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A COMPARATIVE STUDY ON CAPITAL STRUCTURE PERFORMANCE OF AIRLINES IN INDIA

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ABSTRACT

The present study makes a comparative analysis of the three airline companies in India in terms of long-term financial strength (capital structure performance). The study is based on secondary data which have been collected from annual reports of respective airlines. The main objective of the study is to analyse and compare the performance of capital structure of selected airline companies in India. Thus the capital structure ratios are calculated to enlighten the end result. ANOVA is used for testing of hypothesis. This paper concludes overall better performer of airline company in India with respect to capital structure performance.

KEYWORDS: *Ratio Analysis, SpiceJet, Jet Airways, Air India, ANOVA.*

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Introduction

The Indian aviation industry is the third largest in the world and is over a century old. The invention of the airplane has made the world look smaller. Airlines have helped in reducing timelines by transporting travelers and cargos across continents at quality speed. It facilitates fulfilling the socio-economic objectives and increasing reach of people to enhance trade and travel. India's civil aviation industry is growing rapidly. In the view of *Report of Air India, (2018),* "India has become the third largest domestic aviation market in the world and is expected to overtake Britain to become third largest air passenger traffic market by 2024". India is estimated to have 480 million flyers by 2036, which will supersede the combined number of Japan and Germany. The traffic at Indian airports is expected to increase to 421 million by 2020.

All types of business activities depend upon finance. Thus, it is termed as lifeblood of an organization. Capital structure is mix-up of various sources of finance in desired proportion. Long-term financial soundness and profitability of the enterprises are determined by mixture of sources in capital structure. It is a part of the financial structure as well as a permanent financing method of the company. It implies equilibrium between equities and long-term liabilities. The capital structure consist of E/S capital, P/S capital, retained earnings and long term debts. Analysis of these components and their share in total capital generated is crucial for understanding important changes in the financial standing of a concern.

Review of Literature

Meena, Smita, (2014), studied the implications of mergers and acquisitions in Indian aviation sector companies and compared the benefits and disadvantages of mergers and acquisitions. The objective is to study and understand the motives behind the airlines mergers and acquisitions in India and their consequences. It is concluded that there is huge difference between the motives and consequences. Mergers do not improve financial performance at least in the immediate short term.

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Khatik, S.K. and Arickal, Binoy, (2013), analyzed the impact of liquidity on profitability of M.P. Test Book Corporation. The objectives are to analyze the concept of liquidity and profitability and examine how far liquidity has an impact on profitability of M.P. Textbook Corporation. It is concluded that profitability and liquidity are separate entity from one another. Profitability have been fluctuated due to changes in the price of cost of production and inflation rate and the corporation incurred cash sales by making only cash transaction with sellers and buyers. Thus it has maintained liquidity.

Tiwar, Anshuja, (2013), aimed to study the concept and significance of leverage. The aim is to analyze the impact of leverage on profitability of company and to provide suggestions for improving the financial standing of the concern. Secondary data have taken from reports of SAIL for five years (2007-2011) under study. It is concluded that the company has high and fluctuating operating leverage and financial leverage is also fluctuating but is satisfactory. It is suggested that company should keep a close watch on trend of ratios, and also debt equity suitably

Objectives of the Study

- To analyse the long-term financial strength of selected airline companies in India.
- To compare the performance of capital structure of selected airline companies.
- To offer suggestions to improve performance.

Hypothesis of the Study

The main null hypothesis of the study is formulated as under which is further divided into sub-null hypotheses:

H_{01}: There is no significant difference between the capital structures of selected airlines in India.

Application of Statistical Tool

Analysis of variance (ANOVA) has been used to test the null hypotheses at 5% level of significance. If F-Ratio value is less than the F-Critical value or P-Value is greater than the alpha value (0.05) then null hypotheses is accepted. Otherwise it is rejected vice-versa.

Brief Introduction of Selected Airline Companies in India

- **Spice Jet:** It is a Low Cost Carrier owned by Sun Group of India. It was earlier known as 'Royal Airway**s**', a reincarnation of ModiLuft, which was a small time company, launched in India in partnership with the German carrier, Lufthansa. It provides passenger and cargo services and is based on low-cost' airline model that operates with a single type of aircraft and single class of service with limited operations and internet-based ticketing service. The airline offers premium services like Priority Baggage Check, Priority Check in under the name Spice Add-ons. The company has been a staunch supporter of union government's scheme for strengthening regional connectivity by developing new routes under the UDAN (Ude Desh Ka Aam Naagrik) scheme. This led to surge in revenues by 20% during the year.
- **Jet Airways:** Jet Airways (India) Limited (JAIL) was incorporated on April 1, 1992 under the Companies Act, 1956. It commenced its commercial airline operations on May 5, 1993. The company made headlines with hostile takeover of Air Sahara in May 2007, which was rechristened as Jet Lite. The company expanded its operations by entering into last mile surface connectivity agreements with companies like Uber and Indo-Canadian Bus Services. Further JA launched India's largest 'Billion Miles Festival.
- **Air India:** It is the national airline of India that boasts of a network of passengers as well as cargo services across the world. J.R.D. Tata founded the first Indian airline 'Tata Airline' as a small, private, domestic carrier in 1932 which was renamed as Air India on July 29, 1946. Air India completed the merger with Indian Airlines and some part of the agreed upgrades in its service and membership systems by 2011. A Joint Venture with the ratio 50:50 was inked in April 2010 between Air India Limited and SATS to carry out ground handling services at selective metro airport. Fuel efficiency had improved by 12.17% in 2016 after it has started using fuel efficient aircraft and employment of fuel efficiency measures.

Data Analysis

Capital structure ratios measures are beneficial to the long-term creditors. According to ***Anthony, Robert N., et al. (2017),*** "The Company's ability to meet the interest cost and repayment schedules associated with its long term obligations covers the solvency of the company". The

shareholders' fund is treated as a margin of safety by creditors. For testing the long term financial strength (performance of capital structure) of selected airline companies the following ratios have been calculated and, average & range has been calculated for further analysis.

Debt Equity Ratio

Debt equity ratio measures company's long-term financial strength. The objective of it is to measure the relative portion of debts and equity in financing the assets of a firm. This ratio measures the extent to which the owners are using debts rather than using their own funds to finance the company. It is computed as:

$$\text{Debt Equity Ratio} = \frac{\text{Total Debts}}{\text{Shareholders' Fund or Net Worth}}$$

The standard debt equity ratio 1:1, shows that external fund may be equal the internal funds. But high debt equity ratio is permitted to large capital intensive units. A high debt equity ratio represents that claims of creditors are larger than those of promoters. A higher ratio is unfavourable from the owner's point of view.

H_{01a}: There is no significant difference in debt equity ratio between the companies. Hence, the capital structure performance of the selected airline companies measured through debt equity ratio is satisfactory in between companies and not significant during the study period.

Table 1: Debt Equity Ratio of Selected Airline Companies (From 2009-10 to 2016-17)

(in number of times)

Year	SpiceJet	Jet Airways	Air India
2009-10	-3.89	6.67	-10.03
2010-11	2.46	6.94	-5.04
2011-12	-14.38	14.90	-3.60
2012-13	-14.68	-55.75	-3.95
2013-14	-3.88	-9.25	-3.86
2014-15	-3.06	-5.61	-3.96
2015-16	-5.28	-7.36	-4.01
2016-17	-5.91	-6.98	-3.31
Average	-6.08	-7.05	-4.72
Standard Deviation	5.80	21.53	2.20
C.V. (%)	-95.36	-305.22	-46.69
Range	17.14	70.66	6.73
F- Ratio	0.066		
F-Critical Value	3.467		
P-Value	0.937		
Hypothesis Result ***(H_{01a})***	**Accepted**		

Interpretation

It is clear from the table 1 that all three companies showed negative debt equity ratio except few years. C.V. shows that Air India is more stable than SpiceJet and Jet Airways but range of Jet Airways showed high fluctuation in debt equity during the study. Here all of the above companies are more risky. This ratio showed only numerical relationship but in actual airlines financed by only external funds. Losses of the companies are more than equity capital. Due to this, this ratio showed negative value. SpiceJet had a very low ratio so it is more financially stable and less risky. Jet Airways showed a highest debt equity ratio with the perception of having more debt in capital structure than other two companies. In essence all selected three companies should improve their internal funds by increasing reserves. Null hypothesis is accepted hence, there is no significant difference in debt equity ratio between companies.

Proprietary Ratio

Proprietary ratio establishes relationship between shareholders' fund and total assets of the business. The high equity ratio shows that organisation is more financed by equity. It is calculated as follows:

$$\text{Proprietary Ratio} = \frac{\text{Proprietor's Funds}}{\text{Total Assets}}$$

The higher ratio shows more safety to creditors and good position of company, because interference of outsiders is less. A low proprietary ratio represents higher risk to the lenders because they may lose their money in case of loss.

H_{01b}: There is no significant difference in proprietary ratio between the companies. Hence, the capital structure performance of the selected airline companies measured through proprietary ratio is satisfactory in between companies and not significant during the study period.

Table 2: Proprietary Ratio of Selected Airline Companies (From 2009-10 to 2016-17)

(In number of times)

Year	SpiceJet	Jet Airways	Air India
2009-10	-0.35	0.13	-0.11
2010-11	0.29	0.13	-0.25
2011-12	-0.07	0.06	-0.39
2012-13	-0.07	-0.02	-0.34
2013-14	-0.35	-0.12	-0.35
2014-15	-0.49	-0.22	-0.34
2015-16	-0.23	-0.16	-0.33
2016-17	-0.20	-0.17	-0.43
Average	-0.18	-0.05	-0.32
Standard Deviation	0.24	0.14	0.10
C.V. (%)	-128.88	-307.36	-30.99
Range	0.77	0.35	0.32
F- Ratio	5.087		
F-Critical Value	3.467		
P-Value	0.016		
Hypothesis Result ***(H_{01b})***	**Rejected**		

Interpretation

It is concluded from the table 2 that a negative trend of this ratio indicates that above companies are financing its business activities with an unjust amount of debt and debt payables. When a creditor looks at his three companies to invest his funds, then obviously he would like to prefer SpiceJet (due to less variation and more stability) because here his funds are safer as compared to Jet Airways and Air India. Null hypothesis is rejected hence, the difference between proprietary ratios in between the companies is significant.

Fixed Assets Ratio

This ratio is also called the 'Fixed Assets to Long-Term Funds Capital Employed Ratio'. As per sound financial policy, acquisition of fixed assets should be financed from long-term funds only. This ratio is calculated to test whether this policy is properly followed or not. According to ***Hunt, Pearson, et al. (2005),*** "The investment in fixed assets involves commitments of funds for longer periods into the future and usually is difficult and costly to resolve. Often they are in large increments. Hence, they should be finance to a major by the proprietors as their state in a firm is permanent". This ratio indicates the amount of security available to lenders who have financed the company for acquiring fixed assets. It is calculated as follows:

$$\text{Fixed Assets Ratio} = \frac{\text{Net Fixed Assets}}{\text{Long-Term Funds of Capital Employed}}$$

A ratio of below one represents long-term funds are enough to finance fixed assets and that it has been used to assimilate current assets. This is an ideal situation. On the contrary, if it is more than one it means short-term funds are utilized to acquire fixed assets. It is not correct. Therefore, Long-term funds should be able to cover fixed assets and fixed assets ratio should be less than one, so that a part of long-term capital is always available for working capital.

H_{01c}: There is no significant difference in fixed assets ratio between the companies. Hence, the capital structure performance **(long term fund invested in fixed assets)** of the selected airline companies measured through fixed assets ratio is satisfactory in between companies and not significant during the study period.

Table 3: Fixed Assets Ratio of Selected Airline Companies (From 2009-10 to 2016-17)

(in number of times)

Year	SpiceJet	Jet Airways	Air India
2009-10	4.08	0.89	0.95
2010-11	1.72	0.87	1.00
2011-12	1.42	1.30	2.14
2012-13	1.34	1.54	1.47
2013-14	5.04	1.97	1.58
2014-15	26.67	2.36	1.73
2015-16	2.69	1.99	1.44
2016-17	3.09	1.54	2.00
Average	5.76	1.56	1.54
Standard Deviation	8.55	0.53	0.43
C.V. (%)	148.54	34.29	27.66
Range	25.33	1.50	1.19
F- Ratio	1.925		
F-Critical Value	3.467		
P-Value	0.171		
Hypothesis Result ***(H_{01c})***	**Accepted**		

Interpretation

Table 3 reveals fixed assets ratio of selected three airline companies. In the beginning two years of Jet Airways and Air India, maximum fixed assets were financed by the long-term funds but after that some part of external funds were also involved. It is concluded that average fixed ratio of Air India is less than from Jet Airways and SpiceJet. Air India maintained their capital employed and utilizing their fixed assets in a satisfactory manner. It is found that coefficient of variation of Air India is less than Jet Airways and Spice Jet. On the whole it can be concluded that Air India was having better position throughout the study period as compared to Jet Airways and SpiceJet. Null hypothesis is accepted hence, the difference between fixed assets ratios in between the companies is not significant.

Interest Coverage Ratio: ***Anthony, Robert N., et al. (2017),*** explained "This ratio indicates the relationship between earnings before interest and taxes (EBIT) and interest on long term debt. The function of calculating this ratio is to calculate the debt-servicing capacity of a concern when fixed interest on long-term debt is in question". It is calculated as:

$$\text{Interest Coverage Ratio} = \frac{\text{Net Income before Charging Interest and Income Tax}}{\text{Interest Payable on Long-Term Debt}}$$

It represents the number of times the profit covers fixed interest. The hike in ratio will secure the lender if the payment of interest regular. If profit and interest is equal, it is an unfavorable condition for the firm as shareholders will have no share in profits and an unsafe one for the creditors too.

H_{01d}: There is no significant difference in interest coverage ratio between the companies. Hence, the profitability of the selected airline companies measured through interest coverage ratio is satisfactory in between companies and not significant during the study period.

Table 4: Interest Coverage Ratio of Selected Airline Companies (From 2009-10 to 2016-17)

(in number of times)

Year	SpiceJet	Jet Airways	Air India
2009-10	6.96	0.46	-1.31
2010-11	12.24	0.88	-1.14
2011-12	-10.59	-0.37	-1.40
2012-13	-1.02	0.47	-0.97
2013-14	-6.63	-1.95	-0.80
2014-15	-3.70	-0.19	-0.45
2015-16	3.84	2.26	0.14
2016-17	6.53	1.53	1.15
Average	0.95	0.39	-0.72
Standard Deviation	7.74	1.28	0.61
C.V. (%)	810.90	331.72	-84.61
Range	22.83	4.22	1.54
F- Ratio	0.237		
F-Critical Value	3.467		
P-Value	0.791		
Hypothesis Result ***(H_{01d})***	**Accepted**		

Interpretation

Table 4 reveals that in the view point of coefficient of variance, all of the above companies showing vast variance. Air India's range is least from selected companies for study. All of the above companies are not in the condition of paying interest on the external sources although SpiceJet has started earning EBIT from 2015-16. It can be concluded that in the airline companies, interest charges increased continuously whereas earnings before interest and tax fluctuating continuously. Null hypothesis is accepted hence, the difference between interest coverage ratios in between the companies is not significant.

Conclusion

The study concluded that SpiceJet has comparatively better capital structure than Jet Airways and Air India. Although structure of the selected companies showing that they are running their business only on external sources. There is huge losses and negative balance of surplus in capital structure of airlines. It is revealed from the ANOVA that there was no significant difference found in the debt equity ratio, fixed assets ratio and interest coverage ratio but a significant difference was found in the proprietary ratio.

Suggestions

India has high potential in the aviation Industry but still it is going through a tough time. Indian aviation industry has a high growth rate, as disposable income of the middle class is growing and most of the people are trying to upgrade their lifestyle. Keeping in view the above observation, the following measures are suggested:

- All of the selected companies should increase shareholders' investment. It will help in reducing the value of the interest paid to outsiders therefore, the return to the shareholders will be high. This would increase the safety margin of the creditors.
- It is recommended that all the three companies should reduce the external funds and involve major of its own funds, which provide strength to the company and make a good image in the eye of creditors.

- To increase air traffic and enhance the customer base, government should create low cost and no frills airports.
- The burden of interest has produced a deteriorating effect and reduced the percentage of net profit. It is suggested that the airline companies should try to reduce the interest burden gradually by increasing the owner's fund.

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