RELATIONSHIP BETWEEN LEVERAGE AND EPS: WITH REFERENCE TO SELECTED POWER COMPANIES OF INDIA

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ABSTRACT

This study is to analyze the relationship between leverage and earning per share of selected power companies of India. Time period of the study has been taken from 2016 to 2020. The present study used mean, standard deviation, kurtosis, skewness, correlation coefficient and, 't' test to measure the variables. The findings revealed that there is no significant relationship of DOL, DFL and DCL with EPS. Thus, fixed operating expenses and the financing mix decisions of the firm are not significantly impact the earning capacity of the selected power companies.

Keywords - Earning Per Share, Leverage, Power Companies

Introduction of Leverage

Leverage

Leverage is any technique that amplifies investors' profits or losses. Its most commonly used to describe the use of borrowed money to magnify profit potential but it can also describe the use of fixed assets to achieve the same goal. Leverage is the use of various financial instruments or borrowing capital, to increase the potential return is termed as leverage. Business owners can use either debt or equity to finance or purchase the company's assets. Using debt or leverage increases the company's risk of bankruptcy. It also amplify the companies return-s specially its return on equity and boost up the company's ability to increase the profitability. In another words, only where there turn on investment is greater than the cost of outside borrowing ultimately the effect of leverage will be favorable. This will ensure maximization of shareholder's wealth.

Operating Leverage

Operating Leverage refers to the use of fixed cost in the operations of the firm. A firm has to beat the fixed cost expenses irrespective of output. Even if there is zero sales, the firm has to incur those expenses. The firm can use higher amount of operating Leverage i.e. using of higher amount of fixed cost when compared to variable cost only when the sales are rising because even a small change in sales will bring a proportionate change in operating profit.

Financial Leverage

The employment of fixed source of funds such as debt and preference share in the capital structure of the firm along with owner's equity is called financial Leverage or trading on equity. Financial Leverage may be favourable or unfavourable. If a company is able to earn more return than the cost of borrowing, then the Leverage is said to be favourable. On the other hand, if the company earns a return which is less than the cost of borrowing then the Leverage is said to be unfavourable.

Combined Leverage

Combined Leverage is a use of operating Leverage and financial Leverage in an appropriate proportion in the business. Operating Leverage affects the firm's operating profit and financial Leverage affects the earnings of the shareholder or EPS. Firm has to use a correct mixture of both the Leverages to take the fullest possible advantage of growing business opportunities.

Review of Literature

Elangkumaran.P and Nimalathasan. B (2013): Leverage and its Impact on Earnings and Share Price: A Special Reference to listed Companies of Colombo Stock Exchange (CSE) in Sri Lanka: investigates the impact of leverage on earnings and share price of listed companies on Colombo

Stock Exchange (CSE) in Sri Lanka. The study was identified 20 companies listed on the CSE for the period from year 2007/2008 to 2011/2012.The Degree of Operating Leverages (DOL), Degree of Financial Leverage (DFL) & Degree of Combined Leverage (DCL) are the independent variables and Earning Per Share (EPS) and Share Price (SP) are the dependent variables for this study. The present study used the correlation coefficient and linear regression to measure the variables. The findings revealed that only 4% earnings can be explained by DOL, DFL and DCL and there is no significant relationship with EPS. It is also found that 3% SP is attributed by DOL, DFL and DCL and there is no significant relationship with SP. Thus, fixed operating expenses and the financing mix decisions of the firm are not significantly impact the earning capacity of the listed companies in CSE.

Tooba Raheel, Faiza Maqbool Shah (2015): A Study That Identify the Relationship between the Financial Leverage and Firms Profitability:Empirical Evidence from Oil and Gas Companies of Pakistan Listed in KSE: identifies the relationship between the financial leverage and Firms profitability of Oil and Gas marketing companies of Pakistan listed on Karachi Stock Exchange (KSE). The study was identified 05 companies listed on the KSE for the period starting from year 2007 to 2012. The Degree of Operating Leverages (DOL), Degree of Financial Leverage (DFL) & Degree of Combined Leverage (DCL) are the independent variables and Earning per Share (EPS) is the dependent variable for this study. The present study used the correlation coefficient and linear regression to measure the variables. The findings revealed that there is no significant relationship of DOL, DFL and DCL with EPS. Thus, fixed operating expenses and the financing mix decisions of the firm are not significantly impact the earning capacity of the listed companies in KSE.

Objective of the study

The prime objectives of the study are as under.
- To examine the relationship between degree of operating leverage and earning per share.
- To analyze the relationship between degree of financial leverage and earning per share.
- To assess the relationship between degree of combined leverage and earning per share.

Hypothesis of the study

Ho1: There is no significant relationship between the degree of operating leverage and earning per share of selected power companies of India.

Ho2: There is no significant relationship between the degree of financial leverage and earning per share of selected power companies of India.

Ho3: There is no significant relationship between the degree of combined leverage and earning per share of selected power companies of India.

Research Methodology

Sample

In present research, researcher has selected 3 power companies of India.
1. Tata power
2. Adani power
3. JSW Energy

Sources of Data

The study is based on secondary data. The researcher has gone through various journals, magazines, newspapers, publications and websites for obtaining information.

Period of Study

Time period of the study has been conducted during 2015-2016 to 2019-2020.

Tools for Analysis

In this study, for interpreting the results, the statistical and financial tools that have been used are Leverages, Mean, Standard Deviation, Kurtosis, Skewness, Correlation analysis and 't' test, to determine leverages relationship with EPS value. All calculations are done in Excel.

Limitation of the Study

The present research study is subject to following limitations.
- Present research study is limited to only selected Power Companies of India.

- Present research study is limited to only selected Power Companies for a period of five year only.
- The financial statement does not keep pace with the changing price level.
- Conclusions are made on the basis of information obtained from Power Companies of India.

Analysis and Interpretation

Degree of Operating Leverage

Degree of Operating Leverage = Percentage change in EBIT/Percentage change in Sales

Year	Tata power	Adani power	JSW Energy
2015-2016	55.81	1.51	-1.85
2016-2017	1.78	13.10	1.95
2017-2018	-22.48	6.86	-18.81
2018-2019	-32.74	0.69	16.38
2019-2020	8.06	2.00	0.45
Mean	2.09	4.83	-0.38
S.D.	34.42	5.21	12.54
Kurtosis	1.06	0.75	1.83
Skewness	1.04	1.30	-0.33

Source: Secondary data

It is observed from the above table that in the year 2015-16 Tata power has highest DOL i.e.55.81 and JSW Energy has lowest DOL i.e.-1.85.In the year 2016-17 Adani Power has highest DOL i.e.13.10 and Tata power has lowest DOL i.e.1.78.In the year 2017-18 Adani Power has highest DOL i.e.6.86 and Tata power has lowest DOL i.e.-22.48.In the year 2018-19 JSW Energy has highest DOL i.e.16.38 and Tata power has lowest DOL i.e.-32.74.In the year 2019-20 Tata power has highest DOL i.e.8.06 and JSW Energy has lowest DOL i.e.0.45.Further it is noticed that Adani power has highest value of mean i.e.4.83 and JSW Energy has lowest value of mean i.e.-0.38.Tata power has highest value of standard deviation i.e.34.42 and Adani power has lowest value of standard deviation i.e.5.21.All selected power companies have positive value of kurtosis. All selected power companies have positive value of skewness except JSW Energy.

Degree of Financial Leverage

Degree of Financial Leverage = Percentage change in EPS/Percentage change in EBIT

Year	Tata power	Adani power	JSW Energy
2015-2016	3.16	-7.28	1.46
2016-2017	2.12	27.23	1.38
2017-2018	6.22	0.60	4.09
2018-2019	0.48	-40.21	-0.44
2019-2020	1.96	-3.14	-13.98
Mean	2.79	-4.56	-1.50
S.D.	2.14	24.07	7.16
Kurtosis	1.94	1.82	4.06
Skewness	1.16	-0.39	-1.95

Source: Secondary data

It is observed from the above table that in the year 2015-16 Tata power has highest DFL i.e.3.16 and Adani power has lowest DFL i.e.-7.28.In the year 2016-17 Adani Power has highest DFL i.e.27.23 and JSW Energy has lowest DFL i.e.1.38.In the year 2017-18 Tata power has highest DFL i.e.6.22 and Adani power has lowest DFL i.e.0.60.In the year 2018-19 Tata power has highest DFL i.e.0.48 and Adani power has lowest DFL i.e.-40.21.In the year 2019-20 Tata power has highest DFL i.e.1.96 and JSW Energy has lowest DFL i.e.-13.98.Further it is noticed that Tata power has highest value of mean i.e.2.79 and Adani power has lowest value of mean i.e.-4.56.Adani power has highest value of standard deviation i.e.24.07 and Tata power has lowest value of standard deviation i.e.2.14.All selected power companies have positive value of kurtosis. Only Tata power has positive value of skewness. Other than Tata power Adani power and JSW Energy have negative skewness.

Degree of Combined Leverage

Degree of combined leverage = Degree of operating leverage x Degree of Financial leverage

Year	Tata power	Adani power	JSW Energy
2015-2016	176.36	-10.99	-2.70
2016-2017	3.77	356.71	2.69
2017-2018	-139.83	4.12	-76.93

2018-2019	-15.72	-27.74	-7.21
2019-2020	15.80	-6.28	-6.29
Mean	8.08	63.16	-18.09
S.D.	112.74	164.50	33.12
Kurtosis	1.91	4.90	4.74
Skewness	0.44	2.21	-2.16

Source: Secondary data

Year	Tata power	Adani power	JSW Energy
2015-2016	4.59	0.32	7.27
2016-2017	1.06	-17.48	1.2
2017-2018	-12.05	-0.06	-2.71
2018-2019	5.9	-1.24	1.53
2019-2020	-0.08	-5.77	3.03
Mean	-0.08	-4.85	2.06
S.D.	7.11	7.47	3.60
Kurtosis	2.81	2.81	1.34
Skewness	-1.60	-1.72	0.29

Source: Secondary data

It is observed from the above table that in the year 2015-16 Tata power has highest DCL i.e.176.36 and Adani power has lowest DCL i.e.-10.99.In the year 2016-17 Adani Power has highest DCL i.e.356.71 and JSW Energy has lowest DCL i.e.2.69.In the year 2017-18 Adani Power has highest DCL i.e.4.12 and Tata power has lowest DCL i.e.-139.83.In the year 2018-19 JSW Energy has highest DCL i.e.-7.21 and Adani power has lowest DCL i.e.-27.74.In the year 2019-20 Tata power has highest DCL i.e.15.80 and JSW Energy has lowest DCL i.e.-6.29.Further it is noticed that Adani power has highest value of mean i.e.63.16 and JSW Energy has lowest value of mean i.e.-18.09.Adani power has highest value of standard deviation i.e.164.50 and JSW Energy has lowest value of standard deviation i.e.33.12.All selected power companies have positive value of kurtosis. All selected power companies have positive value of skewness except JSW Energy.

Earning Per Share

Earning per share = Net profit to equity shareholders/Number of equity share outstanding

It is observed from the above table that in the year 2015-16 JSW Energy has highest EPS i.e.7.27 and Adani power has lowest EPS i.e.0.32.In the year 2016-17 JSW Energy has highest EPS i.e.1.2 and Adani power has lowest EPS i.e.-17.48.In the year 2017-18 Adani power has highest EPS i.e.-0.06 and Tata power has lowest EPS i.e.-12.05.In the year 2018-19 Tata power has highest EPS i.e.5.9 and Adani power has lowest EPS i.e.-1.24.In the year 2019-20 JSW Energy has highest EPS i.e.3.03 and Adani power has lowest EPS i.e.-5.77.Further it is noticed that JSW Energy has highest value of mean i.e.2.06 and Adani power has lowest value of mean i.e.-4.85.Adani power has highest value of standard deviation i.e.7.47 and JSW Energy has lowest value of standard deviation i.e.3.60.All selected power companies have positive value of kurtosis. All selected power companies have negative value of skewness except JSW Energy.

Correlation and 't' test for degree of Operating leverage and EPS

Company Name	'r' value	Correlation Result	't' calculated value	't' table value	Hypothesis Result
Tata power	0.34	Positive	-0.1401	2.776445	Accepted
Adani power	-0.80	Negative	-2.37626	2.364624	Accepted
JSW Energy	0.39	Positive	0.418242	2.570582	Accepted

Source: Calculated

From the above table it is showed that correlation between degree of operating leverage and EPS is positive for Tata power and JSW Energy and it is negative for Adani power. As per 't' test results, it is clear that the table value is greater than the calculated value. Therefore, the null hypothesis is accepted. Hence, there is no significant relationship between operating leverage and EPS for all companies.

Correlation and 't' test for degree of Financial Leverage and EPS

Company Name	'r' value	Correlation Result	't' calculated value	't' table value	Hypothesis Result
Tata power	-0.88	Negative	-0.87456	2.570582	Accepted

Company Name					
Adani power	-0.72	Negative	-0.02538	2.570582	Accepted
JSW Energy	-0.26	Negative	0.9936	2.446912	Accepted

Source: Calculated

From the above table it is showed that correlation between degree of financial leverage and EPS is negative for all selected power companies. As per 't' test results, it is clear that the table value is greater than the calculated value. Therefore, the null hypothesis is accepted. Hence, there is no significant relationship between financial leverage and EPS for all companies.

Correlation and 't' test for degree of Combined Leverage and EPS

Company Name	'r' value	Correlation Result	't' calculated value	't' table value	Hypothesis Result
Tata power	0.75	Positive	-0.16216	2.776445	Accepted
Adani power	-0.94	Negative	-0.92352	2.776445	Accepted
JSW Energy	0.73	Positive	1.352471	2.776445	Accepted

Source: Calculated

From the above table it is showed that correlation between degree of combined leverage and EPS is positive for Tata power, Torrent power and JSW Energy and it is negative for Adani power. As per 't' test results, it is clear that the table value is greater than the calculated value. Therefore, the null hypothesis is accepted. Hence, there is no significant relationship between combined leverage and EPS for all companies.

Findings and Conclusions of the study

Findings

Operating Leverage

The study reveals that Adani power has highest value of mean i.e.4.83 and JSW Energy has lowest value of mean i.e.-0.38.Tata power has highest value of standard deviation i.e.34.42 and Adani power has lowest value of standard deviation i.e.5.21.All selected power companies have leptokurtic pattern. All selected power companies have positive value of skewness except JSW Energy.

Financial Leverage

The study reveals that Tata power has highest value of mean i.e.2.79 and Adani power has lowest value of mean i.e.-4.56.Adani power has highest value of standard deviation i.e.24.07 and Tata power has lowest value of standard deviation i.e.2.14.All selected power companies have leptokurtic pattern. Only Tata power has positive value of skewness. Other than Tata power Adani power and JSW Energy have negative skewness

Combined Leverage

The study reveals that 18.09.Adani power has highest value of standard deviation i.e.164.50 and JSW Energy has lowest value of standard deviation i.e.33.12.All selected power companies have leptokurtic pattern. All selected power companies have positive value of skewness except JSW Energy.

Correlation Analysis and Test of Significance

Correlation Results

- Correlation between degree of operating leverage and EPS is positive for Tata power and JSW Energy and it is negative for Adani power.
- Correlation between degree of financial leverage and EPS is negative for all selected power companies.
- Correlation between degree of combined leverage and EPS is positive for Tata power and JSW Energy and it is negative for Adani power.

Test of significance

For all selected power companies, 't' test result reveals that there is no significant relationship between DOL, DFL, DCL and EPS.

Conclusion

This research study scrutinized the relationship between leverage and EPS. Leverage is an important factor which is having an impact on profitability of the firm which in turn affects the wealth of the shareholders. The study

concluded that there is no significant relationship between DOL and EPS, DFL and EPS, DCL and EPS. Thus, fixed operating expenses and the financing mix decisions of the firm are not significantly affect the earning capacity of selected power companies.

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