INFLUENCE OF SHORT-TERM DEBT ON PROFITABILITY OF AIRLINES OPERATING IN KENYA

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*Abstract***:** *In Kenya, the airline sector contribution to the GDP has been fluctuating over the years 2013 at 0.4%, 2014 at 0.3%, 2017 at 0.4% and 2018 at 0.5%. However, profitability in the airline industry has been shown to be at very low levels and equity owners are not generally rewarded adequately for risking their capital. The profitability in airline sector has been inconsistent such that in 2017 it declined by 0.3%, in 2018 and 2019 it declined further by 1.1% and 1.4%.*

Objective: The general objective of the study was to examine the influence of financial structure on profitability and the specific objective was to examine the influence of short-term debt on profitability of local Airlines in Kenya.

Design: This research adopted descriptive survey research design targeting 10 major local airlines operating in Kenya for both cargo and human transport. Secondary data was collected using financial statements of the 10 local airlines between the years 2016 and 2020. Data was descriptively and inferentially analyzed with the aid of Computer Aided technique STATA Version 15.

Findings: Short-term debt has significant positive effect on profitability of airlines operating in Kenya. An increase in short-term debt as financial structure would results to significant increase in profitability of airlines operating in Kenya. Therefore, short-term debt has got significant positive influence on profitability of airlines operating in Kenya.

Keywords: *financial structure, short-term debt, financial performance*

Background of the study

The airline industry contributes greatly to the global and national economy by transporting people and cargo and creating jobs and economic activity (IATA, 2014). It also provides worldwide access to time sensitive products from medicines and fresh produce to emergency aid. According to the IATA annual report (2019) nearly three billion people and 47 million metric tons of cargo were transported safely by air in 2012. This activity has supported about 57 million jobs and $2.2 trillion in economic activity which is about 3.5% of global GDP. More than half the world's tourists travel by air and aviation underpins iconic major global events such as the Olympic Games. Aviation enriches lives by bringing families and friends together, bridging cultures, and spreading ideas (IATA 2019).

Airline industry plays a key role in the development of the world economy, stimulating exchanges between countries and facilitating international economic relations. Thus, air transport is a major industry in the world economy on its own. In the wake of prolonged world-wide recessions and skyrocketing oil prices, the airline

industry lost $26 billion in 2019 and $29.9 billion in 2019 (Al Amin & Maina, 2020). Although there is a growing optimism for the revival of the airline industry with the recent profit gains, the global airline industry has been hit hard by rising fuel prices, unstable yields, weak traffic volumes, security hassles, and increased taxation for the last few years (Button, 2017). To make it worse, the competition in the global airline industry gets tougher after a series of deregulations and open skies agreements across the world that liberalized commercial aviation services and then opened up international airports and transcontinental routes to full competition.

In terms of both demand and capacity, the airline industry has been one of the world's fastest expanding businesses in recent years. Over the last century, commercial aviation has been recognized as an essential component of economic success, promoting commerce and encouraging the development of tourist destinations (Lee, 2019). A USD 2.7 trillion economic contribution from the aviation sector (direct, indirect, induced, and tourist associated) to global GDP was estimated by Krumer, Friesen and Shelton (2019) to be made by the global aviation industry. Furthermore, the aviation sector is one of the most significant contributors to the country's economy, and its contribution has been growing in recent years on an international scale.

Airline Industry in Kenya

The airline industry in Kenya has been described by operational wastefulness and poor financial performance (Muthoni & Murathe, 2018) and according to Mutema (2016), in the State of the Kenya Airline Industry article, the challenges being faced include diminishing market potential, high fuel prices, safety records, need for skilled human resources, internal liberalization and high taxes. According to IATA reports (2019), in the State of the Airline industry currently, the Kenyan sky is dominated by the European and Middle East carriers. The stiff rivalry has led to restructuring in the local commercial airlines and also cancelation of some flights in a bid to cut cost and remain competitive.

Therefore, many setbacks have resulted to the airline operators in Kenya adopting survival strategies such as use of advertising, on-time flight departures, comfortable seats, good customer service, better planned route strategies and reduced fares. However, despite implementing these strategies, the operators in Kenya have continued to record dismal financial performance in the recent years epitomized by globalization, liberalization and consolidation of the African markets (Mutema, 2016). Various strategies have been pursued to gain competitive advantage, for instance, local Airlines in Kenya have embraced formation of strategic alliances with other organizations to be able to compete effectively in the global arena; local aviation industry re-shaping itself to cope with investing in new fleets, adopting more efficient processes, carefully managing capacity and consolidating. But despite these efforts, the industry's growth as measured by profitability still balances on a knife-edge, with profit margins that do not cover the cost of capital (IATA, 2020).

The Kenyan aviation industry has grown over the year with a total of 37 local airlines registered and operating in Kenya. The airlines engage in the domestic, regional, and international carriage of passengers, mail and cargo through air. Some of the airlines also provides ground handling services as third party logistics providers to other airline operators; aircraft maintenance and Components repairs to other operators; and handles the import and export of cargo. See appendix V for details

Kenyan airline industry is primarily dominated by one player, which is Kenya Airways. Other players are Five Forty, & Jet link which are small compared to Kenya Airways. Kenyan airline industry is regulated by The Kenya Airports Authority (KAA), which was established in 1991 under KAA ACT CAP, Chapter 395 of the Laws of Kenya, to provide facilitative infrastructure for aviation services and Kenya Civil Aviation Authority

(KCAA) that was established by the Civil Aviation (Amendment) Act, 2002 to plan, develop, manage, regulate and operate a safe, economically sustainable and efficient civil aviation system. According to KAA the airline industry business both in cargo and passenger has been growing at a rate of more than 9% from 2005 to 2011 (Farah, Munga & Mbebe, 2018). The airline industry has found itself in a very competitive market characterized by globalization and increased consumer demand for quality services and increased value for their money. Competition threats from multinational players across the globe are increasingly making domestic airlines more conscious of their vulnerable state and incentivizing them to proactively engage in an effort to ensure their sustainability in these turbulent times.

Short-term debt and profitability of Airlines

Baimwera and Muriuki (2014) noted that wherever debt is expanded, the companies involved are subjected to elevated liquidity risks owing to the reality that inability to service loans may result in the companies being subjected to greater rates of bankruptcy-related danger. Muigai et al., (2016) in their research on Firm Size's moderating impact on the relationship between the capital structure and the financial distress of non-financial companies listed in Kenya, the study discovered that financial risk brings about financial constraints in the companies involved. Furthermore, Muigai (2016) noted that any company's excessive use of short-term debt to finance corporate activities generally results in a considerably adverse impact. Similarly, in support of the above assertions, other previous studies on the Asian continent have discovered parallel findings (Gupta, Srivastava, & Sharma, 2014).

Abor (2018) established a beneficial connection in South Africa between short-term debt and ROA. Similar findings were also discovered in their research on Brazilian businesses by Mesquita and Lara (2013). This research therefore hypothesizes that the connection between short-term debt and ROA and ROE (Return on Equity) is positive. However, the above studies are incompatible with Silva (2008), Ebaid (2009), and Shahjahanpour et al., (2010), who discovered that short-term debt and ROA have an adverse connection.

Demessie (2020) sought to examine the effect of capital structure on performance of the Ethiopian Airlines for the period 1994- 2018. The study has adopted a quantitative research approach and collected secondary data from audited financial statements of the Ethiopian Airlines. While short term debt to total asset ratio, long term debt to total asset ratio, total debt to total asset ratio were used as variables to explain the capital structure, return on assets was used as dependent variable as performance indicator. The regression result show that short term and long term debt to asset had statistically insignificant and positive relationship with performance of Ethiopian Airlines (measured by ROA) at 5 % significance level, whereas total debt to asset had statistically insignificant negative impact on performance of Ethiopian Airlines. On the other hand, asset tangibility had statistically significant and negative relationship with performance of Ethiopian Airlines. Finally the finding shows that a negative and insignificant relationship with firms size and performance of Ethiopian Airlines. Generally, the findings revealed that capital structure has statistically insignificant impact on performance of Ethiopian Airlines. Finally, the study recommended that Ethiopian Airlines should employ an appropriate mix of capital structure and attention should be given for variables which have negative impact on performance in order to increase performance the company.

Statement of the Problem

In Kenya, the air transport industry is estimated to have contributed an amount of $1.9 billion to Kenya's GDP in 2019 (IATA, 2020). However, the airline sector contribution to the GDP has been fluctuating over the years that is in 2010 at 0.5%, the year 2014 at 0.4%, the year 2015 at 0.3%, the year 2018 at 0.4% and the year 2019 at 0.5% (KNBS, 2019). Furthermore, the growth in airline sector has been inconsistent such that in 2013 it

declined by 0.3%, in 2014 and 2015 it declined further by 1.1% and 1.4% (GOK, 2018). However, there was successive growth in 2017 and 2018 where it witnessed a growth of 5.4% and 7.8% respectively (KNBS, 2019). As much as there is fluctuating growth in domestic commercial airlines, the profitability of the airlines has been on the decline as it recorded a net loss of kshs 8 billion in 2018 compared to kshs 7.1 billion in 2017, leasing cost increased to Kshs. 16 billion in 2018 up from kshs. 14.1 bn in 2017 and kshs 13.3 bn in 2016, debt financing hit a record high of kshs 23 billion in 2018 (AFRAA, 2019).

Evidence elsewhere has linked financial structure to profitability. However, in the context of airlines in Kenya, little literature exists on this relationship. Few researches locally exist to ascertain whether financial structure influences airlines profitability. Therefore, lack of adequate empirical evidence on financial structure adopted by local airlines in Kenya that experience low profit margins motivated this study to examine influence of financial structure (Short-term debt, Long-term debt, Retained earnings and share capital) on profitability of Airlines operating in Kenya.

Objectives of the Study

The general objective of this study was to examine the influence of financial structure on profitability with a specific objective to examine the influence of short-term debt on profitability of airlines operating in Kenya.

Research Methodology

This study adopted descriptive survey research design as the study attempts to examine relationship between financial structure and the profitability of Airline Industry in Kenya. The design was relevant as it explains the current status of a phenomenon and is concerned with finding out the what, where and how of a phenomenon. The design is ideal as the researcher gathered quantitative data about financial structure and its influence on profitability. For this study, the target population included 10 major local Airlines operating in Kenya for both cargo and human transport. The researcher used a document review guide to extract and compile the required secondary data for analysis from the financial statements. Secondary data was collected from individual company's financial reports which were accessed from Kenya Civil Aviation Authority. A data collection tool was used for initial recording of the data. Data was collected for the five-year period ending 31st Dec 2020.

Table 1: Operationalization and Measurement of Study Variables

Variable	Name of Variable	Measurement
Dependent variable	Profitability	Net profit after tax/ total assets
Independent variable	Short-term debt	Short term debt/Total Debts

Results and Discussions

Descriptive Statistics

The descriptive statistics entailed Minimum, Maximum, Mean and standard deviation between 2016 and 2020. The results also showed overall descriptive statistics as obtained from panel data of said periods. The results are shown in Table 2 next page.

Table 2: Descriptive Statistics

Statistics	Profitability	Short Term Debt
Min	-0.042498	0.002009
Max	0.195097	0.965658
Mean	0.08641	0.386611
St Dev.	0.206632	0.433362
Min	-0.043476	0.004557
Max	0.12466	0.974646
Mean	0.125636	0.39085
St Dev.	0.202149	0.436048
Min	-0.055316	0.008655
Max	0.115959	0.986063
Mean	0.06416	0.40606
St Dev.	0.262534	0.424934
N	10	10
Min	-0.066361	0.009633
Max	0.137182	0.965119
Mean	0.079363	0.297539
St Dev.	0.198751	0.381948
Min	-0.211236	0.004096
Max	0.127794	0.984897
Mean	0.133787	0.313994
St Dev.	0.279683	0.398001
N	50	50
Min	-0.211236	0.002009
Max	0.195097	0.986063
Mean	0.115871	0.359011
St Dev.	0.22363	0.40059

From Table 2, observing overall statistics as obtained from panel data from 2016 to 2020, profitability (proxied as ROA) ranged from -0.211 to 0.195 with a mean of 0.116. The distribution had a standard deviation of 0.223.

Short term debt ranged from 0.002 to 0.986 with a mean of 0.359 and standard deviation of 0.4006. Figure 1 shows virtual presentation of profitability between 2016 and 2020 for airlines operating in Kenya. There was high variability in the profitability of local airline companies as indicated next page.
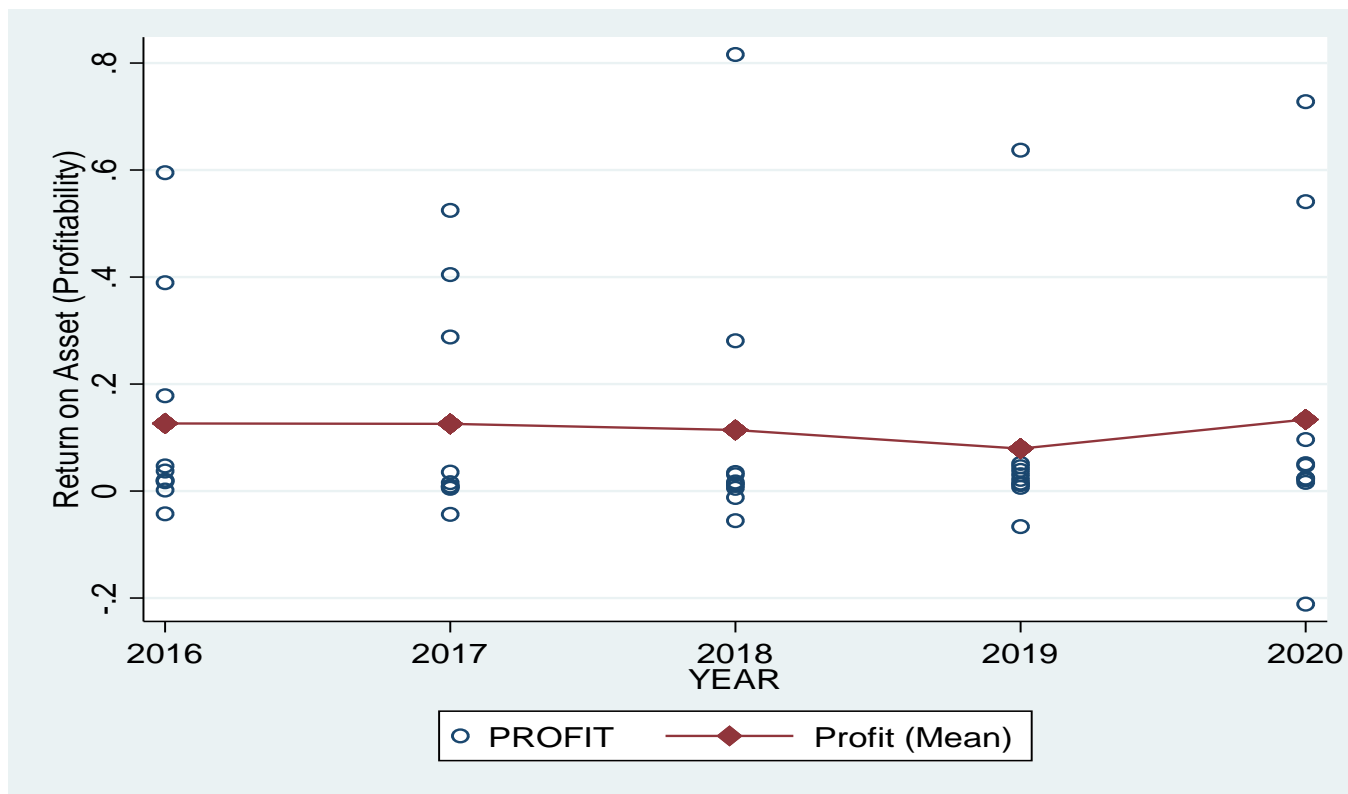
Figure 1: Scatter Plot for Profitability

Inferential results

Before subjecting data for inferential analysis, it was tested for using the following diagnostic test.

Unit Root Test

The study used Philips-Perron to test for the presence of unit roots in panels that combine data from the dimension of the time series with that of the cross-section dimension, so that fewer time observations are required for power to be available for the test. The results are indicated in Table 2.

Table 2: Unit Root Test

Variable	Philips-Perron unit-root Test
Short-term debt	16.1728**
	0.0000
Profitability	28.7445 **
	0.0000

** sig at 1% level

A p-value above 0.05 indicates the presence of unit roots, whereas a p-value under 0.05 indicates that the unit roots were not present for Philips-Perron tests. The results indicated that there was absence of unit root for the study variables. This showed that all variables are stationery, there was no problem of unit root, and the results can proceed for further inferential statistics.

Pearson Correlation Analysis

The correlation coefficient (R) results are presented as shown in Table 3 using Pearson correlation analysis, which computes the direction (Positive/negative) and the strength (Ranges from -1 to +1) of the relationship between two continues or ratio/scale variables.

Table 3: Pearson Correlation Analysis

	Short Term Debt
Profitability	0.6573*
	0.0196
	50

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 3 presents the findings of Pearson correlation between financial structure and profitability. It is evident that the construct of financial structure was positively correlated with profitability. From the correlation Table 4.8, short term debt is positively correlated to profitability the coefficient is 0.6573 (p value < 0.05) this is significant at 95% confidence level. Thus increase in short term debt would make profitability to increase in same direction.

Linear Regression Analysis

The study sought to examine the influence of short-term debts on profitability of Airlines operating in Kenya. The first null hypothesis denoted, **H_{o1}:** Short-term debt has no significant influence profitability of Airlines operating in Kenya. Having gone by the fixed effect model basing on the Haussmann LM test, the results of the fixed effect model are presented in Table 4.

Table 4: Regression Fixed Effect of Short-term debt on Profitability

Fixed-effects (within) regression				Number of obs	=	50	
Group variable: COMPANY				Number of groups	=	10	
R-sq:				Obs per group:			
within =	0.3746			min =		5	
between =	0.4438			avg =		5	
overall =	0.4320			max =		5	
				F(1,39)	=	3.15	
corr(u_i, Xb)	= 0.8022			Prob > chi2	=	0.047	

ROA	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
STD	0.75514	0.3456	2.1847	0.047	-2.64717	1.35744
_cons	-2.34106	4.06879	-0.58	0.568	-10.571	5.888845

The analysis shows that the panels were strongly balanced for this bivariate analysis as shown by the number of observations per group. There were a total of 50 observations used in this analysis considering 10 groups of

entities implying strongly balance panels. The minimum, maximum and average numbers of observations per groups were all equal to 5.

The R^2 is generally a measure of the variation of the dependent variable profitability that is explained by the variation of the predictors in the model. The result obtained from fixed effect model indicated that Short-term debt accounted for 43.20% (Overall R square=0.4320) of the variation in profitability of Airlines operating in Kenya. The ANOVA statistics measure the general significance of the model. The F-statistic to the model shows is 3.15 which is greater than 0 implying that the estimated parameters in the model are at least not equal to zero. This infers that Short-term debt has an influence on profitability of Airlines operating in Kenya.

The estimated coefficient of Short-term debt is significantly not equal to zero (β=0.75514, t= 2.1847, p-value= 0.047). The P-value is less than 0.05 which implies that the estimated coefficient is significant at 5% significance level. The estimated coefficient of Short-term debt here implies that a unit increase in Short-term debt would cause the levels of profitability to increase by 0.75514 units. The p-value of the constant is less than 0.05 which shows a significant constant term. The regression model is as shown below.

ROA = -2.34106+0.75514 STD (Short Term Debt)

The study therefore rejected the null hypothesis that Short-term debt does not influence profitability of Airlines operating in Kenya and concluded that there is significant influence of Short-term debt on profitability. This implies that increase in Short-term debt would results to increase in profitability of Airlines operating in Kenya. Abor (2018) established a significant relationship in South Africa between short-term debt and ROA. Similar findings were also discovered in their research on Brazilian businesses by Mesquita and Lara (2013). This research therefore hypothesizes that the connection between short-term debt and ROA and ROE (Return on Equity) is positive. However, the results does not confirm with Demessie (2020) who sought to examine the effect of capital structure on performance of the Ethiopian Airlines for the period 1994 - 2018. The regression result show that short term debt had statistically insignificant and positive relationship with performance of Ethiopian Airlines (measured by ROA) at 5 % significance level.

Summary of findings

The objective of the study was to determine the influence of Short-term debt on profitability of Airlines operating in Kenya. Panel data Pearson correlation results show a strong significant positive relationship between Short-term debt and profitability of Airlines operating in Kenya. Fixed effect simple regression analysis indicated that Short-term debt has significant positive influence on profitability of Airline companies operating in Kenya). Fixed effect multiple regression analysis revealed that when other variables are controlled in the model, a unit change in Short-term debt would results to a significant change in profitability in the same direction. Hence, Short-term debt has got significant positive influence on profitability of Airlines operating in Kenya. Therefore, the first null hypothesis was rejected.

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