Research Paper

IMPACTS OF ASSET TANGIBILITY AND CAPITAL STRUCTURE ON FINANCIAL PERFORMANCE OF LISTED OIL AND GAS COMPANIES IN INDIA

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ABSTRACT

The purpose of this paper is to evaluate the asset tangibility, capital structure and their impacts on financial performance. 11 oil and gas companies encompassing three refinery companies and eight drilling and exploration companies listed on Bombay Stock Exchange (BSE) constituted the research sample. The required data for analysis of financial performance of select companies were collected from the annual reports and financial statements of the firms covering a period of ten years from 2007. This paper uses EPS and fixed asset as proxies for financial performance and asset tangibility respectively. This study employs descriptive statistics, Pearson correlation and linear regression analysis. Results presented in this study show that there is a positive and significant relationship between capital structure and financial performance. However, the relationship between asset tangibility and financial performance is significant and negative.

KEYWORDS: Asset tangibility, capital structure, financial performance, oil companies, India.

INTRODUCTION

The aim of this paper is to empirically test the impacts of asset tangibility and capital structure on financial performance in the petroleum industry. Performance has various definitions depending upon the perspective of the users of financial information. Maximizing shareholders wealth has always been considered as one of the most important goals for the firms' managers as the determination of financial resources in financing the required fund for the investment has crucial and sensitive impacts on companies' operating activities (Yahyazadehfar et al., 2010). Tangibility refers to the degree to which the firm is financed by the fixed assets. The fixed asset is used as a proxy to measure the firm's tangibility (Baloch, Ihsan, Kakakhel and Sonia, 2015).

PROBLEM STATEMENT

Indian Petroleum Industry plays a critical role in the economic development of the country and is considered as one of the biggest contributors to the treasury of the country. The majority of the needed oil of the country is fed up by the imports, therefore the role and financial health of the oil and gas companies are vital to the economy of the country. The financial health of the oil and gas companies are examined through evaluation of financial performance.

RESEARCH OBJECTIVES

The main objective of this study is to analyze the financial performance of select oil and gas companies in India. The specific objectives are:

- ➢ to analyse the impacts of asset tangibility on financial performance; and
- ➢ to test whether the capital structure impacts the financial performance of oil and gas companies.

HYPOTHESES

H_1: H0: There is no significant relationship between firms' capital structure and financial performance of Indian oil and gas companies.

H_2: H0: There is no significant relationship between firms' asset tangibility and financial performance of Indian oil and gas companies.

RESEARCH QUESTIONS

The following research questions have been developed pertaining to the problem statement.

RQ1. Does the capital structure impact upon the financial performance of sample companies? RQ2. How could the asset tangibility affect the financial performance of oil and gas companies?

RQ3. Does asset tangibility show more influence on financial performance than capital structure on financial performance?

SIGNIFICANCE OF THE STUDY

The oil industry plays a significant role in the economic development of India. Reviewing previous studies show that there is only a few research on the financial performance of oil and gas companies in India, moreover, these studies examined more toward manufacturing, banking and other sectors. Additionally, huge investments have been made in this industry which itself reveals that more research needed to be taken in this area.

SCOPE OF THE STUDY

This paper focuses on financial performance of 11 oil and gas companies encompassing three refinery companies and eight drilling and exploration companies between 2007 and 2016. The required data for analysis have been collected from annual reports and financial statements of the companies through Moneycontrol website.

LITERATURE REVIEW

This paper concentrates on various studies which have been done toward financial performance. Empirical studies on the relationship between firms' performance and capital structure have produced mixed results. This studies according to the variables are divided into two parts, namely, asset tangibility studies and capital structure studies.

➢ Asset Tangibility Studies

The findings of Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, & Bagheri (2012) indicated that there is a significant positive relationship between asset tangibility and financial performance measures (ROA and ROE) of Iranian firms. Abbas, Bashir, Manzoor & Akram (2013) found that asset tangibility does not play a significant role for financial performance of textile sector companies in Pakistan. The findings of Zeitun and Tian (2007) showed that tangibility has negative and significant relationship with firm's performance. The findings of Mwangi and Birundu (2015) indicated that there was no significant effect of capital structure, asset tangibility and asset turnover on the financial performance of Small and medium-sized enterprises in Thika sub-county, Kenya.

➢ Capital Structure Studies

Aburub (2012) found that the capital structure has a positive effect on firm performance evaluation measures. Zeitun and Tian (2007) examined the impact of capital structure on the firm performance and suggested that capital structure has significantly negative impact on accounting measures of firm performance. Sunder and Myers (1999) in their studies documented that there is a significantly positive relationship between assets tangibility with capital structure ratio. Onaolapo and Kajola (2010) conducted a study on 30 nonfinancial companies listed on Nigeria Stock Exchange and found that the capital structure (capital structure ratio) has a significant negative impact on ROA and ROE of these companies. Elsayed Ebaid (2009) examined the impacts of capital structure on financial performance of 64 Egyptian companies and concluded that there is no significant relationship between ROE and total capital structure to total assets ratio, however, the relationship between ROA and total capital structure to total assets ratio is negative and significant. Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, & Bagheri (2012) discovered that there is a significant negative relationship between capital structure ratios and financial performance measures (ROA and ROE) of Iranian firms.

RESEARCH DESIGN

This section of the study provides information regarding population, sampling and data collection methods, hypothesis testing and model specification.

➢ Statistical Society and Sample

Statistical society of this study includes all refinery sector companies and drilling and exploration sector companies listed on Bombay Stock Exchange (BSE). This study has utilized a sample consisting of three refinery companies and eight drilling and exploration companies based on the availability of data during the period from 2007-8 to 2016-17. The sample offers an appropriate way to investigate the impacts of asset tangibility and capital structure on financial performance of oil and gas companies by providing a combined sample of both refinery companies, and drilling and exploration companies.

➢ Methods of data collection and information

This research has used data extracted from financial statements of the selected companies. The companies' financial statements have been obtained from Moneycontrol website and companies' website as well, moreover the period of collecting information was taken from 2007-2016.

➢ Methods of Data Analysis and Hypotheses Testing

For hypotheses testing and determining the intensity and nature of the relationship between response (dependent) and predictor (independent) variables, this paper has used descriptive statistic, Pearson correlation and multiple regression models.

The regression equation model was as below:

➢ Operational Research Models and Variables

Following the theoretical model that says firms' financial performance depends on the accounting information (AI) including Capital structure (D) and Asset Tangibility (AT); the model is specified in a functional form to present this relationship. This regression model is as follow:

$$FP = f(A.I)$$
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

Y = Dependent Variable

X1 = Asset Tangibility

X2 = Capital structure

β_0 = Constant

ε = error term

Therefore, the model of this study is as follow:

$$(1)\ EPS = \beta_0 + \beta_1(A.T) + \beta_2(C.S) + \varepsilon$$

ANALYSIS AND INTERPRETATION

The "Statistical Package for Social Sciences (SPSS)" and Eviews were used to analyse the data. The descriptive statistics, Correlation and regression analysis of the study are as follows:

➢ Descriptive statistics

Table 1 presents the descriptive summary statistics of the variable used in this study. Throughout the ten year period, the mean earnings per share (EPS) was Rs. 29.22, with the minimum and maximum 1.65 and 114.07 rupees respectively. The deviation from the average EPS was 23.25. Asset tangibility (AT) has minimum value of Rs. 0.49 and a maximum value of Rs.7.30 and standard deviation of 1.47. Capital

structure per share ranges from 33.39 to 1154.34 rupees with an average value of 273.51 and a standard deviation of 250.74. See appendix for descriptive results.

> ### *Correlation analysis*
Table 2 shows the results of the Pearson correlation among the variables and provides two important objectives. The most important objective of correlation analysis is to discover whether there is a bivariate relationship between each pair of the dependent and independent variables and the second one is to ensure that the correlations among the explanatory variables are not so high to the extent of posing multicollinearity problems (Dada & Ghazali, 2016). According to the results of this table, there is a negative and significant association between asset tangibility and EPS at %1 level, however, the associations between capital structure and EPS is positive and significant at %5 level. Clearly, as asset tangibility increases (decreases), the EPS of oil and gas companies in India decreases (increases). On the other hand, higher capital structure results in higher EPS. Moreover, there is no significant relationship between asset tangibility and capital structure at %5 level.

> ### *Regression Analysis and Discussion*
According to table 2, the correlation values between the explanatory variables is low which reveals the lack of multicollinearity. Table 3 presents the regression results of the study. F-statistic shows that the regression model is significant at 1% level. The coefficient of determination shows that about 7.16% of the changeability in earnings per share can be explicated by the independent variables. The regression model is analysed by using the least square method.
The result:

$$FP = \beta_0 + \beta_1 (A.T) + \beta_2 (C.S)$$
$$FP = 31.958 - 3.267\,(A.T) + 0.018\,(C.S)$$

It can be seen from the result above that when the A.T and C.S are equal to zero, the financial performance in term of EPS will be increased to Rs.31.958. Moreover, the financial performance (EPS) decreases by 3.267 rupees when the asset tangibility increases byRs.1. However, the performance will increase by Rs. 0.018 when capital structure increases by Rs.1.

From the regression results, capital structure (C.S) is statistically significant at the 5% level. Therefore the null hypothesis of for the second hypothesis is rejected and alternative hypothesis is accepted. The beta coefficient of capital structure shows a positive association between it and EPS. This shows that the profitability of listed oil and gas companies in India increases as capital structure increases. Intuitively, high EPS oil and gas companies enjoy high capital structure. This result is consistent with the general conclusions of Aburub (2012), who found that the capital structure has a positive effect on firm performance. However, the results of this study is not in line with the results found from the research of Zeitun and Tian (2007), Onaolapo and Kajola (2010), Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, & Bagheri (2012) who suggested that that capital structure has negative and significant impact on accounting measures of firm performance.

The regression results show that asset tangibility (A.T) is statistically significant at the 5% level. Therefore the null hypothesis of for the first hypothesis is rejected and alternative hypothesis is accepted. The beta coefficient of asset tangibility shows a negative association between it and EPS. This shows that the profitability of listed oil and gas

companies in India decreases as asset tangibility increases. Intuitively, low asset tangible companies enjoy higher EPS. This adds to the present literature by approving the results of similar empirical study by Zeitun and Tian (2007) who showed that tangibility has negative and significant relationship with firm's performance. It, however, contradicts with the results of Sunder and Myers (1999) who evidenced that the relationship between assets tangibility with capital structure ratio (as a proxy for capital structure) is positive and significant.

CONCLUSION
This study examines the impacts of capital structure and asset tangibility on financial performance of 11 oil and gas companies listed on BSE. From the results, it can be concluded that both capital structure and asset tangibility have impact on financial performance of the sample companies. Capital structure has a significant and positive relationship with financial performance, but the relationship between asset tangibility and financial performance is significant and negative which means that companies with higher capital structure possibly enjoy better financial performance. Finally, asset tangibility and capital structure show almost same but reverse influence on financial performance of oil and gas companies in India.

LIMITATIONS OF THE STUDY
This study is limited to the petroleum industry consisting of 11 firms. In this context, its findings may be generalized to petroleum sector only. This study has used EPS and fixed asset as proxies for asset tangibility and financial performance respectively. However, there are other proxies which can be considered to measure these variables.

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APPENDIX

Table 1: *Descriptive summary statistics*

All the following numbers have been calculated per share in order to make the determinants in a unique unit and making the analysis easier.

Descriptive statistics	EPS (Rs.)	AT/Share (Rs.)	Capital Structure/Share (RS.)
Mean	29.22	2.37	273.51
Standard Error	2.22	0.14	23.91
Median	25.02	2.00	159.94
Standard Deviation	23.25	1.47	250.74
Sample Variance	540.63	2.16	62871.09
Kurtosis	1.59	0.69	2.28
Skewness	1.27	1.09	1.50
Range	112.42	6.82	1120.95
Minimum	1.65	0.49	33.39
Maximum	114.07	7.30	1154.34
Sum	3214.35	260.21	30086.41
Count	110	110	110
Confidence Level (95.0%)	4.394	0.278	47.383

Table 2: Pearson Correlation

Correlations				
		EPS	AT	C.S
EPS	Pearson Correlation	1	-.237*	.215*
	Sig. (2-tailed)		.010	.024
	N	118	116	110
AT	Pearson Correlation	-.237*	1	-.088
	Sig. (2-tailed)	.010		.358
	N	116	118	110
C.S	Pearson Correlation	.215*	-.088	1
	Sig. (2-tailed)	.024	.358	
	N	110	110	110
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 3: Regression results (model 1)
Association between EPS and Independent Variables

Year	Regression Results		ANOVA						n
	R² (%)	Adj. R² (%)	F-statistic	Sig*	Independent Variables & Intercept	Beta (b₁)	t-statistic	p-value	
2007-16	8.86	7.16	5.202	0.007	Intercept	31.958	6.58	.000	110
					C.S	0.018	2.124	0.036	
					AT	-3.267	-2.230	0.028	

*Significance at 0.05.

Note: EPS = Earnings Per Share; AT= Asset Tangibility; C.S= Capital Structure.