

# THE NEXUS BETWEEN CAPITAL STRUCTURE AND FIRMS' PROFITABILITY: EVIDENCE FROM OIL & GAS SECTOR OF PAKISTAN

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## ABSTRACT

*The optimal capital structure is conceptualized as a basic framework pertinent to acquiring, utilizing, and contributing financial resources of the organization. The estimation and maintenance of the capital structure of a firm are the integral managerial decisions that could ultimately affect the future of the organizations. No doubt, the potential of profitability is the first thing for its future growth and to inculcate a sense of confidence among investors to invest in the firms. This study aims at examining the nexus between capital structure and profitability of firms in the context of the Oil & Gas sector of Pakistan. The sample of this research is comprised of the top five top performing firms of the Oil & Gas sector for a period of ten years (2006-2015). Keeping in view the explanatory orientation of this research, quantitative research approach was employed. In order to achieve study objectives, the secondary data were extracted from the financial statements of the firms under study and data were analyzed through descriptive statistics and correlation coefficients. During data analysis, the profitability of the firm was measured in terms of Gross Profit Ratio (GPR), Return on Capital Employed (ROCE) and Return on Equity (ROE). Whereas, the capital structure was measured in terms of Debt to Equity (D/E) ratio and Debt to Total Funds (D/TF) ratio. The findings drawn from this study revealed a negative linkage among various dimensions of capital structure of firms and their profitability potential in the context of the Oil & Gas sector of Pakistan. Primarily, this study findings corroborated that sample firms*

*under study brought sudden changes in the composition of their debt and equity mix (capital structure) that significantly threatened the profitability of firms. This study suggests that selected firms understudy need to adopt consistent capital structure policies with a clear understanding of future profitability. Financial managers need to focus on developing prudent optimal capital structure and avoid making abrupt changes in the debt and equity mix of the firms.*

**Keywords:** Capital Structure; Profitability; Oil & Gas Industry; Debt & Equity Mix.

## INTRODUCTION

The debate concerning the selection and potential of optimal capital structure attained sufficient attention within prior studies in the relevant field. It has been stressed that profitable firms employ less debt financing in comparison to equity financing in their capital structure (Kodongo, Mokoaleli-Mokoteli, & Maina, 2015). Debt financing is considered as a core part of capital structure in terms of availing the benefits of leveraged financing, however, equity financing could offer higher prospects of positive contribution towards the earning potential of the firms (Hamid, Abdullah, & Kamaruzzaman, 2015). Primarily, maximizing shareholders' wealth is the main target that the majority of the firms strive hard to achieve and it mainly depends on the return from investment or profit earned by the company. Therefore, higher profits and better financial position reflected through the balance sheet tends to increase shareholders' willingness to invest in the company (Velnampy & Niresh. 2012). Generally, shareholders' intention to invest in the company is shaped by higher expected returns that shareholder could earn on share investment and to a considerable extent that could be largely determined by the use of optimal capital structure (Velnampy & Niresh, 2012). Decisions concerning the selection of capital structure of a firm are very crucial because it determines the risk and returns tradeoff of a company that ultimately leads to forecasting firms' profitability or bankruptcy (Gill, Biger, & Mathur, 2016). The risk of bankruptcy severely threatens firms because when a firm faces bankruptcy its assets are sold to repay outstanding liabilities. In order to avoid this situation, financial managers need to take efficient capital structure decision for the sake of balancing debts and equity composition.

Primarily, capital structure decisions relate to financing firms' assets

through equity, debt, or issuance of different hybrid securities (Abor, 2005). Mainly, the acquisition of higher debt financing reflects that most of the capital structure is of debt financing that could increase the probability of financial distress. In this regard, for debt financing, a company has to pay lower taxes but higher interest payments, whereas, for equity financing company has to pay taxes but no fixed payments (Goyal, 2013). On the other hand, profitability could be elaborated as the potential or occurrence of attaining financial gain and it is frequently reflected through price/ earnings ratio and other profitability ratios (Abor, 2007). Analysis of profitability of a firm is of vital concern to stockholders because they earn revenue in the form of dividends as well as price appreciation of shares to generate a capital gain. Similarly, profitability is also an important consideration for creditors because profit is the key source of funds for debt coverage and management also uses profitability as a performance measure. Overall, the capital structure could determine the profitability of firms; therefore, the selection of most advantageous capital structure is the key issue that needs to be dealt in the best possible manner (Das & Swain, 2018).

In Pakistan, investors have a wide choice of making investments across different sectors and notably, among them, Oil & Gas industry is one of the most attractive investment choices due to its reliable performance. Pakistan is naturally gifted with different material resources and the Oil & Gas sector plays a major and significant role towards its favorable economic prospects. The Oil & Gas sector has witnessed remarkable expansion since the independence of the country in 1947 when oil production was scant and no gas reservoirs were known, but within fifty years of independence, large gas discoveries were undertaken that played a leading role concerning economic uplift of the country (Economic Survey of Pakistan, 2016-17). This industry first captured the interest of investors when exploration and production policy of 1992 was introduced; afterwards, further improvements were made in the forthcoming policies that turned this sector attractive for potential investors (Khan, 2010). Currently, there are many firms working in this industry and playing their notable role in fostering economic development as one dimension and offering financial benefits to investors as the second dimension.

It has been argued that the Oil & Gas sector despite having greater potential is not yielding best performance in terms of investors' confidence and profit potential. Primarily, the focus of this research endeavour is to

assess the nexus between capital structure and firms' profitability in the context of Pakistani Oil & Gas sector. The prior research in this area is mainly embedded within a western context and there is a lack of relevant research in the domain of less developed countries in general and within Pakistani context in particular.

### **LITERATURE REVIEW**

Pertinent to avail the detailed scenario of the underlying topic, the prior research relevant to this study was reviewed and study variables were selected. Kodongo, Mokoaleli-Mokoteli, and Maina (2015) assessed the nexus between small and large-sized firms' capital structure with profitability in the Kenyan context. Their findings reported that leverage could significantly hamper the profitability of firms. However, Yinka & Oluwadetan (2015), noted that the worth of the firm could also get influenced by other factors alongside borrowing and shareholders' equity. Tailab (2014), in the energy sector of the USA, assessed the underlying nexus between capital structure and firms' profitability. His study concluded a significant negative association between total debt and profitability of firms, but noticeably positive linkage was found among short term sources of borrowings and firm's profitability.

Singh and Singh (2016), investigated the underlying influence of capital structure on firm's profitability in the context of cement industry of India and reported significant negative nexus between debt and profitability by asserting that companies with heavy debt tend to have lesser profitability. Muraleetharan (2016), evaluated a case study of tobacco, beverage as well as food companies in the context of Colombo Stock Exchange (Sri Lanka) to investigate the interaction of capital structure of firms with their profitability. The sample of study includes Colombo Stock Exchange listed tobacco, beverage as well as food companies and their financial statements were analysed for the time duration of 2008 to 2014. This study includes Debt to Equity ratio (DE), Debt to Total Asset ratio (DTA) and Gearing ratio (GR) to represent the capital structure, whereas, the profitability of firms was measured by Return on Capital Employed (ROCE) and Return on Assets (ROA). A significant positive nexus was reported between the capital structure of firms and THE firms' profitability.

Chisti, Ali, and Sangmi (2013), explored the influence of capital structure on profitability within the context of Indian listed companies.

The study sample was comprised of ten companies from the automobile industry and their five years of data were analyzed. This data includes various ratios like Debt to Equity ratio (DE), Debt to Asset ratio (DA), Interest Coverage ratio (DCR), Gross Profit Ratio, Net Profit ratio, Operating Profit ratio, Return on Capital Employed (ROCE) and Return on Investment (ROI). Their study findings demonstrated a significant impact of capital structure on profitability of firms. In another study, Revathy and Santhi (2016), explored the nexus between sources of capital and profitability across manufacturing sector in the Indian context. Revathy and Santhi (2016), categorized seventy companies into three categories and his findings identified that there is an underlying significant direct association between capital structure and profitability, and rising debt to equity ratio could negatively affect the manufacturing firms' profit potential.

Vijayakumaran and Vijayakumaran (2018), evaluated the nexus between capital structures and corporate profitability in the context of Chinese Stock Exchange. The study reported a negative correlation between total debt to asset ratio and profitability, whereas, a positive relationship was reported between long-term debt to total debt ratio and profitability. Addae, Nyarko-Baasi, and Hughes (2013), investigated the effects of capital structure on profitability of the 34 listed firms in the context of Ghana for the time span of five years. Whereas, the profitability of the firms was assessed by Return on Equity ratio, while for the capital structure measurement, three ratios were included for the analysis, namely short-term debt to total capital ratio, long term debt to total capital ratio and total debt to total capital ratio. In this regard, Addae et al. (2013), corroborated positive association between the profitability of firms and their short-term debt, a significant negative association between profitability of firms and their long-term debts and a significant negative association was disclosed in relation to profitability and total debt in the context of Ghana.

In the Pakistani context, although some prior studies examined underlying nexus between capital structure and profitability of firms, however, these studies were embedded in diverse sectors and concluded with contradictory findings. In this regard, the underlying nexus between capital structure and profitability of firms was investigated in the engineering sector (Khan, 2012); non-financial firms (Shah & Hijazi, 2015); insurance sector (Ahmed, Ahmed, & Ahmed, 2010); manufacturing

sector (Sheikh & Wang, 2011); banking sector (Saeed, Gull, & Rasheed, 2013); and the cement industry (Hijazi & Tariq, 2006). Keeping in view the variations present across different sectors and the distinct nature of financial management practices in Oil & Gas sector, this research attempt aimed at examining the nexus between capital structure (debt and equity financing) and profitability of selected firms in the context of Pakistani Oil & Gas sector. Drawn from the underlying research objective, the following six propositions were suggested for this study:

<b>P<sub>1</sub></b>	Debt to Equity ratio significantly (positively/ negatively) relates with Gross Profit ratio.
<b>P<sub>2</sub></b>	Debt to Equity ratio significantly (positively/ negatively) relates with Capital Employed ratio.
<b>P<sub>3</sub></b>	Debt to Equity ratio significantly (positively/ negatively) relates with Return on Equity ratio.
<b>P<sub>4</sub></b>	Debt to Total Fund ratio significantly (positively/ negatively) relates with Gross Profit ratio.
<b>P<sub>5</sub></b>	Debt to Total Fund ratio significantly (positively/ negatively) relates with Return on Capital Employed ratio.
<b>P<sub>6</sub></b>	Debt to Total Fund ratio significantly (positively/ negatively) relates with Return on Equity ratio.

## **RESEARCH METHODOLOGY**

Pertinent to attaining research objectives, this research study adopted a quantitative approach drawn from secondary data. The financial statements of sample companies were obtained from the Pakistan Stock Exchange (PSX) websites for the time bracket often years (i.e. from 2006 to 2015). This study is a preliminary effort to look into the nexus between capital structure and profitability in the context of the Oil & Gas sector and employed a sample of top five companies from the sector. The rationale of the selection of five companies is embedded in the availability of required data, the share of their business in the overall Oil & Gas industry, and the focus of the study. The study sample is constituted of the following top five companies:

1. Pakistan State Oil Company Limited (PSO)
2. Shell Pakistan Limited (SPL)
3. National Refinery (NRF)

4. Pakistan Oilfields Limited (POL)
5. Attock Petroleum Limited (APL)

Although, in the relevant literature, profitability and capital structure variables draw impetus from multiple dimensions, however, this research has measured these variables through key financial ratios. For the measurement of capital structure, Debt to Equity ratio (D/E) and Debt to Total Fund ratio (D/TF) were employed; whereas, profitability of the firm was measured in terms of Gross Profit ratio (GP), return on Capital Employed ratio (ROCE) and Return on Equity ratio (ROE). Drawn from research focus, six propositions were developed to summarize the study findings. In order to encapsulate key findings; data were analyzed by means of descriptive statistics and Pearson correlation with the help of SPSS version 22. The descriptive statistics aimed at describing the capital structure composition and profitability of firms under study. Whereas, the correlation coefficient was used to know the strength and direction of the relationship between capital structure and profitability of the firms.

### ANALYSIS AND DISCUSSIONS

Pertinent to study findings, initially descriptive statistics of study variables i.e capital structure and profitability ratios are presented and later correlation coefficient values to examine the nexus between capital structure and profitability are described.

#### Capital Structure Ratios

With regard to the capital structure of firms, the summarized data related to Debt to Equity ratio (D/E) of selected companies for the period of ten years (2006-2015) is presented in Table 1.

Table 1. Debt to Equity (D/E) ratio (Figures in times)

Com.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean	SD
PSO	3	3.18	6.86	6.76	6.68	5.20	6.20	3.64	3.73	3.14	4.54	1.44
SPL	1.78	2.08	5.27	3.06	6.69	4.93	6.65	4.62	5.56	5.34	4.38	1.39
NRF	1.65	1.56	1.67	1.44	1.62	1.29	1.24	1.06	0.97	0.56	1.30	0.34
POL	0.58	0.28	0.29	0.32	0.32	0.38	0.45	0.59	0.64	0.71	0.45	0.15
APL	2.21	1.60	1.80	1.58	1.32	1.12	1.46	1.14	1.47	1.20	1.49	0.31

Table 1 demonstrates that according to the mean value, the Pakistan State Oil limited (PSO) has the highest Debt to Equity ratio of 4.54, that means it is a highly leveraged company in the industry or it has higher debts than equity. Similarly, Shell Pakistan limited also reflected high leverage at 4.38. On the other hand, Pakistan Oilfields limited has a minimum ratio of 0.45. This shows that it has lower debts and more equity; however, Attock Petroleum and National Refinery have mean values of 1.49 and 1.30 respectively and indicate balanced debt and equity composition. Moreover, the value of standard deviation identifies that PSO has the highest standard deviation of 1.44, so it could be inferred that PSO undertakes frequent changes in its debt and equity mix. While a lower value of standard deviation shows fewest changes in debt to equity mix. In this regard, as Attock Petroleum and National Refinery has 0.31 and 0.15 standard deviation respectively, so it could be inferred that these companies undertook fewer changes in their capital structure or debt and equity mix.

Table 2. Debt to Total Fund (D/TF) ratio (Figures in times)

Com.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean	SD
PSO	0.95	0.71	0.75	0.86	0.85	0.34	0.86	0.78	0.78	0.75	0.71	0.15
SPL	0.64	0.67	0.84	0.75	0.79	0.83	0.86	0.82	0.84	0.84	0.78	0.07
NRF	0.62	0.60	0.62	0.59	0.61	0.56	0.55	0.51	0.48	0.35	0.54	0.08
POL	0.37	0.22	0.22	0.24	0.24	0.26	0.31	0.37	0.39	0.41	0.30	0.07
APL	0.68	0.61	0.64	0.61	0.56	0.52	0.59	0.53	0.59	0.54	0.58	0.04

Table 2 presents the descriptive statistics pertinent to Debt to Total Fund ratio. In this regard, Shell Pakistan and PSO reported higher Debt to Total Fund ratio reflected through mean values of 0.78 and 0.71, respectively. This suggests that these companies have more burden of debt; on the other hand, Pakistan Oilfields and National refinery have relatively less reliance on debt. Moreover, a higher value of the standard deviation of 0.15 reported by PSO, reflects recurrent changes in its capital structure, whereas, remaining four firms reported slower changes in their capital structure reflected through their lower standard deviation values.

### Profitability Ratios

With regard to measuring the profitability of firms, Table 3 sums up



the descriptive statistics related to Gross Profit ratio of five selected companies.

Table 3. Gross Profit (GP) ratio (Figures in percent)

Co.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean	SD
PSO	4.86	2.97	5.14	0.49	3.92	4.17	3.35	3.10	3.10	2.58	3.36	1.24
SPL	7.03	4.40	-3.47	8.27	6.13	5.58	4.36	4.56	3.02	5.30	4.51	3.01
NRF	5.17	5.73	7.30	4.81	5.74	6.74	2.70	2.83	1.48	4.61	4.71	1.76
POL	48.43	52.27	56.80	57.88	59.52	61.23	59.97	54.92	53.48	52.67	55.71	3.85
APL	3.91	4.09	4.57	5.32	4.54	4.30	3.00	3.14	2.89	2.86	3.86	0.80

As shown in Table 3, Pakistan Oilfields have the highest gross profit ratio of 55.71. This might reflect efficient production and use of resources in comparison to other companies, whereas, Attock Petroleum and PSO reported lower Gross Profit ratios of 3.86 and 3.36, respectively. Moreover, reported values of the standard deviation to indicate that Pakistan Oilfields has many fluctuations in its Gross Profit than other firms, while PSO has much constant Gross Profit ratio.

Table 4: Return on Capital Employed (ROCE) ratio (figures in percent)

Co.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean	SD
PSO	55.99	34.01	96.03	-61.15	49.93	66.16	47.52	41.29	50.73	25.43	40.59	38.50
SPL	45.44	4.00	-134.56	46.08	37.62	48.02	26.07	39.01	16.27	41.34	16.92	52.28
NRF	56.11	47.81	50.69	16.08	24.20	2.969	10.50	10.93	3.60	13.08	23.59	19.24
POL	50.03	42.21	37.74	21.42	26.83	32.83	35.76	31.84	36.05	26.59	34.13	7.84
APL	95.10	70.50	63.75	58.36	50.87	56.46	53.59	50.04	42.00	32.96	57.36	16.04

Table 4 shows descriptive statistics pertinent to return earned on capital employed in terms of reflecting how efficiently a company is utilizing its funds. In this regard, Attock Petroleum and PSO have mean values of 57.36 and 40.59, respectively. This indicates that these firms are very efficient in using capital funds and consequently, expected to be the first choices for investors, while Shell Pakistan has the lowest ROCE ratio of 16.92, indicating that it is not using its funds efficiently as compared to

others. Moreover, the value of standard deviation shows variation in using capital funds efficiently, therefore, Pakistan Oilfields has a lowest standard deviation of 7.84 and shows consistency in using its capital, whereas, Shell Pakistan has a greater standard deviation of 52.28, that shows inconsistency pertinent to using its funds efficiently.

Table 5. Return on Equity (ROE) ratio (figures in percentage)

Co.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Mean	SD
PSO	35.16	22.15	45.16	-55.38	47.91	35.27	18.74	20.84	27.75	8.43	20.60	27.84
SPL	59.92	4.95	-135.97	37.85	24.77	26.02	0.07	37.01	-16.27	15.13	6.27	51.81
NRF	37.50	32.10	33.95	10.31	15.39	26.69	10.35	10.62	3.60	13.08	19.35	11.40
POL	41.82	34.73	25.73	24.13	28.09	46.48	45.18	39.82	36.50	25.04	34.78	8.15
APL	68.07	49.57	47.06	44.62	39.10	57.91	47.19	42.33	31.08	24.02	45.09	11.85

Table 5 present the descriptive statistics regarding Return on Equity of the firms. In this regard, the Attock Petroleum and Pakistan Oilfields with the mean scores of 45.09 and 34.78 respectively, are earning a good return as compared to others, while Shell Pakistan with a mean score of 6.27, is less profitable as compared to others. Moreover, PSO and National Refinery have medium mean scores of 20.60 and 19.35, respectively. Furthermore, the values of the standard deviation reflect that Shell Pakistan and PSO have the highest values of 51.81 and 27.84. This suggests that these companies have many fluctuations in their profits, while Pakistan Oilfields and National Refinery have a lower standard deviation of 8.15 and 11.40 respectively, which shows that these companies have relatively constant Return on Equity as compared to other firms.

### Overall Overview of Companies' Capital Structure and Profitability

Overall the above discussion relatable to the capital structure and profitability of selected sample firms reflects that Pakistan State Oil Company Limited and Shell Pakistan are employing higher debts and similarly have more capital structure fluctuations. While concerning Profitability ratios, Attock Petroleum and Pakistan Oilfields have good profitability trends as compared to others, but Shell Pakistan and PSO have higher fluctuations in their earnings. Notably, during 2008 and 2014, Shell Pakistan faced net loss while PSO also incurred a net loss in 2009.

Moreover, the overall descriptive statistics of sample firms are presented in Table 6.

Table 6. Overall Descriptive Statistics of Selected Firms

Ratios	N	Mean	Std. Deviation
Debt to Equity	50	2.437	1.950
Debt to Total Funds	50	0.598	.199
Gross Profit	50	14.435	20.998
Return on Capital Employed	50	34.522	34.683
Return on Equity	50	25.221	30.967

In order to address the research questions proposed in this study, based on the overall descriptive statistics presented above, Table 7 sums up the findings drawn from the correlation test to find out the association between study variables and their underlying significance.

Table 7. Correlation Matrix for Profitability and Capital Structure of Selected Firms

	ROE	ROCE	GP	DTF	DE
<b>ROE</b>					
Correlation Coefficient	1	.919**	.214	-.283*	-.402**
Sig. (2-tailed)		.000	.135	.047	.004
N	50	50	50	50	50
<b>ROCE</b>					
Correlation Coefficient	.919**	1	.043	-.082	-.183
Sig. (2-tailed)	.000		.764	.569	.204
N	50	50	50	50	50
<b>GP</b>					
Correlation Coefficient	.214	.043	1	-.750**	-.528**
Sig. (2-tailed)	.135	.764		.000	.000
N	50	50	50	50	50
<b>DTF</b>					
Correlation Coefficient	-.283*	-.082	-.750**	1	.795**
Sig. (2-tailed)	.047	.569	.000		.000
N	50	50	50	50	50
<b>DE</b>					
Correlation Coefficient	-.402**	-.183	-.528**	.795**	1
Sig. (2-tailed)	.004	.204	.000	.000	
N	50	50	50	50	50

\*\* . Correlation is significant at the value of 0.01 (2-tailed).

\*. Correlation is significant at the value of 0.05 (2-tailed).

Primarily, the findings are drawn from the correlation analysis support six propositions developed for this study, as mentioned below. These findings reveal that Debt to Equity ratio and Debt to Total Fund ratio have a significant negative relationship with the profitability of sample firms as evident through Gross Profit ratio, Return on Equity ratio and Return on Capital Employed ratio.

Proposition		Pearson correlation coefficient
P1	Debt to Equity ratio is significantly negatively related to Gross Profit ratio.	-.528**
P2	Debt to Equity ratio is significantly negatively related to Capital Employed ratio.	-.183
P3	Debt to Equity ratio is significantly negatively related with Return on Equity ratio.	-.402**
P4	Debt to Total Fund ratio is significantly negatively related with Gross Profit ratio.	-.750**
P5	Debt to Total Fund ratio is significantly negatively related to Return on Capital Employed ratio.	-.082
P6	Debt to Total Fund ratio is significantly negatively related with Return on Equity ratio.	-.283*

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

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

## CONCLUSION

No doubt, in this competitive era, managing the capital structure of any firm in Pakistan is a very complex task and same stand true for the rest of the world. This study identifies that the Oil & Gas industry of Pakistan is dealing with higher fluctuations in setting up their capital structure and profit potential. Primarily, companies under study could not enjoy full earning potential due to the absence of strong capital structure management policies, as evident by abrupt changes in their capital structure. Overall, management of debt and equity financing entails an optimal combination that leads towards the potential of higher profitability. This study points out that Oil & Gas companies are having more debts than equity and this results in the imbalanced capital structure. Here, this could be suggested that firms can enjoy higher profitability for a longer time if they have optimal debt-equity composition because the negative impact of debt financing can be decreased by proper risk management strategies, embedded in the optimal capital structure. Overall, in Pakistan, Oil & Gas industry is having obstacles in managing debt-equity composition, which leads towards frequent and sudden changes in

their capital structure that ultimately decrease the potential of sustainable profitability.

The major limitation of this study is rooted in the selection of five companies; therefore, the generalization of findings needs to be taken with precaution. While making any recommendations regarding the selection of optimal capital structure, there is a need to acknowledge that no readymade solution is available that could be used to develop optimal capital structure, however, effective financial strategies could be devised to workout optimal capital structure informed by real scenario. While shedding light on the limitation of this study, future studies could focus on larger sample size through the inclusion of more firms and regression as well as more advanced statistical techniques could be applied to get more detailed insights. Moreover, the inclusion of comparative analysis among different sectors could further validate the association between capital structure and profitability of firms in the context of the Oil & Gas sector in Pakistan.

## REFERENCES

- Abor, J. (2007). Industry classification and the capital structure of Ghanaian SMEs. *Studies in Economics and Finance*, 24(3), 207-219.
- Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*, 6(5), 438-445.
- Addae, A. A., Nyarko-Baasi, M., & Hughes, D. (2013). The effects of capital structure on profitability of listed firms in Ghana. *European Journal of Business and Management*, 5(31), 215-229.
- Ahmed, N., Ahmed, Z., & Ahmed, I. (2010). Determinants of capital structure: A case of life insurance sector of Pakistan. *European Journal of Economics, Finance and Administrative Sciences*, 24(24), 7-12.
- Chisti, K. A., Ali, K., & Sangmi, M. I. D. (2013). Impact of capital structure on profitability of listed companies (evidence from India). *The USV Annals of Economics and Public Administration*, 13(1 (17), 183-191.
- Das, C. P., & Swain, R. K. (2018). Influence of Capital Structure on Financial Performance. *Parikalpana-KIIT Journal of Management*, 14(1), 161-170.
- Economic Survey of Pakistan. (2017). Ministry of Finance, Government of Pakistan. Retrieved from [http://www.finance.gov.pk/survey/chapters\\_17/Pakistan\\_ES\\_2016\\_17\\_pdf](http://www.finance.gov.pk/survey/chapters_17/Pakistan_ES_2016_17_pdf)
- Gill, A., Biger, N., & Mathur, N. (2016). The effect of capital structure on profitability: Evidence from the United States. *International Journal of Management*, 28(4), 3.
- Goyal, A. M. (2013). Impact of capital structure on performance of listed public sector banks in India. *International Journal of Business and Management Invention*, 2(10), 35-43.
- Hamid, M. A., Abdullah, A., & Kamaruzzaman, N. A. (2015). Capital structure and profitability in family and non-family firms: Malaysian evidence. *Procedia Economics and Finance*, 31, 44-55.

- Hijazi, S. T., & Tariq, Y. B. (2006). Determinants of Capital Structure: A Case for the Pakistani Cement Industry. *Lahore Journal of Economics*, 11(1), 63-80.
- Khan, M. A. (2010). Effects of human resource management practices on organizational performance—an empirical study of oil and gas industry in Pakistan. *European Journal of Economics, Finance and Administrative Sciences*, 24(157-174), 6.
- Khan, A. G. (2012). The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting*, 2(1), 245-262.
- Kodongo, O., Mokoaleli-Mokoteli, T., & Maina, L. N. (2015). Capital structure, profitability, and firm value: panel evidence of listed firms in Kenya. *African Finance Journal*, 17(1), 1-20.
- Muraleetharan P. (2016). Impact of capital structure on profitability: A case study of beverage, food, and tobacco firms in Colombo Stock Exchange (CSE) in Sri Lanka. *International Journal of Commerce, Business and Management*. 5(5), 93-99.
- Revathy, S., & Santhi, V. (2016). Impact of capital structure on profitability of manufacturing companies in India. *International Journal of Advanced Engineering Technology*, 7(1),24-28.
- Saeed, M. M., Gull, A. A., & Rasheed, M. Y. (2013). Impact of capital structure on banking performance (A Case Study of Pakistan). *Interdisciplinary Journal of Contemporary Research in Business*, 4(10), 393-403.
- Ahmed Sheikh, N., & Wang, Z. (2011). Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan. *Managerial Finance*, 37(2), 117-133.
- Singh, B., & Singh, M. (2016). Impact of Capital Structure on Firm's Profitability: A Study of selected listed Cement Companies in India. *Pacific Business Review International*, 8(7), 46-54.
- Shah, A., & Hijazi, T. (2004). The determinants of capital structure of stock exchange-listed non-financial firms in Pakistan. *Pakistan*

*Development Review*, 43(4), 605-618.

- Tailab, M. (2014). The effect of capital structure on profitability of energy American firms. *International Journal of Business and Management Invention*, 3(12), 54-61.
- Velnampy, T., & Niresh, J. A. (2012). The relationship between capital structure and profitability. *Global Journal of Management and Business Research*, 12(13), 1-10.
- Vijayakumaran, S., & Vijayakumaran, R. (2018). The Determinants of Capital Structure Decisions: Evidence from Chinese Listed Companies. *Vijayakumaran, S., & Vijayakumaran*, 63-81.
- Yinka, A. S., & Oluwadetan, A. (2015). Capital Structure and Profitability: A Critical Analysis of Quoted Manufacturing Companies in Nigeria. *American Journal of Economics-Finance and Economics*, 1(5), 369-76.