Impact Of Financial Leverage On Firm Performance With Moderating Role Of Corporate Governance Index: In Light Of Agency Theory

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Abstract:
The aim of this research work is to investigate empirical and theoretical influence of financial leverage on financial performance of the top 100 listed firms of Karachi Stock Exchange, and also checks corporate governance index moderation effect which will be the major contribution of the study. The data for this research works was taken from the KSE 100 top companies which are listed on Stock Exchange of Pakistan for the time period of 2011 to 2021. The research work uses the generalized moment of method to analysis the relationship among the variables. GMM is use to reduce the endogeneity from the panel data. Financial leverage (FL) was measured through the Debt to total asset. Return on assets is used as proxy for measuring firm performance, while corporate governance (CG) measured through the corporate board is index (CGI). Empirical results indicate the financial leverage has a negative impact on the financial performance of the non-financial firm. Corporate governance index has significantly reduced the negative consequence among the financial leverage on firm performance. The finding of this research will help investors in decision making for selecting of firms for investments.

Keywords- Financial leverage, financial stability, Performance, corporate governance, Pakistan

I. Introduction
The objective of this study is to analyze the influence of financial leverage on the firm performance. Whether CGI moderate these relations are not is also tested and will be one off the contribution of the research. Corporate governance defines as; the code of conduct, thorough which firms are controlled and directed to work, for enhancing the value of the firms. (Turnbull, 1997). CG takes a great momentum and attracted much research attention from the both research and policy point of view from last few decades (Reddy et al, 2010; Kowalewski, 2016). The concept of CG defines by the number research study (Jensen and Meckling, 1976). The concept of CG defines the mechanisms and process through firms are controlled and directed (Jensen and Mecking, 1976; Aboagye and Otieku, 2010).

Prior research studies measured financial performance through the return on asset, due to which we may know the overall worth and size of the firm’s, on the basis of which we may decide about investments (Perfect and Wiles, 1994; Terjesen et al. 2016). Agency theory and stewardship theories, theoretical framework will be used in this study to check the influence of CG indicators with the firm performance (Donaldson and Devis, 1991). A Dynamic generalized moment of method (GMM) estimator analysis shows that CG has affirmative and significant influence with the firm performance (Ullah et al. 2020).

(Sarhan et al. 2018) shows that CG has positive and significantly influence on the firm performance. Though, the research reveals that large board size has negative effect on the banks performance because due to large size there is problem of communication. However outside director has significant impact on the bank’s efficiency (Yamori et al. 2017). Most of the research studies, examine that the CG and FL is a crucial factor for the company performance and growth (Ryu and Yoo, 2011; Jandik and Makhija, 2005). This current study will pick, sample of top 100 Pakistan firms which are listed in Karachi stock exchange for analysis and discussion of results (KSE100 INDEX). The results after analysis of this research show that FL has a negative impact on the financial performance. Whereas as, CGI has directly significantly and positive impact on the firm performance.

Agency explains the relationship among the management and stakeholder (Donaldson and Davis, 1991). Agency theory reduces the conflicts between the management and shareholder. The agency theory reduces the agency cost of the firm and enhances the financial performance of the firm. Jensen and Meckling (1976) shows that the agency cost measure bonding cost and residual cost of firm. Allen and Gale (2001), reveals that CG is process to controlled, directed and encourage acting in the shareholder interest. Agency theory reveals that chief executive of organization (CEO) and firm chairperson has separated role, while the stewardship theory examine that the CEO and chairperson has same role in the firm. Stewardship stated that manager left own interest and work for enhance the wealth of the firm (Donaldson and Davis, 1991).

Economics theory state that board size has significant role on the corporate governance’s structure on firm (Fama and Jensen, 1983). When boards of directors of firm are independent from the management it’s give motivation to manager and exercise control (Fama and Jensen, 1983).
Content analysis of the UK listed firm the study show that board of independent and information disclose by non-executive directors and improve the firm performance (Yekini et al. 2015). Moreover, the shows that independent of director has significantly influence the firm performance (Rosenstein and Wyatt, 1990) and Rosenstein and Wyatt (1990) support the view of the agency theory that CG influences the performance of the firm. According to Donaldson, (1990) stewardship stated that insider of the firm directors have more knowledge about the resource to enhance the performance of the firm. Several research scholars examine that insider board of directors are trustworthy stewards of firms' resources and enhance the financial performance of the firm due to information asymmetry (Klein, 1998; Nicholson and Kiel, 2007 and Donaldson and Davis, 1991).

2. Review of literature

Number of the research studies found that mixed research results FL with the firm performance. Abundant of researches analysis investigate that the FL has affect the firm performance (Ellul and Pagano, 2019; Fosu et al. 2016; Grahm et al. 2015). According to the research study examine that FL has affirmative and noteworthy influence on the firm financial performance with the optimal level of leverage (Danis and White, (2014). In Same line the research work also founds the FL has positive impact in case with optimal leverage (Li, (2000). Moreover, the research works also found that the FL significantly improves the growth and profitability of the firm (Tsuruta, (2015). Moreover the prior research works also examine that FL has U-shaped relationship with the firm profitability (Jang and Tang, 2009). While, Gonzalez (2013) examines the debt and leverage is the factor of the company economic distress. While other study reveals that debt is enhance the company profitability and debt is not a signal factor of the profitability (Singapurwoko and El-Wahid, 2011).

While the data of Saudi industrial company reveals that there is weak and reverse association among the FL and stock value (Abdullah and Hussein, 2014). In same line the research works examine that the FL has negative influence with the firm performance (Ahmad et al. 2015). Same results also showed that FL has negative and reduce the financial stability of the company (Ramazan et al. 2021). While few other results reveal that higher firm not dependent on the FL (Zhoue et al. 2021). However, some research works also examine that family-controlled firms are more engaged to use the leverage due to control the ownership. When family control family enhance the wealth of the firms then decrease the leverage (Poletti-Hughes and Garcia, 2020).According to research data was taken from the Istanbul stock exchange from the 2009 – 2019 using the GMM statistical technique the results of the research works shows that FL has negative effect on the financial performance of the firm (Kalash, 2021). Several research studies found mixed evidence on the relationship among the CG and firm performance. Sample of the 23 banks from the period of 18 year the results of the research explore that audit independent, CEO and executive has positive and significant relationship with the financial performance (Boachie, 2021). To examine the relationship among CG and financial performance the study analysis that CG has significant impact on the firm performance (Kyere and Ausloos, 2021).
Moreover, the research data was taken from the listed Ghanaian companies from 2006 to 2018. The research found from the panel data analysis that CG has positively and significantly influence on the firm performance (Puni and Anlesinya, 2020). In same line, the research works also found the same results (Song et al. 2017). The traditional finance theory agency theory postulates that the main role of the governing body in the firm to solve the problems (Hermalin and Weisbach, 2001). A study of the Romanian firm’s results showed that there is no substantial influence of the CG on the firm performance (Borlea et al. (2017). According to the research studies good CG reduce the cost of capital increase the shareholder wealth and enhance firm value (Agyemang & Castellini, 2015; Zgarni et al. 2016). Several, research studies explore the relationship among the CG with firm performance using the different proxy of CG (Makhlouf et al. 2014 & Gaur et al. 2015). However, other research works found the negative association among the CG index with Tobin’s –Q (Chi, 2011).

However, few research studies also found that CG has negative consequence on the financial performance (Klein, 1998). On the other hand, the research works also found that there is a destructive relationship among the CG and firm performance (Cavaco et al. 2016). Data of GCC countries the results of the research examine that CG has affirmative and significant influence with the financial firm performance (Pillai and Al-Malkawi, 2018). Some other research works found the insignificance influence of CG on the firm performance (Buallay et al. 2017).

**H1: Corporate governance index moderate among the financial leverage and firm performance and financial stability**

**Theoretical framework**
Research Methodology
The main aim of this study is to investigate the influence of the financial leverage on the financial firm performance of the KSE 100 index. CGI moderate this relationship is tested. The data were taken for the period of 2010 to 2021. Generalized moment of the method was use to the tested this relation. The GMM is addressing the issue of the endogeneity in the data. The problem of the endogeneity is come due to the omitted variable in the model. In economics and finance, the lagged values of an outcome variable regularly enlighten the values of the up-to-date years and are used as an instrumental variable. GMM was proposed by the (Arellano and Bond 1991) to control the problem of endogeneity in the data.

Variables definition
The main dependent variable for this research works id financial firm performance. Financial firm performance was measure through the return on asset by (Pillai & Al-Malkawi, 2018; Buallay et al. 2017). Financial leverage is independent for this research study which was measure through the debt to equity ratio (Pillai & Al-Malkawi (2018); Abor, 2005, 2007; Gill et al. 2011). The moderator CG variables for this research study were measured through the corporate board indicator index. Board size, board independence, audit committee, CEO duality was index for the CG.

Table 1 definition of variables

<table>
<thead>
<tr>
<th>Notation</th>
<th>Variables name</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>Return on asset</td>
<td>Kachlami and Yazdanfar, 2016).</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on equity</td>
<td>Kachlami and Yazdanfar, 2016).</td>
</tr>
<tr>
<td>FL</td>
<td>Total debt divided by total assets</td>
<td>Xu et al. (2016) and Tsai et al. (2015),</td>
</tr>
<tr>
<td>CGI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>Natural logarithm of total assets</td>
<td>He et al. (2017) and Zhang and Liu (2017)</td>
</tr>
<tr>
<td>GDP</td>
<td></td>
<td>Mun and Jang (2015)</td>
</tr>
<tr>
<td>INF</td>
<td>Annual inflation rate</td>
<td>Rehman et al. (2017)</td>
</tr>
</tbody>
</table>

Model Specification-1
\[ FP= \beta_0 + \beta_1 \text{Leverage} + \beta_2 \text{Firm size} + \beta_3 \text{Inflation} + \beta_4 \text{GDP} + \beta_4 \log \text{of sale} + \epsilon \quad (1) \]

The above models, was adopted from the prior research studies (Dalci, 2018).

Extension in the model-2
\[ FP= \beta_0 + \beta_1 \text{Leverage} + \beta_2 \text{CGI} + \beta_3 \text{Firm size} + \beta_4 \text{Inflation} + \beta_5 \text{GDP} + \beta_6 \log \text{of sale} + \epsilon \quad (2) \]
Moderating model-3

$$FP_{it} = \beta_0 + \beta_1 (LV_{it})(CG_{it}) + \beta_4 (CV_{it}) + \beta_5 (\epsilon_{it})$$

(3)

Generalized moment of method (GMM)

Model-1

$$FP_{it} = \beta_0 + \beta_1 ROA_{it-1} + \beta_2 (LV_{it})(CG_{it}) + \beta_4 (CV_{it}) + \beta_5 (\epsilon_{it})$$

1

Results and Discussion

Descriptive statistics of studied variables are presented in Table 1, which covers summary statistics of the entire sample and then consequently small and more significant. Tables 1, shows that the overall sample of the firm have 5.2 % and 6.2 % for the ROA and ROE.

Table-1 Summary of statistic

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std. Deviation.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Asset</td>
<td>0.052</td>
<td>0.492</td>
<td>0.215</td>
<td>1.800</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>0.621</td>
<td>0.022</td>
<td>-0.051</td>
<td>0.0331</td>
</tr>
<tr>
<td>Financial Leverage</td>
<td>0.051</td>
<td>0.575</td>
<td>0.041</td>
<td>0.034</td>
</tr>
<tr>
<td>Corporate governance</td>
<td>0.022</td>
<td>1.19</td>
<td>-0.038</td>
<td>1.412</td>
</tr>
<tr>
<td>governance Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.028</td>
<td>1.70</td>
<td>1.110</td>
<td>21.106</td>
</tr>
<tr>
<td>Firm Age</td>
<td>0.33</td>
<td>1.000</td>
<td>1.00</td>
<td>21.860</td>
</tr>
</tbody>
</table>

Correlation of coefficient of studied variables are presented in Table 2, which cover the summary

Table-2 Correlation

<table>
<thead>
<tr>
<th>S,O</th>
<th>ROA</th>
<th>ROE</th>
<th>LF</th>
<th>CGI</th>
<th>FS</th>
<th>FA</th>
<th>INF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.671***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>-0.508***</td>
<td>-0.677***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGI</td>
<td>0.510***</td>
<td>0.385***</td>
<td>0.421***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.391***</td>
<td>0.290***</td>
<td>-0.468***</td>
<td>0.639***</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3, direct regression and moderating estimation of the generalized moment of method results reveals that FL has negative and significant impact on the firm financial performance. In the regression analysis the financial performance was measure through the two proxy return on asset (ROA) and return on equity (ROE). While independent variable FL has measure through the debt to total asset. Whereas CGI is the moderating variable the research works. The research finds that FL has negative impact on the both model of the firm performance. These finding consistent with prior research works that FL has negative impact on the firm performance (Kalash, 2021; Danso et al. 2021; Dalci, 2018). CG has positive and significance association with the financial performance of the firm (Erena et al. 2021; Sehrawat et al. 2020; Dash and Raithatha, 2019; Kyere and Ausloos, 2021; Puni and Anlesinya, 2020; Mardnly, et al. 2018).

CG has positive and significant impact on the firm performance on the both models. These finding are consistence with prior works that CG has positive and significant impact on the firm performance (Puni and Anlesinya, 2021). In case of the interaction term affect that whether CGI has moderated the effect between the FL and firm performance on the both models. The result of the research works reveals that CGI moderate the association among the FL and financial performance.

Table 3 shows the estimation results of on the dynamic generalized moment of method.

Table III - System generalized moment of method

<table>
<thead>
<tr>
<th>Variables</th>
<th>M1 GMM (ROA)</th>
<th>M2 GMM (ROE)</th>
<th>Moderating</th>
<th>M1 GMM (ROA)</th>
<th>M2 GMM (ROE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagged ROA</td>
<td>0.451*** (0.434)</td>
<td>Lagged ROA</td>
<td>0.418*** (0.025)</td>
<td>0.458*** (0.032)</td>
<td></td>
</tr>
<tr>
<td>Lagged ROE</td>
<td>0.401** (0.345)</td>
<td>-0.065*** (0.644)</td>
<td>-0.074*** (0.285)</td>
<td>-0.068** (0.034)</td>
<td>-0.078** (0.590)</td>
</tr>
<tr>
<td>FL</td>
<td>-0.061*** (0.576)</td>
<td>0.056*** (0.687)</td>
<td>CGI</td>
<td>0.035** (0.416)</td>
<td>0.049** (0.486)</td>
</tr>
<tr>
<td>CGI</td>
<td>0.087*** (0.376)</td>
<td>0.091*** (0.498)</td>
<td>FL *CGI</td>
<td>0.034*** (0.035)</td>
<td>0.035*** (0.459)</td>
</tr>
<tr>
<td>Firm age</td>
<td>0.0561*** (0.056)</td>
<td>0.069*** (0.057)</td>
<td>Firm size</td>
<td>0.045** (0.410)</td>
<td>0.391** (0.390)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.081** (0.570)</td>
<td>0.031*** (0.489)</td>
<td>Firm age</td>
<td>7.89***</td>
<td>5.678***</td>
</tr>
</tbody>
</table>

Direct diagnostic Tests table

<table>
<thead>
<tr>
<th>Modifying diagnostic Tests tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Groups</td>
</tr>
</tbody>
</table>

Note: *** shows the level of significant at 1%, ** shows that at significant at 5% and * is shows that at is significant at 10%.
### Discussion and Conclusion

There are limited research works which examines the impact of the financial leverage on the firm performance. Mixed results were found to check the effect of the FL on the firm financial performance. The research found that FL has U-shaped, negative and positive relationship among the profitability (Dalci, 2018; Pham and Nguyen, 2019). Growing body of the research works examine in the both developed and developing countries that CG has significantly influence on the firm performance (Puni and Anlesinya, 2021). This study extends the current literature by emphasizing the role of the CGI on firm performance through the account of ROA and ROE. The CGI was constructed through the five governance proxies covering the audit committee, Board independent directors, board size, female’s directors, CEO duality. This research study is to check that how the corporate governance and financial leverage influences the firm non-financial performance of listed in KSE 100 index of Pakistan. This research study is using the data of the 100 non-financial firm of the Pakistan over the time frame to 2011 to 2021. According to the research results FL had negative impact on the both model return on asset and return on equity of the non-financial firm performance. Furthermore, this research found from the interaction effect of the CGI on the association of FL and firm performance reduces the effect on the both model of firms. This research works has significant implication and suggestions for wide range of stakeholder, such as; banks, corporate sector and regulatory bodies. Further research study check the impact of the same study in extension of the sample size. Comparative analysis can be conducted for the further study. Moreover the research examines the moderating ownership concentration and ownership structure. For more research works the further study can be examined the moderating role of the institutional quality.

### Reference


