Jordan showed that CSR and was related positively with customer satisfaction and customer satisfaction, in turn, was related with firm performance and sustainable business practices. Husted and Allen (2000) found that the CSR can be viewed as a source to enhance the firm performance of a company, and create competitive advantage, and was important for increasing customer confidence and satisfaction. Moreover, Kotler and Lee (2005) and Sims (2003) found a clear positive relationship between CSR and firm performance, whereby CSR leads to profitability in the long run.

Study by Skare and Golja in 2012 on CSR indicated most of companies that employed CSR in their organization have better reputation and performance compared to non-CSR companies based on companies under Dow Jones Global Stock Market Index. Furthermore, findings on a study by Skare and Golja (2012) showed CSR could affect them through primary stakeholder that could be profitable and beneficial especially China firms. In a study of firms listed on Karachi Stock Exchange on cement sector firms indicated positive relationship between organization performance and performance of CSR firm also it could affect organization sustainability in long-term in achieving benefits and objectives of monetary (Rehman, Baloch and Sethi, 2015).
Several reasons have been articulated for increased profitability of firms practicing CSR. Flammer (2015), in his study of average public firms in the U.S. economy, found that the adoption of CSR proposals was associated with an increase in labour productivity and sales growth, thus, improving firm performance. Also, Hasan, Kobeissi, Liu, and Wang (2016) clearly showed that CSR in manufacturing industry firms in the United States created value beyond its costs that led to good firm performance. Nonetheless, several factors exist that give pause to suggesting that CSR is always related to enhance firm performance. Gherghina, Vintila, and Dobrescu (2015) found a significant and negative relationship between corporate social responsibility and firm size; this negative impact can occur due to expenses incurred by CSR activity that reduce a company’s capital and thus weaken firm performance, which is especially concerning for a small company. Study on CSR by Nollet et al. (2016) discovered significant and negative relationship between corporate social performance and return of capital in short term. Nevertheless, it is arguably on CSR which CSR expenditures only pays off after CSP threshold reached although it serves on stakeholders’ interest, long-term planning and resources.

Previous study on CSR by Lima Crisostomo et al. (2011) indicated negative relationship between CSR and value of firm based on 78 companies which listed on Brazilian stock market. Therefore, relationship between firm performance and CSR showed positive relationship that could increase profits and wealth of shareholder also this would contribute on firm sustainability in long-term.

In summary, based on previous literature review, inconsistencies exist in studies about the relationship between the CSR and firm performance, and the results remain inconclusive, thus, need more study efforts.

### 2.1.1 Community Involvement CSR

The application of social responsibility has been found to be related to greater labour productivity and sales growth (Flammer, 2015), and better performance is seen an outcome of the significant relationship between CSR and societal progress (Lakhder & Shanini, 2011). Moreover, research has shown that disclosed socially related information about funding raising, charity donations, medical scholarship and health care by UK companies supports social development (Lal Joshi & Gao, 2009). By disclosing this information, firms can develop brand image at a lower cost as compared to public relations and advertising. Hence, such activities are well related to company performance. According to Ako, Obokoh, and Okonmah (2009), companies throughout the world enhance their performance via meeting the societal values of their host community. Furthermore, Jones (1995), Lakhder and Shanini (2011), and Palmer (2012) found a positive relationship between the implementation of community activities and firm performance

On the other hand, previous literature has suggested that CSR is negatively related to firm performance, such findings contradict with the stakeholder theory where it suggests that the CSR efforts are done in the interest of stakeholders with the aim of benefiting shareholders (Jones, 1995). For example, Menassa (2010) conducted similar research and found that Lebanese companies put a greater significance on community involvement; however, no evidence showed a relationship between community involvement and firm performance. Furthermore, Nollet et al. (2016) found a negative relationship between payment for social activities and the return on capital. Besides, Gherghina et al. (2015) found a significant negative relationship between corporate social responsibility and firm size, hence, leading to a negative impact on firm’s performance.

### 2.1.2 Environmental CSR

In recent years, there has been increasing pressure to enact and adopt effective legislations concerning environmental conservation in countries around the globe. In response to this, companies are adopting strict initiatives dedicated to the reduction of emissions, fully expectant of future policy and developments in society and competitiveness when it comes to the environment. Moreover, the pressure on offering
environmental friendly products, processes, and services have made firms realize the significance of adopting environmental sustainability standards in the long-run (Haladu & Salim, 2017). This has brought about green resources/capabilities and compliance development coupled that are all at par with international standards like ISO 14000, OHSAS 18000 as well as other relevant legislations pertaining to the environment (Mishra & Suar, 2010). Inconsistencies exist in the literature on environmental CSR and its possible influence on the firm performance of corporations. Some have argued that these mixed results might be partly due to the difficulty of measuring environmental performance (King & Lenox, 2001; Margolis & Walsh, 2003; Russo & Fouts, 1997).

According to Kuo, Huang, and Wu (2010), a clear positive relationship exists between the efficiency of a firm’s operations and environmental disclosure. Environmental disclosure has been seen to have a significant relationship with environmental management costs of a firm, net profits and the economic advantages of environmental management with firm performance. Majority of studies have evidenced the positive environmental CSR disclosure-firm performance relationship as it mitigates environmental-related costs, raw material wastes and inefficient processes of production (Haniffa & Cooke, 2005; Lakhder & Shanini, 2011; Mishra & Suar, 2010; Muhammad Scrimgeour et al., 2015). These findings are in sync with stakeholder theory which posits that environment can considered as one of the main primary factors that can impact the operations that target fulfilling the strategic purpose of a firm (Hannan & Freeman, 1984).

In contrast, several studies have shown a weak relationship between environmental CSR and firm performance. Dragomir (2009) investigated 60 of the largest European Union industrial groups in Europe. The result shows that no significant relationship existed between environmental performance and firm performance and environmental disclosure and firm performance. Along the same line, Menassa (2010) found that the relationship between environmental disclosure and firm performance was not strong in a study of Lebanese commercial banks, and Magness (2006) also found the same result from the study in Canada.

2.1.3 Human Resource CSR

Human resources are considered as intellectual property that drives organizational value and human resources CSR has been related to considerable firm performance results and the effectiveness of the organization (Menassa, 2010). CSR of human resources also promotes employee commitment, motivation and loyalty and eventually the internal resources and capabilities development, particularly those related to employees (Branco & Rodrigues, 2006). In this regard, employees that are motivated and loyal tend to actively work towards goal achievement for reasons that are not linked to the advantages that they can reap from extrinsic rewards, but rather they want to maintain a good relationship with their employers and the organization they work in as explained by Skudiene and Auruskeviciene (2012). The authors also evidenced that responsible training mitigates turnover and absenteeism among employees.

In a related study, human resource initiatives were evidenced to be one of the ethical dimensions of decision making when it comes to human resource development (Guadamillas-Gomez & Donate-Manzanares, 2011). In this regard, the investment quality and extent in establishing policies of worker-centered employment (e.g., higher remuneration, pension and gratuity, welfare, training quality, health and safety and equal opportunities) have a tendency to mitigate issues that are linked with organizational labor cost, and employee absenteeism and rate of turnover (Carrol, 1999; Samy, Odemilin & Bampton, 2010). In fact, employee justice theories have been cited by scholars to reinforce the perception of fairness level illustrated by the firm towards their employees. Scholars have argued that through social responsibility initiative of employees, the organization can establish a good moral relationship with employees and are enabled to employ, maintain and prevent skilled and experienced employees from
quitting the firms (Galbreath, 2009). However, some other studies like Crisostomo et al. (2011) revealed a negative effect of the social action of employees on the firm performance.

2.1.4 Products and Customers Disclosure
Both product and customer CSR initiatives have been revealed to have a significant effect on the performance of firms. Although these initiatives assist in building knowledge of customers, it is a largely overlooked dimension in literature. This CSR dimension boosts organizations’ concentration on ethical issues and good practices that are linked to products, services, and customers for sustained market status (Galbreath, 2009).

Among the studies, the common initiatives include investing in product quality and innovation, customer satisfaction, providing support for physically challenged customers, clarifying and adopting operational ethics, contributing to society for change and adhering to laws and norms (e.g., Carrol, 1999; Rashid, 2010). Therefore, global businesses are increasingly integrating the above mentioned initiatives to support their major economic objectives to produce higher profits via the addition of consumer’s emotional, social and functional values (Menassa, 2010). When each of these elements is changed, it can either improve or degrade the company’s perceived product value as perceived by the customers.

2.2 Underpinning Theory
Stakeholder theory provides the underpinning support on how CSR affect the firms’ performance. The main objective of an organization is solely to construct value for a firm so that the shareholders’ wealth is maximized, and no obligation is owed to the community (Friedman, 1970). Stakeholders are defined as any person or group who can influence or are influenced by the success of the firm’s objectives (Hannan & Freeman, 1984). Bryson (2004) described the stakeholders as individuals, groups or organizations that must be considered by managers and leaders to the triumph and survival of the corporation.

Furthermore, Stakeholder theory utilizes all external and internal relationship for organization and regulates these relationships that will affect the survival of the organization because the most fundamental goal of any organization is to survive (Hannan & Freeman, 1984). Large spectrum of stakeholders can be categorized into six primary groups—consumers, employees, shareholders, community, environment and government as well as groups like trade unions, suppliers, competitors and business associates (Mullins, 2002). Based on the discussion earlier, stakeholders represent all agents that are interested in the company’s operations or any individual or group who can influence or is influenced by the operations that aim to accomplish the strategic objectives of the organization (Hannan & Freeman, 1984).

Hannan and Freeman (1984) also suggests that the managers must comprehend stakeholder’s groups’ needs in formulating corporate objectives so that the firm would obtain essential support for its continuous survival. Stakeholder theory suggests that managers require support from the stakeholder’s groups while stakeholder’s groups acquire satisfaction from the actions of the firm. The success of a firm is influenced by the systematic managerial attention to the interests of the stakeholders (Hannan & Freeman, 1984).

Stakeholder theory also suggests that the sustained existence of a firm requires the help of its stakeholders and their assent must be pursued and the corporation’s activities be modified to meet their anticipation (Cotter & Najah, 2011). Hence, a healthy image of the companies is portrayed by the management of the firms to make them successful.

In short, the theory assumes that the business objectives of a firm can be easily accomplish if it has good and strong relationship with other interest groups. As a result, when firms voluntarily release more information on their social and environment, they can be better positioned. In this standpoint, it is suitable
to apply stakeholder theory in examining the level of corporate social responsibility information revealed to stakeholders and corporate firm performance in Palestine.

3. Research Model
In Figure 1 the research framework of this study has been demonstrated. According to the Figure, the independent variable is the CSR. This study adopted the four-dimensional classification, which is borrowed from Usman and Amran (2015)'s study based on CSR dimensional approach including 1) community, 2) environmental, 3) ethical and 4) consumer protection responsibilities. Based on the stakeholder theory states, when firms voluntarily release pertinent information on their social and environment, they can be better positioned. Thus, the profitability of a firm is seen as contingent upon the ability of the firm to achieve its social and economic objectives.

![Figure 1](image)

Research Framework.

Previous studies on the relationship between CSR and firm performance produced mixed results. Many studies found that the CSR is costly and misapplication of resources, and other studies found that the CSR practices should undertake the obligations inherent in CSR that leads to profitability in the long run. This inconsistent result signal the existence of black-box in the relationship which needs to be resolved.

4. Discussions
This study suggests the relationship between CSR and firm performance. By reviewing previous literature, the results indicate that the relationships between CSR and firm performance have mixed results. The first group was in line with the Stakeholder theory which emphasizes that, when firms voluntarily release pertinent information on their social and environment, they can be better positioned. Thus, the profitability of a firm is seen as contingent upon the ability of the firm to achieve its social and economic objectives. However, many studies revealed that CSR activities are costly and misapplication of resources due to expenses incurred by CSR activity that reduce a company's capital and thus weaken firm performance.

Therefore, depending on the stakeholder theory, the existence of CSR has a direct positive relationship with firm performance, which leads to maximize profits and increase shareholder wealth. As results, the CSR toward primary stakeholders can be profitable and beneficial to the firms, as the CSR efforts contribute to firm sustainability in long-run development and help to achieve the monetary objectives and benefits.
Thus, this study would contribute on the knowledge of CSR and how it affects firm performance especially in emerging and volatile market such as Palestine also it would contribute to literature gap which related to CSR environmental, ethical and responsibilities on consumer protection towards organization performance. This could be used to better understand the relationships among the variables under review. This study fills the literature gaps by focusing on the CSR activities more especially in emerging, yet volatile economies such as Palestine where literature of the kind is lacking.

5. Conclusion
This study discussed the role of CSR which identified in four dimensions of CSR including 1) community, 2) environmental, 3) ethical and 4) consumer protection responsibilities. Stakeholder theory provides that a company by the CSR disclosures could build a good reputation, which will, in turn, help a company to achieve good firm performance. Therefore, based on this theory, the study predicts that CSR activities can positively affect firm performance. It is recommended that the government collaborate with agencies, both private and public, in consideration of CSR framework and database requirements in order to provide direction to the country’s social and environmental reporting. This paper recommends for empirical studies on the effect of CSR and firm performance. It also recommends the other CSR dimensions should be adopted in the subsequent studies such as economic responsibilities, voluntariness responsibilities, legal responsibilities to better understand the relationship between CSR and firm performance due to the inconsistent results.

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Determinants of Tax Haven: Overview of Past Studies

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ABSTRACT

In recent years the issue of tax haven has been subjected under rigorous scrutiny by both the policymakers and regulatory authorities, due to the extent of the effects it has on both the developed nation (beneficial country) and particularly the developing nation which are the targeted tax haven territory. This study aimed at providing insight into the main determinants of tax haven and their effects. The method employed in this study involved reviewing prior study on tax haven. Findings suggests that the main determinants of tax haven region is not only the ones enshrined in Organization for Economic Co-operation and Development (OECD) criteria but others such governance index, institutional weakness, substantial amount of GDP from service industries etc. This study has also revealed that the conduit by which tax haven is being perpetrated is mainly via offshore financial centers (OFCs) which involve banks secrecy, transfer pricing (i.e. the devil in disguise) etc. This study recommends that stringent control measures and penalties for tax-resistant behaviors should be put in place by the international regulators like the World Bank and International Monetary Fund (IMF).

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1. Introduction

Since 2008 global financial crises effects on the public finances of the developing economies, the issues of tax haven as perpetrated by the multinational enterprises (MNEs) has attracted the interest of several policymakers and regulatory authorities such as G-20 Industrialized Nations, political pressure, civil society organizations like the Organization for Economic Co-operation and Development (OECD) and various tax authorities and governments across the world. Thus, in the recent years the issue of tax haven has been subjected under rigorous scrutiny by the policymakers and regulatory authorities, due to the
extent of the effects it has on both the developed nation (beneficial country) and particularly the developing nation which are the targeted tax haven territory. Recently, it has been estimated that over US$160bn is being lost from less developed and poorer countries (i.e. tax haven territory) annually due to the activities of offshore financial centers which is worth two times more than the amount received from international aid (Mugarura, 2017). The Guardian newspaper (UK) also reported that the targeted third world country loses as much as US$50bn (£33bn) annually from offshore financial centers which is perpetrated by government syndicates and MNEs illicit business activities (The Guardian, 2015). Similarly, the results of African Union (AU) research in 2001 indicates that the unauthorized transfer of moneys from African countries in 2001 was estimated to be worth US$20bn which obviously had tripled due to offshore financial centers (OFCs) activities (Mugarura, 2017).

One of the prominent determinants of tax haven is due to the activities that transpire in the offshore financial centers such as banks secrecy coupled with perpetrators unwillingness to exchange information with the tax authorities. The conduit by which this tax haven is being perpetrated is usually via offshore financial center or service. In other words, tax haven is mostly being perpetrated in the service industry compared to manufacturing industries (Hebous, & Johannesen, 2015). Hebous and Johannesen, (2015, p4), justify this view by stating that “Firstly, the specific institutions developed by tax havens may create a comparative advantage in the service industry. Secondly, service trade may serve as a tax evasion strategy for multinational firms.”

Based on the universally established criterion for country that has been enlisted and described as a tax haven region, the OECD, identified the main determinants of such places/regions to include among others; a place with little or no tax, or no substantial activities, and that lacks transparency as well as effective information exchange. Examples of such regions or countries are basically Islands and developing poor countries such as Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Belize, Bermuda, British Virgin Islands, Cayman Islands, Cyprus etc. even though according to the list of OECD, they are much more than that. And the conduit by which tax haven activities are being orchestrated are basically in the service industry via OFCs activities such as shadow economy, mispricing and BEP (Base Erosion Profit Shifting), bank secrecy, and transfer pricing, through the help of some batteries of professionals, such as bankers, accountants lawyers etc. (Jalan, & Vaidyanathan, 2017). However, there is significant number of studies that argued that, besides the criteria outlined by OECD regarding countries with tax haven status, there are other salient factors that determines tax haven. Hence, this paper aims to unravel the determinants of tax haven by reviewing extant literatures that relates to the study and can suitably answer the issues at hand. Specifically, this study attempts to validate the fact that besides the main determinants of tax haven and what actually constitutes a tax haven, there are other factors that determines tax haven status.

The remainder of the present study is structured as thus: section two covers review of past studies, followed by section three which briefly outlines the research method employed in the study. Section four highlights the discussion, followed by conclusion of the study, thereafter recommendation was offered based on the findings of the study, and lastly the limitation of the study.

2. Review of Past studies

2.1 Overview of Offshore Financial Centers (OFC)

An OFC can be defined “as any financial center where offshore activity takes place” (Mugarura, 2017p5). Usually, the term OFC is described as “powerful global financial centers” (Mugarura, 2017p5). OFC are small Islands economies that are rented out to foreign MNEs that can decide to switch to another jurisdiction whenever the current government policy does not favor them. According to Mara, (2015, p1), “offshore finance is one of the main pillars on which tax havens lie down”. Young, M. A. (2013) cited in Dowling (2004), that offshore financial center simply means investments that are located only in foreign
jurisdictions. Similarly, Jalan and Vaidyanathan (2017) described offshore financial centers as a siamese twin and went further to explain that it does not mean the same thing as tax havens even though OFC is an integral part of tax haven. Specifically, OFC is a term that is used to describe “those commercial communities set up within tax havens to exploit the structures facilitated by its law to enable global taxpayers to circumvent their home country regulations” (Jalan, & Vaidyanathan, 2017, p8). It is composed of professionals such as taxation experts, accountants, bankers, lawyers, and their related trust companies that provides services to interested clients that wants to utilize their structures for tax haven activities. Thus, a major distinction between them is that while tax haven is confined to a geographical location, OFCs are more transient and mobile.

2.2 Tax Haven

From time immemorial tax haven had a long history that is characterized by complex evolution (Mara, 2015). There is variety of names attributed to this phenomenon called tax haven. The OECD was the one that actually coined the name as “tax haven”, FMI described as “offshore financial center”, while (KPMG) view it as “states without taxation” or “states with low taxation.

There is no universally accepted definition of the term tax haven. According to Jalan and Vaidyanathan (2017, pg5) to define the term “tax haven is a hard nut crack”. And that up until now there is no acceptable unanimous definition of the term, although there are peculiar features that helps to facilitate and identify what tax haven entails universally. For example, in 1998, the Harmful Tax Competition issued by OECD defined some key aspect that serves as a guide in identifying what tax haven entails. Essentially, the main rationale behind tax haven is still perceived to be the minimization and avoidance of tax liability via undisclosed identity conduit. However, OECD (1998) described the four critical criteria for identifying tax haven as follows;

- No or only nominal taxes,
- Lack of effective information exchange
- Lack of transparency
- No substantial activities

A tax haven jurisdiction refers to “a country or independent geographical area where taxes are levied at a low rate” when compared to other jurisdictions (Mugarura, 2017, p4). Literarily, tax haven also means shifting capital to a preferential or a selected tax jurisdiction (Jaafar, & Thornton, 2015). From layman perspective, Tax Haven simply means, a situation where MNCs evade or avoid paying tax by shifting the profit generated from a jurisdiction with high tax to one with lower tax jurisdiction. According to classical definition, tax haven refers to a country with very low taxation or even no taxation at all. Mara (2015, p2) mentioned that “tax havens are not all about low or lack of taxation. They are also characterized by high levels of secrecy and the availability of a strong network of financial services that allows users sophisticated strategies for achieving their goals”. Similarly, Jaafar and Thornton, (2015, p2), described tax havens as “jurisdictions that imposes very low or no corporate taxes and hence provides firms with the ability to reduce their overall tax burdens in their home country”. They also state that the use of tax havens among multinationals is ubiquitous”. Moreover, tax haven status “involves combining more favorable conditions in order to create that climate of great economic, political, fiscal, and infrastructure necessary for the development of tax avoidance tasks by using various tools and mechanisms such as offshore companies” (Mara, 2015, p1).

Rohan and Moravec (2017) conducted a study titled “Czech taxpayers’ reaction on concluding agreements concerning exchange of information in tax matters with preferential tax jurisdictions, the so-called Tax havens” used the Difference-in-Differences method to predict tax payers behavior. Thereafter, their finding reveals that Czech MNEs are very much interested in tax havens not only because of the low tax rates per say but for the purposes of anonymity. Thus the finding is in line with the theory of shifting offshore industry character from the usage of tax purposes to that of anonymity
utilization purpose. Also, their findings corroborate that of Braun and Weichenrieder’s (2015) as well as Krejčí, (2016). Similarly, using the data obtained from Compustat with a sample of 286 multinational U.S. companies over the period spanning from 2006 to 2012, Richardson, & Taylor, (2015), regression results indicates that transfer pricing aggressiveness, multinationality, thin capitalization and intangible assets were positively related to tax haven utilization.

Having reviewed prior studies, Jalan and Vaidyanathan (2017), findings suggests that the determinants of the pervasiveness of base erosion and profit shifting (BEPS) is largely as a result of suppliers of tax haven activities which involves corporate decisions that are divided into operational and strategic. Also, using the case study approach data on tax haven and OFCs were drawn from newspaper reports to explain how syphoned funds are bundled to a tax haven jurisdiction for safe custody. Mugarura (2017) found a close connection showing that bank secrecy regulations in OFCs increases the rate of financial offenses like money laundering and tax avoidance around the world. Similarly, Choy, Lai, and Ng (2017), used an event study that was conducted on the largest publicly-listed companies based in United Kingdom. Findings of the study revealed that government reputation, scrutiny, and investor sentiment were the possible means and conduit for the negative impact. Furthermore, in terms of the role tax haven plays in international trade with services, Hebous and Johannesen (2015) employed a firm-level dataset that contains the comprehensive information regarding service trade with foreign affiliates for almost all MNEs in Germany. Here, findings indicates that in as much as tax haven with service trade may reflect a genuine specialization in the service industries, there by suggesting that institutional attribute such as lower tax rates, low regulatory standards and secrecy creates a comparative advantage in service industry. Moreover, their findings provides various categories of service trade such as intellectual property (trademarks and patents) and headquarter services (management, administration, and advertising) which are regarded as partly reflecting a mispriced affiliate trade conduit aimed to shift profits to the targeted tax havens.

Mara (2015) adopted the work of Dharmapala and Hines (2006) in his study titled “Which countries become tax havens?” even though his findings contradicted theirs. His main findings shows that governance index is not the main determinant of tax haven (as in the case of Dharmapala and Hines (2006) findings) nor a place with little or no taxation at all, but only the countries in which a substantial amount of their GDP comes from service industries are most likely to be regarded as having tax haven status. Conversely, Jaafar and Thornton, (2015), used a sample of private and public domiciled 14 firms in European Union with their respective financial statement information to enable them estimate their various effective tax rates. Findings from their study indicates that tax haven activities are related with low effective tax rates both for public and private firms and that private firms are more affected by lesser effective tax rate than the public firms. Their findings also show that home country characteristics like financial and tax conformity, worldwide tax reporting system, and high corporate tax rates are basically the main determinants of effective tax rates both for public and private firms that has tax haven status. Similarly, Chari, and Acikgoz, (2016), tries to find out “what drives emerging economy (EE) firm acquisitions in tax havens?” Using data that relates to cross border acquisitions listed in SDC Platinum, their arguments indicates that besides the four motives that drives acquisition of tax haven status as identified in the international business literature as “market seeking, resource seeking, low cost seeking, and knowledge or strategic asset seeking” the main acquisitions motives is determined by low taxes in the host country and institutional weaknesses in the home country.

Jones and Temouri (2016) conducted a study on the determinants of tax haven FDI, adapted the firm-specific advantage–country-specific advantage (FSA–CSA) framework to analyze a database covering 14,209 MNEs in 12 OECD countries found that the impact of home country corporate tax rate is minimal, there by suggesting that corporate tax liberalization is not likely to discourage MNEs from carrying out their activity. Additionally, their findings shows that MNEs that are from the high technology manufacturing countries with high levels of intangible assets from the services sectors are most likely to
have tax haven status.

2.2.1 Characteristics of Tax Haven
In a broader parlance, Mara (2015, p3) argued that “beyond low taxation, the profile of a tax haven can be summarized as a well-governed, small country, with low population enjoying a high GDP per capita and where services have a very large share in GDP”. Thus, one of the ways to identify a tax haven is based on the quality of governance, and population is mostly below one million of which are not recognized as members of any international organizations (cited in Dharmapala and Hines 2006). Also, one distinctive attributes that drives a country to entertain tax haven is when such a country is not endowed with natural resources and a favorable fertile condition that will support agriculture, hence such a country may resort to buying the idea of tax haven by establishing a service sector that will serve as a conduit for tax haven (Mara, 2015). Moreover, Jalan and Vaidyanathan (2017) went much further than OECD description of what constitutes tax haven region, thus they summarized the characteristics of tax haven as;

Little or no tax on some income categories
- Banking/commercial secrecy: Bank secrecy
  - Ownership secrecy
  - Barriers to information exchange
- Non substantial activity
- Right to creation of legislation
- Dominance of financial institutions
- High marketing and/or promotion
- No controls for foreign nationals

2.2.2 Regulatory reactions to menace of tax havens
The issues of tax haven have led to the introduction of some tax administrator’s instruments that will help in curbing the issues of tax haven. The framework of Raposo and Mourão (2013) indicates that control reactions (i.e. tax administrator’s instruments) may be considered into two dimensions, that is unilateral/Bilateral and multilateral measures. Arrangement with countries regarding Bilateral and multilateral instruments are put in place to facilitate information exchange concerning residents that are staying overseas with the aim of avoiding double taxation/double non-taxation.

2.2.2.1 Unilateral measures:
This suggests the participation of one state; as such the implementation process is relatively simple compared to multilateral measures implementation (Plate-forme Paradis Fiscaux et Judiciaires, 2007; Murphy, 2008; Ginevicius and Tvaronaviciene, 2010; Al-taie, Flayyih, Talab, & Hussein, 2017). These measures include;
- Lifting of banking secrecy
- Imposition of fiscal transparency on outland societies
- Transfer prices adjustment
- Regulatory prevalence of substance over form
- Reversal of the onus of proof
- Declaration of requirements and
- Assortment of additional measures.

2.2.2.2 Multilateral measures:
The implementation of this type of measures is more complex and they include;
- Tax harmonization
- Information requests and
- Control of interbank electronic messaging
- G20 and the European Union
3. Research Methodology

This paper aims to discuss previous research on the factors that determine tax haven. Thus, the present study is replete with prior studies that focused on determinants of tax haven. The study used the keywords “tax haven” and determinants of tax haven to search for relevant extant articles and conference papers from different online database sources such as google scholar, research gate, emerald management plus etc. Thereafter, articles were selected based on the ones that relates to the study and most of the articles used in this study are from reputable journal with high impact factor.

The researcher admits that the approach employed in this study suffers from some limitations leading to the possibility of overlooking or misinterpreting some vital information (Denyer & Tranfield, 2009). One of such limitation is the chances of not including relevant articles from the database search. Also, the researcher focused more on selecting articles that are very recent, thereby ignoring earlier studies which may carry information that is very vital for the study. Therefore, the researcher acknowledges these limitations by cautiously forming interpretations and conclusions that will not suggest a strong claim (Valmohammadi, & Ahmadi, 2015).

4. Discussion

The main aim of this study is to unravel the factors that determines tax haven. The issue of lack political will and the unwillingness of MNEs to exchange valuable information has compounded and complicated every effort by policymakers and regulatory authorities to curb tax haven menace. Findings by Rohan and Moravec (2017) suggested that the issues of unwillingness to exchange vital information is because doing that will eventually expose and blow OFCs activities and their anonymity cover. Thus, the result Czech MNEs’ behavior breeds more havoc on tax haven region through their OFCs of shifting profit, transfer pricing aggressiveness, thin capitalization etc. Moreover, this finding corroborates with that of Richardson and Taylor (2015) and Braun and Weichenrieder’s (2015) as well as Krejčí, (2016).

Bank secrecy, OFCs, and particularly transfer pricing which Jalan and Vaidyanathan (2017, p16) described as “the devil in disguise” are the various conduit by which shadow pricing, mispricing of MNEs activities in the tax haven are carried out through the involvement of batteries of professionals with the support of government syndicates. This means MNEs in the developed country, in the bid to shift profit and avoid paying high tax establishes a service industry in the tax haven regions. Similarly, the findings of Choy et al. (2017), in their study on the largest publicly-listed companies based in United Kingdom and that of Hebous and Johannesen (2015), on MNEs in Germany revealed similar results.

The determinants of tax haven have come under series of debates by several scholars. Besides the four criteria established by OECD and the one in the international business literature. Studies, such as Jaafar and Thornton (2015), found that tax haven activities are related with low effective tax rates both for public and private firms and that private firm are more affected by lesser effective tax rate than the public firms. They also added that home country characteristics like financial and tax conformity, worldwide tax reporting system, and high corporate tax rates are basically the main determinants of effective tax rates both for public and private firms that has tax haven status. Similarly, Chari and Acikgoz (2016) corroborates their argument by explaining further that the main motives that drives “emerging economy (EE) firm acquisitions in tax havens” is low taxes in the host country and institutional weaknesses in the home country. However, Mara (2015) findings contradicted both the above findings and his adopted work from Dharmpala, Dharmika and Hines, James R., (2006) who found “governance index” to be the main determinants of tax haven. According to him the main determinants of tax haven is a place where the substantial amount of their GDP comes from service industries. He went further to explain that “offshore finance is one of the main pillars on which tax havens lie down” and that such a region is “characterized by high levels of secrecy and the availability of a strong network of financial services that allows users sophisticated strategies for achieving their goals”. Similarly, Jones and Temouri (2016) study on the determinants of tax haven FDI also addressed related issues.
5. Conclusion
This study aimed at providing insight into the main determinants of tax haven and their effects. This study has attempted to identify the major difference between tax haven and OFCs as well as their respective features. It has also identified the determinants of tax haven from several perspectives. Thus, findings suggests that the main determinants of tax haven region is not only the ones enshrined in OECD criteria but others such governance index, institutional weakness, substantial amount of GDP from service industries etc. This study has also revealed that the conduit by which tax haven is being perpetrated is mainly via offshore financial centers (OFCs) which involve banks secrecy, transfer pricing (i.e. the devil in disguise) etc. Another issue that is encountered in the OFCs is the issue of unwillingness of the perpetrators to exchange information with tax authority and other interested agencies. Moreover, findings also indicates that despite the devastating effects of tax haven, several batteries of corrupt professionals and government syndicates contributes significantly in facilitating this heinous anti-tax practices by conjoining with MNEs from the developed nations to carry out their OFCs activities.

6. Recommendations
Having discussed the main determinants of tax haven and its devastating effects, this study recommends that stringent control measures and penalties for tax-resistant behaviors should be put in place by the international regulators like the World Bank and International Monetary Fund (IMF) so as to enable them checkmate and minimize the activities of this wild predators through their offshore financial centers. Also, in other to increase the transparency of tax haven official reports from the government and financial entities of both the home and host countries there should be a memorandum of understanding (MoU) that will help in combating against fiscal crimes and fund laundering that mostly occurs through OFCs such as shadow economy, mispricing and BEP, bank secrecy, and transfer pricing.

7. Limitation of the study
This paper suffers from the fact that it is basically a conceptual paper (i.e. review of past studies), hence future study should carry out an empirical study so as to have a detail understanding of determinants of e-banking adoption. More so, similar studies can be conducted in other comparable developing countries so as to validate the result of this study.

References


Sukuk Issuance in Malaysia: Lessons for Pakistan

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ABSTRACT

Pakistan need to enhance the liquidity management framework for its growing Islamic finance industry. Sukuk is a best Shariah-compliant debt instrument for short term liquidity needs since Sukuk is highly tradable instrument with low level of market risk. In view of that, there is an increasing trend in the global issuances of corporate and sovereign Sukuk. Therefore, this case study aims to explore the issuance of Sukuk in Malaysia as an example. Malaysia is dominating the Sukuk Market and has been issuing Sukuk since 1990. The underlying structure of the proposed Sukuk model for Pakistan is Istisna that is an Islamic project bond. Pakistan has the potential to replicate the Sukuk model of Malaysia. However, it is required to have an active secondary trading market in order to develop an effective and dynamic Sukuk market.

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1. Introduction

Islamic law forbids the exchanging of short term debt tool at other than intrinsic value, or from drawing upon the traditional interbank money markets since these exchanges comprise of interest (Riba- and uncertainty (Gharar). This implies that Islamic financial institutions have a tendency to have profoundly liquid balance sheets with restricted opportunities for the placement of funds. Therefore, Sukuk as an asset-backed trust certificate is a great opportunity for short and medium term placement of such finances in a Shariah compliant manner.

Sukuk can be defined as “Sukuk, in Islamic finance parlance, refer to the ownership of claims against certain assets or a pool of assets. Technically, Sukuk are certificates of equal value that represent units (undivided shares) in ownership of tangible assets, usufructs (manfa'ah), and services.” Generally a special purpose vehicle (SPV or issuer) issues Sukuk, which are trust certificates. The proceeds of Sukuk are lent to a corporation, financial institution, insurance company, the government to raise funds in a Shariah compliant manner. The modes underlying Sukuk can be Murabaha, Wakala, etc., reflecting either investment or financing contracts. (S & P Global Ratings, 2017). Sukuk, the Shariah-compliant debt
instrument, is one of the major component of the Islamic monetary and capital market which is connected in project financing and other main activities. Its position as a solid and dynamic instrument in the monetary development and budgetary security has been for quite some time recognized. The presence of Sukuk gives another change in outlook to get financing to help economic activity. (Saripudin, Mohamad, Razif, Abdullah, & Abdul Rahman, 2012)

Sukuk gives the ownership rights in specific assets to some extent as opposed to debt. Sukuk is issued in a manner corresponding to the principles of Murabaha, Mudarabah, Musharakah, Ijarah, Istisna, Wakalah, and other modes of finance. Structure of Sukuk based on Islamic contracts is shown in the following diagram (Figure 1):

Figure 1: Sukuk Structures based on Islamic Contracts

As illustrated in Figure 1, there are four major categories of Sukuk; (1) Sale-based (2) Lease-based (3) Partnership-based (4) Agency-based. Various countries are using Sukuk for managing capital needs including Bahrain, Brunei, Egypt, Gambia, Indonesia, Iran, Malaysia, Kazakhstan, Kuwait, Pakistan, Qatar, Saudi Arabia, Singapore, Somalia, Turkey, United Arab Emirates, United Kingdom, and Hong Kong.

Figure 2: Size of Sukuk
The assets and deposits of Islamic banking industry in Pakistan are Rs. 2,083 billion and Rs. 1,729 billion with the market share 11.9 percent and 13.7 percent respectively as stated by the Islamic Banking Bulletin issued by State Bank of Pakistan in September 2017. The current Islamic banking industry comprises of 21 Islamic banking institutions including 5 full-fledged Islamic banks and 16 conventional banks with Islamic banking branches with a network of more than 2,368 branches. The ratio of liquid assets to total assets is 28.8 percent while the liquid assets to total deposit ratio is equal to 34.7 percent.

Liquidity risk management is a tool to make use of surplus funds. And a thorough liquidity risk management could raise funds to fulfill the requests of investors and borrowers whenever they demand with a satisfactory price. Liquidity risk management is one of the major challenge that Islamic financial institutions have in Pakistan due to the nonexistence of an Islamic inter-bank market, lack of alternatives compliant with Islamic principles, deficiency of short term and long term Islamic Sukuk, and absence of Islamic discount window at State bank of Pakistan for Islamic Financial institutions. Placement of additional funds and meeting the short falls & short term liquidity needs are the two sides of liquidity management issue.

This paper is an attempt to solve liquidity management issues from the experience of Malaysia. Liquidity management issue can be solved through the development of Sukuk market in Pakistan. Pakistan, as a developing country, has restricted access to capital to invest in main sustainable infrastructure because of the dependence on local bank loans with inappropriate terms and conditions. Therefore, it is required to enhance the liquidity management framework for the development of Islamic finance industry in Pakistan.

2. Background

Islamic financial services industry developed in the mid-1970, when new Islamic financial institutions began proposing Shariah-compliant financial products because of developing societal request. Despite the fact that its standards have existed since the beginning of Islam, existing Islamic finance is as yet not fully formed, its total assets of US $ 2 trillion out of 2017 are very small in contrast to the global finance market. Though it is advancing quickly, and it possibly serves both a rising 1.7 billion Muslim population worldwide and progressively intrigued non-Muslim investors.

The Islamic finance market depends on the preclusion of interest based transactions, which violates the Islamic principles, alongside other rejected or haram transactions, for example, conventional insurance, gambling, and the offer of weapons, alcohol, pork, and erotic entertainment. The most widely recognized transactions incorporate Murabaha, Ijarah, and Mudarabah and other Islamic modes of finance, whereas Sukuk considered as the most well-known instrument of Islamic capital markets based on these transactions. Governments and regulatory authorities from Pakistan and Malaysia are eagerly promoting Islamic finance products while guaranteeing appropriate oversight of the Islamic financial market.

There are three main sectors of Islamic financial services industry: Islamic Banking, Islamic Capital Market, and Takaful. Sectoral composition of the global Islamic financial services industry is given in the following figure (see Figure 3).
The biggest share (i.e. 78.9 percent) in Islamic financial services industry is of Islamic banking. The share of Islamic capital market and Takaful are 19.8% and 1.3 percent respectively. Islamic banking industry is growing around the world. And the value of global Islamic banking assets has increased. Key Islamic banking markets are Egypt, Malaysia, Indonesia, Iran, Saudi Arabia, Pakistan, Bahrain, UAE, Sudan, Kuwait, Bangladesh, Brunei, Turkey, Qatar, Oman, Jordan and others. Global Islamic Banking Assets shares in several countries in US Dollars terms are presented in the next figure (Figure 4). Iran, Saudi Arabia, and Malaysia have the largest Islamic banking assets with the share of 33.0 percent, 20.6 percent, and 9.3 percent respectively.

The breakdown of average annual growth rate of Islamic banking in terms of assets, financing, and deposits is provided in Figure 5. Figure 5 consists of the average annual growth rates of Turkey, Pakistan, Bangladesh, Saudi Arabia, Indonesia, Oman, Kuwait, Iran, Qatar, Jordan, Kuwait, Malaysia and Nigeria between second quarter of 2015 and second quarter of 2016. Deposits of Malaysian Islamic banks grew with the rate of 8.2 percent, while the deposits of Islamic banks and windows in Pakistan grew with the rate of 14.1 percent. The financing growth in Pakistan was 31.8 percent compared to 12 percent in Malaysia.

Figure 3: composition of three different sectors of Islamic finance services industry.

Figure 4: Shares of Global Islamic Banking Assets.

Figure 5: Growth rate of Islamic banking in terms of assets, financing, and deposits.
In general, financial institutions without having sufficient liquidity, confront different types of risks which might have prompt influence on their overall financial stability. Mobin & Ahmad, 2014 analyze that how Malaysian Islamic finance industry is managing the liquidity risk. For this analysis, the sample of 15 Malaysian Islamic banks is being taken. It is found that size, return on Equity, and specialization are some of the determinants of liquidity risk management. Results indicate that Islamic banks which are bigger in size and more specialized in terms of lending activity more likely to manage liquidity risk effectively.

Similarly, Mohamad, Mohamad, & Samsudin, 2013 assess the way Islamic banking sector of Malaysia is managing the liquidity risk while considering the macroeconomic control variables. This study is based on panel data estimations with the sample of 17 Islamic banks of Malaysia. The findings provide evidence that macroeconomic control variables affect the behavior of Islamic banking industry in managing liquidity. It is suggested that Islamic financial institutions should determine the reason and objectives of the credit application to be consistent with the institution’s financial policy so as not to cause any issue in the future. This is vital on the grounds that without a right and solid reason, issued financing would be a danger of reimbursement ambiguities which will influence the liquidity of the Islamic financial institution.

Sukuk is considered as the best instrument to absorb the surplus liquidity of Islamic Financial Institutions because it is highly tradable instrument with low level of market risk. Therefore, this market is growing with the growing Shariah-compliant investments. The global aggregate Sukuk historical trend is presented in the following figure (Figure 6):

Figure 6: Historical Trend
Inspite of the immense development in the Sukuk market in the past 13 years, there is still a shortage situation in the Sukuk market where demand is greater than the supply.

**Figure 7: Global Sukuk Issuances – Sovereign and Corporate.**

* Contains all Government-Related Entities (GREs), Multilateral Development Banks (MDBs) and International Organizations (IOs). Here, “GREs” denotes to Sukuk holders with more than two thirds (66.67%) shares in government ownership e.g. ministries, authorities, sovereign wealth funds etc.

Several countries are issuing sovereign Sukuk including, Malaysia, Indonesia, UAE, Saudi Arabia, Turkey, Pakistan, Qatar, Bahrain, Oman, Brunei, Senegal, Cote d’Ivoire, Togo, Kuwait, Jordan, and Gambia. However, Malaysia is a dominant country in issuing sovereign Sukuk with the share of 50.8 percent. Whereas, the total sovereign Sukuk issuance of Pakistan is only 4.8 percent. As far as corporate Sukuk issuance is concerned, Malaysia continue to dominate the market. The corporate issuers of Malaysia are leading with the share of 50.2 percent. One of the reason is that corporate issuers of Malaysia are using different underlying structures based on Islamic principles in the issuance of corporate Sukuk. Besides, UAE and Saudi Arabia ranked second and third in corporate Sukuk issuances with 18.3 percent and 11.6 percent corresponding shares. Moreover, Pakistan has no share in corporate Sukuk issuance market in 2015-2016.

**Figure 8: Sovereign Sukuk Issuances.**
Figure 9: Corporate Sukuk Issuances

Figure 10: Sukuk Issuances by Sector
Breaking down Sukuk issuances by part, the government has the largest share (i.e. 42.87 percent). In addition financial services sector keeps on dominating the market with 30.96 Percent (Figure 10: Sukuk Issuances by Sector Figure 10). Altogether, the power and utilities, transportation and telecommunication sectors represented as 16.7% (power and utilities with 4.48 percent shares, transportation with 9.85 percent shares and telecommunication sector with 2.36 percent shares) of aggregate Sukuk issuances. The Real Estate sector representing 4.10 percent of the market. Apart from these sectors, sectors like education, agriculture, construction, oil and gas, industrial conglomerate, manufacturing, municipal services, food and beverage, health care, and Automotive contributed in the Sukuk market with the share of 1.15 percent, 1.13 percent, 0.94 percent, 0.78 percent, 0.62 percent, 0.36 percent, 0.26 percent, 0.10 percent, 0.03 percent, and 0.01 percent respectively.

The fundamental Shariah rulings on the issuance of Sukuk in the Islamic monetary and capital market of Malaysia has been elaborated by Mohamad & Yusoff, 2008. Awadzi, 2015 discussed legal frameworks for sovereign Sukuk issuance.

Saripudin, Mohamad, Razif, Abdullah, & Abdul Rahman, 2012 give the hypothetical idea of Sukuk Musharakah and examine the compliancy of Sukuk Musharakah issued by Kuala Lumpur Sentral Sdn. Bhd. (KLSSB) as per Islamic principles by studying the problems related with it.

Yean, 2009 specifically talks about the problems of its initial stage of development. Legal restrictions under the current legal system of specific rule, the problem of enforceability of agreements, extraterritorial issues, and the absence of very much organized and well-regulated secondary market for Sukuk are some of main issues of Sukuk industry identified in this paper. In addition, it investigates the perceptions and resolutions of the Shariah board of Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI). It is suggested that it is necessary to look over the Sukuk structure which involves the joint efforts of the governments, market suppliers, regulators, investors, legal advisor, and Islamic law scholars. Moreover, integrated documentation frameworks need to be developed for the growth and development of Islamic finance around the world.

Ahmad & Radzi, 2011 examine the sustainability of Sukuk issuance and traditional bond in Malaysia at the time of financial crises by analyzing the following three factors: Gross Domestic Product (GDP), foreign exchange, and market liquidity. This study is based on the 20 years’ data (i.e. from 1990 to 2009) and Ordinary Least Square (OLS) regression. It is found that Sukuk is less influenced from the financial crises as compared with conventional bond due to different underlying structure. Gross domestic product,
foreign exchange, and worldwide liquidity are considered for the issuance of Sukuk. On the other hand, conventional bond issuers place a premium on foreign exchange only.

Abdul Majid, 2003 discusses the main aspects of liquidity management in Islamic banks and challenges and opportunities of liquidity management instruments. Six main causes of liquidity issues are summarized in this paper including; small number of members, the sluggish growth of Islamic financial instruments, the absence of Shariah-compliant interbank market, no liquid Islamic secondary market, the absence of lender of last resort facilities, and different interpretation of Islamic principles.

3. Examples of Malaysia

The main sectors of Islamic financial services industry of Malaysia are: Islamic banking, takaful, Islamic capital market, asset management and wealth, and financial planning. In 1983, the first Islamic bank known as Bank Islam Malaysia Berhad was set up which deals with Shariah-compliant financial activities. The Bank Islam Malaysia Berhad manages its liquidity through the non-interest bearing Government Investment Certificates (GIC) which was based on the principle of Qard ul Hasan. In 1993, 17 conventional banks started their Islamic banking windows under Interest-Free Banking Scheme. As a result, Islamic money market established in Malaysia. In 2002, Bank Negara Malaysia properly issued licenses to the subsidiaries of conventional banks operating Islamic Banking through windows (Alhabshi, 2013). By now, 5 full-fledged Islamic banks, 11 conventional banks who have established Islamic subsidiaries are operating in Malaysia. In terms of growth, the Islamic financial institutions in Malaysia is expanding with total assets US $ 414 billion. Malaysia has also developed its Takaful Industry. Syarikat Takaful Malaysia Berhad was the first Takaful Company set up in 1985 in Malaysia to provide Shariah-compliant insurance. In 1994, the second Takaful company Malaysian National Insurance (MNI) Takaful was established. Currently, Malaysia’s Takaful Industry consists of 11 Takaful Companies including domestic and international Takaful Operators. Malaysia, a global Islamic finance has issued the highest number of Sukuk. The first Sukuk was issued in 1990 through Shell MDS (Malaysia) and the first corporate Sukuk global Guthrie in 2003. The Malaysian Sukuk market experienced its development boom from 2001-2008 during which the average growth rate was 21%. By this time, the amount corporate Sukuk issued exceeded the value of outstanding corporate
bonds. Malaysia as the leader of Islamic finance industry occupies the major share of the Sukuk industry since the inception, though the share has been expanding but still the major player remains Malaysia. A new trend in Sukuk is the issuance of “green Sukuk” and “social impact Sukuk” to fulfill the needs of Shariah compliant, environmentally friendly and socially responsible businesses. One important reason for this innovation in Sukuk issuances was to actively compete with the global Sukuk market. Securities Commission of Malaysia (SC) launched the Sustainable and Responsible Investment (SRI) Sukuk Framework in 2014 to facilitate the financing of sustainable and responsible investment initiatives. The market share of Malaysian Sukuk market is 28.8 percent with RM 138.7 billion Sukuk issuance. The overall statistics of Malaysian Sukuk Market and corporate Sukuk statistics are presented in Figure 11 and Figure 12 respectively.

Figure 11: Sukuk Market overall Statistics

[Graph showing Sukuk Market overall Statistics]

Figure 12: Corporate Sukuk Statistics

[Graph showing Corporate Sukuk Statistics]

Malaysia is issuing Sukuk dominantly on the basis of Murabaha Sukuk structure. However, the
government of Malaysia is encouraging Sukuk issuers to issue Sukuk based on Wakalah and Ijarah Sukuk structures by giving incentives in the form of tax deductions (Thomson Reuters, 2017). Malaysia’s Sukuk issuance by sector including: financial service, infrastructure and utilities, diversified holdings, transportation, property and real estate, plantation and agriculture, asset-backed securities, mining and petroleum, industrial products, and consumer products is presented in Figure 13. Quasi government and corporate Sukuk issuances are dominated by financial services and infrastructure and utilities sectors.

Figure 13: Malaysia’s Sukuk Issuance by Sector

4. Proposed Model for Pakistan
In line with the international trend, the global Sukuk market in Pakistan was established in 2005 and its first international sovereign Sukuk was worth US$ 600 million. In 2006, first domestic Sukuk was issued. Status wise Sukuk issuance in Pakistan is listed below (Table 1). The total number of issued Sukuk is 107 including privately placed and listed at the stock exchange.

Table 1: Status wise Sukuk Issuance in Pakistan

<table>
<thead>
<tr>
<th>Listing Status</th>
<th>Number of Issues</th>
<th>Amount in Billion Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privately Placed</td>
<td>99</td>
<td>1156.58</td>
</tr>
<tr>
<td>Listed</td>
<td>8</td>
<td>47.70</td>
</tr>
<tr>
<td>Total</td>
<td>107</td>
<td>1204.28</td>
</tr>
</tbody>
</table>

Figure 14: Domestic Sukuk Structure
Domestic Sukuk structure is mainly based on Musharakah and Ijarah modes of Islamic finance. And the Sukuk al Ijarah has the dominant share in the domestic Sukuk market with 75.9 percent value since all sovereign Sukuk are based of Ijarah mode of Islamic Finance.

Figure 15: Historical trend in terms of Sukuk Value

In spite of the fact that a late participant to the Sukuk market, Pakistan has been encountering enduring development in Sukuk since 2007. The development backed off in 2008 in terms of Sukuk value however it began grabbing again particularly for the years 2010-12 and 2015-16. In 2017, 9 Sukuk were issued with Rs 38 billion Sukuk value.

Figure 16: Historical Trend in terms of number of Sukuk Issues
In Figure 16, there is limited number of Sukuk issuance after 2008. Though, there has been a substantial rise in terms of Sukuk value. This might be because of the fact that the majority of the Sukuk issuances during these years were Government of Pakistan Ijarah Sukuk that were having high Sukuk value. Government, quasi-government and the corporate sector are the major bond issuers in the Islamic bond industry of Pakistan.

Table 2: Sukuk Issuances Corporate, Sovereign, and Quasi-Sovereign

<table>
<thead>
<tr>
<th>Year</th>
<th>Corporate</th>
<th>Sovereign</th>
<th>Quasi - Sovereign</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>7.2</td>
<td>0</td>
<td>92.8</td>
</tr>
<tr>
<td>2007</td>
<td>55.5</td>
<td>0</td>
<td>44.5</td>
</tr>
<tr>
<td>2008</td>
<td>48.6</td>
<td>14</td>
<td>37.4</td>
</tr>
<tr>
<td>2009</td>
<td>43.3</td>
<td>29</td>
<td>27.7</td>
</tr>
<tr>
<td>2010</td>
<td>27.1</td>
<td>55.7</td>
<td>17.2</td>
</tr>
<tr>
<td>2011</td>
<td>15.9</td>
<td>72.7</td>
<td>11.4</td>
</tr>
<tr>
<td>2012</td>
<td>11.5</td>
<td>79.3</td>
<td>9.2</td>
</tr>
<tr>
<td>2013</td>
<td>10.7</td>
<td>78.5</td>
<td>10.8</td>
</tr>
<tr>
<td>2014</td>
<td>11</td>
<td>78.3</td>
<td>10.7</td>
</tr>
<tr>
<td>2015</td>
<td>9.2</td>
<td>79.3</td>
<td>11.5</td>
</tr>
<tr>
<td>2016</td>
<td>8.9</td>
<td>74.2</td>
<td>16.9</td>
</tr>
<tr>
<td>2017</td>
<td>10.5</td>
<td>73.1</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Overall, the corporate Sukuk has the dominant share till 2009. After that an auxiliary move from corporate to sovereign Sukuk occurred and sovereign Sukuk maintained their dominant share with 73.1 percent in absolute estimation of Sukuk issued in Pakistan. The shares of quasi-sovereign Sukuk and corporate Sukuk are 16.4 percent and 10.5 percent respectively.

Pakistan is gradually understanding that the gradual shift towards Sukuk – rather than conventional bonds – is driven by both market forces demand and supply. Commercial banks, mutual funds, employees’ funds and other financial institutions are the main investors of Sukuk. While Sukuk have been issued by corporate entities such as Byco Oil Pakistan, Ghani Gases and Fatima Fertilizer as well as Islamic banks of Pakistan like Dubai Islamic Bank and Al Baraka Bank for their financing needs. Moreover, the Government of Pakistan is devising to offer foreign currency Sukuk of US$ 1 billion (Islamic Finance News, 2018). The truth of the matter is that the principle explanation behind Pakistan to keep issuing Sukuk is to ensure that their local market will benefit, and there is little motivation to trust this will
The introduction and development of investment funds that comply with Shariah principles in Pakistan is leading to a rising demand for Sukuk and other Shariah compliant instruments as new funding options. Recently, some well-known firms like Byco Oil Pakistan, Ghani Gases and Fatima Fertilizer issued Sukuk. To meet capital adequacy requirements, Dubai Islamic Bank and Al Baraka Bank issued Tier 2 Sukuk. The government of Pakistan is planning to issue foreign currency Sukuk in the international market at a value of US$1 billion. (Ibrahim, 2017)

The proposed model of Pakistan is based on Sukuk al Istisna which is denoted as the “Islamic Project Bond”. Istisna is an agreement of trade, whereby the financing party consents to convey a good or a property at a pre-decided future time at a decided cost. Sukuk al Istisna is derived from an agreement for a future delivery of constructed property. At the pre-determined time of delivery, the contractor/builder provides the property. Sukuk holders do not mean to hold the assets, they will be on-sold to a final purchaser, which could be the contractor. The Sukuk holder will get the proceeds of this sale. Usually the Sukuk al Istisna is joined with a forward lease contract to facilitate the Sukuk holder to get a return before the property distribution. The transaction structure of Sukuk al Istisna is illustrated in the following diagram:

Figure 17: Sukuk al Istisna transaction structure
The transaction structure of Sukuk al Istisna consists of five steps. Initially, the issuer SPV supplies certificates of Sukuk to raise capital for the future manufactured or constructed property. Second step includes the payment to contractor/builder in order to build and deliver future manufactured or constructed property. In the next step, contractor/builder transferred the title to assets to the issuer SPV. Forth step consists of the sale or lease of the asset to the end buyer. And in return, the end buyer pays regular scheduled payments to the issuer SPV. Last but not least, the issuer SPV pays out the profit to the Sukuk holder.

Pakistan’s Sukuk market is exposed to certain basic difficulties that need to be addressed before replicating the Malaysia Sukuk market. For instance, the presence of an active secondary trading market plays a pivotal role in the success of the Malaysian Sukuk market. So, Pakistan need to encourage the issuance of Sukuk with varied maturities, credit qualities, currencies and risk profiles. As a result, the investors would have different choices in the Sukuk market. For example, the current Sukuk system in Malaysia permits issuance of both ringgit and non-ringgit Sukuk.

Securities Exchange Commission of Pakistan (SECP) regulates the Sukuk market and all capital market instruments.

5. Conclusion
The absence of liquidity management has inflicted significant damage on the productivity of the Islamic financial institutions and has a major influence in expanding the likelihood of displaced commercial risk occurring (Aamir, 2017). Liquidity management capacity can be enhanced through the issuance of sovereign and corporate Sukuk for managing the capital needs in a Shariah compliant manner. Malaysia as a global center of Islamic finance can be the perfect example for Pakistan for the development of an effective and dynamic Sukuk market since Malaysia has the proper legal regulatory structure, demand and disposition. Sovereign and corporate Sukuk issuance would play an enormous role in helping the Pakistan’s finances. Moreover, Sukuk issuance could aid broad-base development with in Pakistan due to recent development of green Sukuk. However, Pakistan should give support to retail participation by encouraging the issuance of Sukuk with varied maturities, credit qualities, currencies and risk profiles.

References
Appendix

Figure 18: Global Islamic Finance Assets Distribution by Sector
Figure 19: Global Aggregate Sukuk Historical Trend
Figure 20: Global Sukuk Breakdown by Issuer Type

Figure 21: Global Sukuk Top Five Structures
Impact of Banking Sector Development on Capital Structure of Non-financial Sector Firms in Pakistan

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ABSTRACT

Objective: This study exemplifies how banking sector development influences capital structure of non-financial Sector firms.

Methodology: In this study, deductive approach has been used and capital structure used as explained variable. Banking sector development used as explanatory variable and proxies by five key ratios. The six years data ranges from the year 2010 to 2015 used and fixed effect model applied for regression analysis.

Findings: The statistical results indicate that first and 4th hypotheses partially accepted while second and third hypotheses fully rejected. The results of study recommend financing policy for finance mangers to consider banking sector development while deciding capital structure.

Originality: This study may mark as first study in Pakistan which checks the regression among discussed variables and also the behavior of change.

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1. Introduction

Capital structure commits with two types of financing i.e. equity financing and debt financing. Capital structure decision changes from industry to industry. Some companies prefer more debt and others more equity. There exists trade-off between these two types of financing which firms use to corroborate their funding requirements. While the companies go to equity financing then it offers the common stock, preferred stock or bonus shares to their stock holders. Companies offer the awesome rate of dividend on this type of financing which attracts the shareholders to invest. The rate which offers by companies recorded as financing cost and this cost deductible from total income for the calculation of net profit. The other source of financing is debt financing. In debt financing, companies approach to banks for funding or acquiring the business loans. The banks charge the interest rate on these loans which also considers as financing cost. Companies issue the bonds, commercial papers, and notes payable etc. in this type of financing. Both equity and debt financing have specific sum of cost which known as financing cost. This cost altered in different modes and compel the firms for adoption of specific type of financing. Firms have
to adopt optimum mix of these two types of financings which maximize their utility and reduce cost of financing as much as possible. This mix of financing compiles the total capital of firms in which firms choose the specific percentage of debt or equity.

The developed banking sector of a country accommodates business community with more cheap funds. It also facilitates the business operations with more efficient and transparent ways such as timely and ease transfer of funds. Banking sector acts as backbone of economic and financial development of any country. The development of banking sector often gauges with overall stability, size and percentage gross domestic product (GDP) growth rate etc. Countries with strong banking sector prosperity offer the lucrative financing plans to common borrowers which require the funds for financing their business operations. It also keeps the small and medium enterprises innovative and more confident about growth. The development of this sector enhanced the productivity of large industrial sector and results in enrichment of total export volume.

Firms often seek the convenient way of financing which is easily available. But sometimes it causes to more costly financing. Firms prefer more debt because it conveniently available due to personal relations of managers or some other cause and ignored the equity financing. But most of times banks charge high interest rate on loans and this thing become the reason of high financing cost. Companies have to make the proper decision regarding the capital structure. Companies have to decide that whether it’s more economical to use internal financing or either external financing. Moreover, decision regarding to usage of specific percentage of debt or equity in total financing also crucial. There exists the trade-off between different types of financing. When companies use the high retained earnings for financing purposes, the reserves which maintain to meet the unfavorable consequences decrease and firms become more vulnerable and also face the more risk of bankruptcy. Debt financing increases the fix burden of interest rate and also increases the volatility of firms due to fix liability of interest. Major limitation of equity financing is the involvement of more shareholders or stock holders in decision making and company has also to meet the desires of stock holders in different business decisions.

The objective of this study is to check that whether the development of banking sector which often called as financial sector play any role in capital structure decision of firms. Capital structure uses as dependent variable and four ratios i.e. (1) debt/equity ratio (2) short term loan/total equity ratio (3) long term loan/total equity ratio (4) total debt/total asset ratio use for the measurement of capital structure. Development of banking sector takes as independent variable and measures with the five ratios i.e. (1) GDP growth rate (2) size of banking sector (3) domestic credit ratio (4) net interest margin ratio and (5) capital adequacy ratio of banking sector. Three control variables which are profitability (ROA), tangibility of total assets and size of firm (log of sale) also adhere with capital structure determination. Study recommends the financing policy for finance managers that while structuring the capital structure they should also consider the financial sector development status.

1.1 Problem Statement
In a specific country, firms may prefer more equity or more debt. The preference of firms depends upon different indicators which may adhere with financing decision of firms. Capital structure decision also associates with both banking market and equity market development. The development of each sector colloquially showers its impact on capital structure decision but companies often ignore the banking market. So, it was necessary to check out that
“Is there any relationship between financial sector development and capital structure decision of Pakistani firms?”

1.2 Research Objective
Banking sector is one of the major sector which plays important role in development of other sectors of economy. It extends the funds to run the wheel of whole economy. It may interfere in industrial sector of
economy and alters the different corporate decisions either positively or negatively. More narrow down our discussion of corporate level decision, one of the important decision is capital structure which exalts or vain the profitability of firms. So, the objective of this study is “To check the impact of banking sector development on capital structure decision of firms”

1.3 Research Questions
Study accumulated the following research questions which will be answered.
Does there any relationship between GDP growth rate of banking sector and capital structure decision of firms from non-financial sector?
   - How size of banking sector affects capital structure decision?
   - How capital structure decision of firms associated with domestic credit of bank?
   - Is there exists any relationship between net interest margin ratio and capital structure?
   - Does there any relationship between capital adequacy ratio of banking sector and capital structure of firm from non-financial sector?

1.4 Significance of Research
The study has theoretical, empirical and practical significance. Theoretically, this study not only limited to literature for the selection of variables but also excesses the “The World bank” and “The State bank” reports of development measurement. Empirically, this study has selected only those ratios which can best explain the development of banking sector and practically used by stakeholders when assessing the development status of banks. Moreover, this study is innovative in the way because selected ratios cover all the indicators of development such as financial stability (GDP growth rate, domestic credit), size (log of assets), efficiency (net interest margin) and liquidity (capital adequacy ratio) position etc. Practically, study enhances the thoughts of finance managers to consider the banking sector development while making the decision about capital structure.

2.Literature Review
The research on capital structure emerged after the study of Modigliani and Miller (1958) in which they urged the concept of cost of financing which may decreased or increased by specific percentage of debt and equity in total financing. Their study noted the capital structure as important business decision which may affects the profitability of firms. Murinde (2012) focused on transaction cost and argued that it adhered with financial development status of financial sector. He suggested that transaction cost decreased in developed financial market but increased in developing or underdeveloped financial market. Moreover, Chami et.al (2010) documented that due to asymmetric information in developing financial market, the cost of financing increased. This phenomenon occurred due to wrong selection of capital structure and some moral issues. They also suggested that banking sector offered sufficient sum of financing to firms when this department has developed status in a country. Faulkender (2006) noted that firms approached to more equity market for financing over debt market in case of backward financial sector. Frank (2009) has also proved same notion in his study. Both researchers conjectured that due to underdeveloped financial market, firms preferred more equity market because this market has competitive edge of cost benefit.

According to IMF (2017) country assessment report, Pakistan has developing financial sector. Islam (2007) noted that companies in underdeveloped or developing financial market becomes sensitive regarding to capital structure due to absence of favourable environment. Schmukler (2006) suggested in his study that cost of financing decreased due to development of financial sector because alternative sources of financing increase. It leads to competition in market and relative financing cost charged by the lending institutions decreased. In another study, Bokpin (2010) has asserted that cost reduction was associated with increment in number of banks and financial position stability because debt financing become convenient and it also has competitive interest rate due to larger availability of competitors in market. Sometimes, due to information asymmetry, the benefits associated with developed financial
market my decreased because banks have no proper approach to firms. The asymmetric information appendages its costs on both lenders and borrowers and they did not approach the true position of each other (González, 2014). Agca et.al (2013) have also presented in their study that transaction cost associated with borrowed funds decreased due to increased number of banks and banking sector reforms but at the same time it may leads to enrichment of financing cost due to improper handling of risk attached with it.

There exists different proxies which best explain the development of banking sector. These proxies have also been used in different studies. According to The World bank (2017) there exists two indicators to assess the financial sector development i.e. traditional and new. In traditional method, major heads for the measurement of banking sector development were size and intermediation. In new or modern method, development of financial sector measured with acces, efficiancy and stability. Frank et.al (2009) noted that some firm level variables such as size of firm, profitability, tangibility of assets and tax rate affect corporate leverage. They have argued that tangibilty of assets has positive relationship with more leverage. According to trade-off theory, a firm with more profitability will tends to more debt because of tax advantage on debt but Tsyplakov (2008) has proved negative relationship among leverage and profitabilty. Some other studies such as Arsov et.al (2016) have also examined the determinants of capital structure. Their study resulted that companies with more fixed assets preffered more debt. Wen (2002) has argued that corporate goverance affect the capital structure and Delcoure (2007) noted that transational economies also effect the capital structure. Ownship structure of companies such as state ownership or domestic ownership also determine the capital structure of companies (Chen, et.al 2014).

There were very few studies which seeks to check relationship between banking sector development and capital structure choices. According to Agarwal (2004) banking sector development envisioned its impacts on capital structure. He has used the GDP growth rate and some other ratios for the measurement of banking sector development. Junior and Valle (2015) have analyzed the role of funding sources in determining the capital structure of Brazilian companies. They have considered three sectors i.e. financial institutions, capital market and source with discounted interest rate as funding sources and concluded that capital structure formation influenced with these funding sources. There exists many indicators which judge performance or development of banking sector such as net interest margin ratio, return on assets and return on equity (Khrawish, 2011). These ratios have also specifid by Gul et.al (2011) as the indicator of banking sector performance. Some specific ratios such as capital adequacy ratio measures the amount of capital which enabled the banks to face risks and shortage of funds. It depicts the internal stability of banks (Dang, 2011). More leading variables such as banks with high credit in emerging economies argued firms for external financing (Chami, 2010).

2.1 Research Gap
Mostly studies check the effect of banking sector development on capital structure in collection of number of countries. Some studies also check this effect on single country such as Fatima Oyebola (2014) on South African firms but study in Pakistan has not seen in literature. The literature on relationship between capital structure and profitability of firm is emerging such as Ramzan (2018) has checked the impact of capital structure on profitability of firms in Pakistan. Same studies have also found in the literature but they did not highlight the reverse relation of variables i.e. impact of banking sector development on capital structure of firms. So to fill this gap in literature, this study was conducted.

2.2 Hypotheses Development
H1: There exists the positive and significant relationship between banking sector development and total debt to equity ratio.
H2: Banking sector development has significant and positive relationship with short term debt to equity ratio.
H3: Banking sector development affects long term debt to equity ratio positively and significantly.
H4: There exists the positive and significant linkage between banking sector development and total debt to assets ratio.

2.3 Conceptual framework
Fig.1. representation of relationship among variables

<table>
<thead>
<tr>
<th>GDP growth rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of banking sector</td>
<td></td>
</tr>
<tr>
<td>Domestic credit of banking sector</td>
<td></td>
</tr>
<tr>
<td>Net interest margin ratio of banking sector</td>
<td></td>
</tr>
<tr>
<td>Capital adequacy ratio</td>
<td></td>
</tr>
<tr>
<td>Size of non-banking sector</td>
<td></td>
</tr>
<tr>
<td>Tangibility of assets of non-banking sector</td>
<td></td>
</tr>
<tr>
<td>Profitability (ROA)</td>
<td></td>
</tr>
</tbody>
</table>

3. Data and Methodology

3.1 Data and Sample Size
Data have been collecting from the published reports of The State Bank with the name of “Financial Statement Analysis for Non-financial Sector” and also for financial sector. Study consists of 6 years data ranging from 2010 to 2015. Research size incorporates top 50 non-financial firms and scheduled banks.

3.2 Selection of Variables

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Used as</th>
<th>Measurement</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth rate</td>
<td>Independent variable</td>
<td>%((\text{total assets/total GDP}))</td>
<td>(Bank, 2017)</td>
</tr>
<tr>
<td>Size of banking sector</td>
<td>Independent variable</td>
<td>log of total assets</td>
<td>(Fatima et.al, 2014)</td>
</tr>
<tr>
<td>Interest margin ratio</td>
<td>Independent variable</td>
<td>Net interest income/total assets</td>
<td>(Bank, 2017)</td>
</tr>
<tr>
<td>Domestic credit of banking sector</td>
<td>Independent variable</td>
<td>Total credit provides to other banks and institutions</td>
<td>(Khalil, 2017)</td>
</tr>
<tr>
<td>Capital adequacy ratio of banking sector</td>
<td>Independent variable</td>
<td>Total capital/total assets</td>
<td>(Ongore , 2013)</td>
</tr>
</tbody>
</table>
3.3.1 Capital structure
Capital structure formulated with capital funds i.e. debt and equity that acquires by the companies from different sources. Companies equip itself either with debt financing or by equity financing. Capital structure may also consider as financing mix of debt and equity that companies use to finance its assets.

3.3.2 GDP Growth Rate
Percentage gross domestic product (GDP) growth rate of banking sector explains the growth rate of banking sector in comparison with GDP. It explains development of banking sector because the growth in total assets with benchmark of GDP gives the overall picture of development of this sector.

3.3.3 Size of Banking Sector
It apparently accepted that the size of any sector depicts development of this sector to some extent. There are different ways to measure the size of corporation such as total asset, total sales volume and number of employees etc. The size of banking sector measures with volume of total assets and natural Log was taken to convert the large nonlinear values into linear form.

3.3.4 Net interest Margin Ratio
Net interest margin ratio measures the efficiency of banks and depicts the earning capacity of banks through its core banking business. Banks advance the loans to borrowers and earn the interest on it. These funds come from the deposits made by account holders. High interest margin ratio represents the bank performance.

3.3.5 Capital Adequacy Ratio
Capital adequacy ratio measures the solvency of banks. It measures that how much a bank is solvent and able to fulfill its financial obligation by analyzing total assets with total capital. Capital adequacy ratio is banking specific ratio and shows that how much a bank is resilient against unseen consequences.

3.3.6 Domestic Credit
Domestic credit of banking sector depicts the lump sum amount which banks provide to other banks in the shape of loans or remittances balance. It also consists on amount of funds which banks extend to different non-banking firms in the form of loans. It shows the strength and financial stability of banks.

3.3.7 Tangibility of Total Assets
Tangibility of total assets determines the capital structure of firms. A firm with more tangible assets prefers the different capital structure than a firm with fewer tangible assets. It shows the vulnerability of firms and predicts that how much a firm is resilient against the tragedies

### 3.3.8 Profitability of Firms

Profitability of firms shows its effects on capital structure of firms. A firm which has more profits often prefers more debt because debt financing compensate the firms with more tax deduction that firms have to be paid on their profit. Profitability of firms measured with return on asset ratio and used as control variable.

### 3.3.9 Log of Sales

Log of sales depicts the total size of non-banking firms. Size of firms also determines the capital structure. Large firms have different financing mix as compared with small firm. As stated above, log was taken to convert the non-linear numbers into linear form. Log of sales used as control variable.

### 3.4 Econometrics Models

Econometrics models depict the nature of variables i.e. cross sectional, time series or panel and also show how many explanatory variables injected in specific regression model.

\[
Y_{it} = \beta_1 + \beta_2 X_{1it} + \varepsilon_{it} \quad \text{........... ........... eq. (1)}
\]

\[
DTE_{it} = \beta_3 + \beta_4 GGBR_{it} + \beta_5 CARB_{it} + \beta_6 NIMB_{it} + \beta_7 LOAB_{it} + \beta_8 LODCB_{it} + \beta_9 LOTTIT + \beta_{10} LOS_{it} + \varepsilon_{it} \quad \text{................................. eq. (2)}
\]

\[
STE_{it} = \beta_3 + \beta_4 GGBR_{it} + \beta_5 CARB_{it} + \beta_6 NIMB_{it} + \beta_7 LOAB_{it} + \beta_8 LODCB_{it} + \beta_9 LOTTIT + \beta_{10} LOS_{it} + \varepsilon_{it} \quad \text{................................. eq. (3)}
\]

\[
LTE_{it} = \beta_3 + \beta_4 GGBR_{it} + \beta_5 CARB_{it} + \beta_6 NIMB_{it} + \beta_7 LOAB_{it} + \beta_8 LODCB_{it} + \beta_9 LOTTIT + \beta_{10} LOS_{it} + \varepsilon_{it} \quad \text{................................. eq. (4)}
\]

\[
DTA_{it} = \beta_3 + \beta_4 GGBR_{it} + \beta_5 CARB_{it} + \beta_6 NIMB_{it} + \beta_7 LOAB_{it} + \beta_8 LODCB_{it} + \beta_9 LOTTIT + \beta_{10} LOS_{it} + \varepsilon_{it} \quad \text{................................. eq. (5)}
\]

Where

- DTE = debt to equity ratio
- LTE = long term debt to equity ratio
- GGBR = GDP growth rate of bank
- CARB = capital adequacy ratio of bank
- NIMB = interest coverage ratio of bank
- LOAB = log of assets of bank
- LODCB = log of domestic credit of bank
- LOTTIT = log of tangibility of total assets
- ROA = return on assets
- LOS = log of sales

### 3.5 Results Discussion

The data has been run in the statistical software named EViews 7 and ordinary least square (OLS) model has applied. The basics assumptions of OLS model i.e. data normality, model linearity, no autocorrelation; no multicollinearity and Homoscedasticity have also met.

#### 3.5.1 Descriptive Stats
Table 2: detail of descriptive stats

<table>
<thead>
<tr>
<th></th>
<th>LOTTA</th>
<th>LOS</th>
<th>ROA</th>
<th>DTE</th>
<th>GTA</th>
<th>LTE</th>
<th>STE</th>
<th>LODC B</th>
<th>GGRB</th>
<th>LOAB</th>
<th>CARB</th>
<th>NIMB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>10.832</td>
<td>10.75</td>
<td>0.10</td>
<td>0.72</td>
<td>0.22</td>
<td>0.44</td>
<td>0.28</td>
<td>10.276</td>
<td>1.523</td>
<td>11.23</td>
<td>2.083</td>
<td>0.035</td>
</tr>
<tr>
<td>Median</td>
<td>10.942</td>
<td>10.85</td>
<td>0.09</td>
<td>0.45</td>
<td>0.23</td>
<td>0.17</td>
<td>0.22</td>
<td>10.305</td>
<td>1.485</td>
<td>11.43</td>
<td>0.087</td>
<td>0.035</td>
</tr>
<tr>
<td>Max.</td>
<td>11.354</td>
<td>11.33</td>
<td>0.42</td>
<td>1.83</td>
<td>0.41</td>
<td>1.70</td>
<td>1.38</td>
<td>11.193</td>
<td>4.886</td>
<td>12.07</td>
<td>2.097</td>
<td>0.065</td>
</tr>
<tr>
<td>Min.</td>
<td>9.716</td>
<td>9.684</td>
<td>0.01</td>
<td>0.05</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
<td>9.092</td>
<td>0.074</td>
<td>10.10</td>
<td>0.020</td>
<td>0.025</td>
</tr>
<tr>
<td>Std. dev.</td>
<td>0.431</td>
<td>0.481</td>
<td>0.08</td>
<td>0.56</td>
<td>0.11</td>
<td>0.46</td>
<td>0.29</td>
<td>0.588</td>
<td>1.429</td>
<td>0.600</td>
<td>0.042</td>
<td>0.005</td>
</tr>
<tr>
<td>Obs.</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

The table 2 presents the descriptive stats i.e. mean median and standard deviation of variables. The mean value of LOTTA is 10.832 which depict that respondent firm’s lie in the range of 10.832. The median value of LOTTA is 10.942 which show the most of firms are in the range of 10.942. The maximum and minimum values show the upper and lower limit of responses. The value of standard deviation is 0.431 which indicates the percentage of dispersion from mean value. The LOS has mean value of 10.752 shows that firms have average ten digit sale volume. The ROA has mean statics 0.109 that narrates that the respondent firms have less profitability on assets. The mean value of DTE is 0.726 which confirm that the companies have low debt than equity. The median value of DTE is 0.451 which is the proof that the most of firms have less than half debt as compared to equity in total capital structure. The DTA has mean number 0.229 which show that firms use very little amount of debt to finance its assets as compared to equity. Similarly the LTE is 0.445 which show the percentage of usage of long term debt as compared to equity. The mean values of STE, LODCB GGRB, LOAB and CARB are 0.280, 10.276, 1.523, 11.232 and 0.093 indicates the percentage of responses of firms for specific variables. The NIMB has mean value of 0.035 which indicates that the normally the banks have 3 percent interest margin. The median value 0.034 depicts that the most of banks in overall data have interest margin 3 percent. The maximum value for NIMB is 6 percent and minimum value is 2 percent show the both ends limits of responses of banks. The SD is 0.08 percent shows the percentage of deviation from mean. The statics of mean, median and standard deviation shows the results in much summarized form through which analysis become very easy.

3.5.2 Correlation
The statistical outcomes in table.6 show that LOTTA and LOS, ROA, DTE, DTA, LTE, STE, LODCB, GGRB, LOAB, CARB and NIMB have correlation values 0.876, -0.524, 0.419, 0.180, 0.446, 0.093, -0.286, -0.400, -0.309, -0.333, and -0.333 in sequence. These values show the degree of association with each other. High correlation is normally not good especially due to the problem of multicollinearity. The LOTTA has high correlation value 0.876 with LOS which is due to the reason that loans advances to customers are the sales of banks and it also becomes the assets in the form of account receivables. Most of the values are normally distributed (i.e. around the 50%) which shows the no problem of auto-correlation.

The DTE and DTA have high correlation value of 0.825. It may be good because it indicates that the proxies which were used for the measurement of capital structure perfectly show the one variable i.e. capital structure. The high correlation values show that the same variables have some near relationship with others.

### 3.5.3 Cross section Fixed Effect Model

The data which was used in our analysis was collected from different sectors. Due to the diverse nature of data, problem of heterogeneity may arise. So, to capture the problem of heterogeneity, the redundant fixed effect-likelihood ratio test in EViews was applied. To test this phenomenon, following hypothesis developed,

- \( H_0 = \) Random effect should be applied in cross-section.
- \( H_1 = \) Fixed effect should be applied in cross-section.

#### Table.4: results of cross-section fixed effect test

<table>
<thead>
<tr>
<th>Model summary</th>
<th>Cross section F</th>
<th>Cross-section Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistics</td>
<td>d.f</td>
</tr>
<tr>
<td>Model 1</td>
<td>11.05</td>
<td>(1230)</td>
</tr>
<tr>
<td>Model 2</td>
<td>5.65</td>
<td>(1442)</td>
</tr>
<tr>
<td>Model 3</td>
<td>13.75</td>
<td>(1226)</td>
</tr>
<tr>
<td>Model 4</td>
<td>16.58</td>
<td>(1234)</td>
</tr>
</tbody>
</table>
The probability value of Cross section Chi-square which mentioned in table no.4 is less than 0.05 in all four models, so the null hypothesis is rejected and alternate hypothesis is accepted. These results favored the fixed effect over random effect in EViews.

3.5.4 Regression analysis
The following results obtained which show the regression among dependent and independent variables.

Table 5. Regression among variables

<table>
<thead>
<tr>
<th>DVariable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DTE</td>
<td>STE</td>
<td>LTE</td>
<td>DTA</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.009</td>
<td>-0.0024</td>
<td>0.99</td>
<td>0.63</td>
</tr>
<tr>
<td>CARB</td>
<td>-0.68</td>
<td>-0.26</td>
<td>0.79</td>
<td>0.65</td>
</tr>
<tr>
<td>NIMB</td>
<td>-5.45</td>
<td>-1.28</td>
<td>0.20</td>
<td>0.42</td>
</tr>
<tr>
<td>LOAB</td>
<td>-0.71</td>
<td>-1.91</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>GGRB</td>
<td>0.16</td>
<td>1.96</td>
<td>0.05</td>
<td>0.06</td>
</tr>
<tr>
<td>LODCB</td>
<td>0.04</td>
<td>1.91</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>ROA</td>
<td>2.74</td>
<td>5.58</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>LOTTA</td>
<td>0.98</td>
<td>2.70</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>LOS</td>
<td>0.17</td>
<td>-0.71</td>
<td>0.47</td>
<td>0.12</td>
</tr>
<tr>
<td>R-square</td>
<td>0.91</td>
<td>0.71</td>
<td>0.95</td>
<td>0.95</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.86</td>
<td>0.57</td>
<td>0.88</td>
<td>0.88</td>
</tr>
<tr>
<td>DW stat</td>
<td>2.37</td>
<td>2.49</td>
<td>1.97</td>
<td>2.45</td>
</tr>
<tr>
<td>Prob (Stat)</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
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Explanation
The results of model 1 which shown in table no.5 in which debt to equity ratio used as dependent variable represents that the t-statics of LOAB, GGRB, ROA and LOTTA have significant values. The LOAB has value of t-statics -1.91 which presents that size of banking sector has significant but inverse relationship with debt to equity ratio. The reason behind this fact may be that either the banking sector has high volume but due to wrong policies or improper strategies, companies did not pay attention on borrowings from banks. The GGRB has value of t-statics 1.96 which manifested the growth rate of banking sector has positive and significant relationship with debt to equity ratio. High growth rate of banking sectors attracts the borrowers for more debt in their capital structure. The ROA has value of t-statics -5.58 which represent the profitability of non-banking sector has strong significant but negative relationship with debt to equity preference. When the companies earn more profitability then managers become overconfidence and prefer more debt over equity. The LOTTA has value of t-statics 2.70 depicts the volatility of companies. The companies which have high tangible assets prefer more debt over equity. All other variables such as NIMB, CARB, LODCB and LOS have t-statics values of -1.28,-0.26, 0.18,-0.71 relatively which show the insignificant relationship with debt to equity ratio. These ratios do not affect the debt to equity ratio. The adjusted- R square has value of 86 percent shows the high regression between dependent and independent variables. The value of Durban Watson is 2.37 which is less than benchmark value of 2.5 shows no auto-correlation among independents variables. The first alternate hypothesis (H1) is partially accepted.

In model 2, in which short term debt to equity ratio is dependent variable, the t-statics values of all independent variables i.e. LOAB, CARB, LODCB, LOS and LOTTA represent that these variables have insignificant relationship with short term debt to equity ratio except ROA which has significant relationship. The LOAB, CARB, LODCB, LOS and LOTTA have t-statics values of 0.28, 0.40, -0.07, 0.56 and 0.16 relatively which conjectured that these variables do not have any impact on short term debt to equity ratio. However, the profitability (ROA) of firms has significant t-statics value of -1.92 and suggested that the firms which have more profit also prefer more short term debt over equity. The value of adjusted R-square is 57% which presents the regression between independent and dependent variables. The value of Durbin Watson is 2.49 which shows the absence of auto-correlation. The probability value of F-stats shows that overall model is significant. On the basis of above results, it can augmented that alternate hypothesis H2 is fully rejected.
Similarly, in model three, all independent variables except ROA have insignificant relationship with long term debt to equity ratio. The independent variables CARB, NIMB, LOAB, GGRB, LODCB, LOTTA and LOS have t-stats values of -0.35, 0.78, -0.02, 0.20, 0.02, 0.61 and 1.60 relatively but ROA has t-stats value of -2.55. Companies which have more profitability prefer more long term debt. The value of adjusted R-square is 0.88 shows the high regression and value of Durbin Watson stats is 1.97 results that there exists no auto-correlation among variables. The results of variables suggested that the alternate hypothesis (H3) fully rejected. The statistical results of model 4 show that CARB, NIMB, LOAB and LOS have insignificant relationship but GGRB, LODCB, ROA, and LOTTA have significant values. The t-stats value of CARB, NIMB, LOAB and LOS are 1.39, -1.18, -1.37 and -1.47 relatively. The t-stats values of GGRB, LODCB, ROA and LOTTA are -2.11, -1.63, -4.63 and 3.08 relatively. Companies prefer more debt for financing its assets over equity when banking sector have high GDP growth rate, vast volume of domestic credit and also when companies have more profitability and tangible assets. The adjusted R-square is 84% which show the high regression and Durbin Watson stat is 2.45 which indicate the no auto-correlation.

4. Conclusion
Study has magnified the conjecture about the development of banking sector on capital structure of non-financial sector companies of Pakistan. More generally, this study addresses the effect of those ratios which best represents the development of banking sector and also used by The World bank to gauge the development status. According to our best knowledge, this study may mark as first study in Pakistan which has empirically checked this effect. The novelty of study can also be judged by analyzing that how financial sector have some effect on the decisions of non-financial sector firms. The statistical results of this study may help out to finance managers to guess that which factors of banking sector may change the capital structure settings. The results of study also answered the research questions and best meat with research objective. If we summarized the results then it can be judged that the short term debt preferences of companies in Pakistan do not malleable by banking sector development and similar trend with long term debt preference. However, debt to equity ratio and debt to assets ratio have significant relationship with development status to some extent. On the basis of results, it concluded that the first (H1) and fourth (H4) alternate hypotheses partially accepted and second (H2) and third (H3) alternate hypotheses fully rejected.

4.1 Limitations and Future Firection
The limitation of this study is that for the purpose of being making the analysis, only six years data was used. But this study has considered the overall non-financial sector of Pakistan. Future research can be designed on different sectors separately. Each sector may have different relation with banking sector development. Moreover, more ratios can be added in analysis which depicts the banking sector development. These ratios are private credit to GDP and private credit to total credit etc.

Reference
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