



## IMPACT OF FINANCIAL LEVERAGE ON THE PERFORMANCE OF TOURISM FIRMS IN THE MENA REGION

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### ABSTRACT

**Purpose** – Leverage refers to the use of borrowed capital to finance investment projects. The question of how much debt is optimal for a firm has always been challenging for business managers and scholars alike. Most empirical studies have tried to achieve this, but no conclusive findings have been produced yet. The debt-equity balance changes with the industry, and what is optimal for one industry may not be so for another. Our study aims to determine the impact of leverage on the financial performance of tourism firms in the MENA region.

**Methodology** – To this purpose, we have collected data from a sample of 71 listed firms from the tourism sector. We have employed pooled and static panel regression, using published financial information from 2010 to 2021 in the MENA region. We obtained an unbalanced and cross-sectional panel of 768 firm-year observations from the 71 firms used in the study.

**Findings** – The findings reveal that leverage represented by the debt ratio and equity ratio has a significant negative impact on the financial performance of tourism firms represented by ROA and ROE.

**Conclusion** – The implication of the study findings is that debt levels beyond a certain level can be detrimental to firm performance. Consistent with the trade-off theory, managers must carefully balance the advantages and disadvantages of borrowings over their own capital.

**Keywords:** MENA, tourism industry, performance, profitability, leverage, capital structure.

**JEL Codes:** M41, Z33.

## 1. INTRODUCTION

Tourism is a major economic sector in the Middle East and North Africa (MENA) region, contributing significantly to the region's GDP and exports. According to World Bank data, the number of tourists visiting the MENA region has almost doubled in the past two decades. Tourism plays a key role in the economies of MENA countries, especially those that are less reliant on the oil industry, while being also important to other countries helping them diversify their economies and reduce their dependence on oil. In this study, we examine the relationship between financial leverage and performance in the tourism industry in the MENA region. Financial leverage results when a company uses debt to multiply/amplify its returns without having to issue more stock, which would dilute its earnings. Financial leverage is determined by the firm's capital structure. Firm performance can be measured in multiple ways depending on the perspective. In this study, we focus on financial performance or profitability. Profitability refers to the ability of a firm to generate sufficient revenues that not only make up for all its expenses but also contribute to the increase of shareholders' equity.

There have been numerous theories proposed on the subject of financial leverage (capital structure), with the work of Modigliani and Miller (1958) being particularly influential. Their initial theory posited that capital structure was irrelevant to a firm's market value, but they later revised this position to take into account the impact of corporate tax on the firm's value. Other theories on Capital Structure include the trade-off theory, which suggests that the ideal capital composition is determined by balancing tax advantages with bankruptcy costs of debt, and the pecking-order theory, which posits that firms prefer to use their own retained earnings before resorting to debt or equity to finance investment projects.

Profitability is an important indicator of a firm's performance, but research has shown mixed results on the relationship between capital structure and profitability. Some studies have found a positive relationship, while others have found a negative relationship or no relationship at all. Some researchers have also examined the impact of different types of debt, such as short-term debt versus long-term debt, on profitability. This study investigates the relationship between leverage and financial performance in the tourism industry of the Middle East and North Africa (MENA) region. Previous research on this topic has yielded mixed and contradictory findings, and there is currently a lack of research on the MENA region specifically. By examining this relationship in the context of the strategically important tourism sector in MENA, we aim to contribute to the ongoing debate on optimal capital structure and assist industry managers in making informed capital decisions.

## 2. LITERATURE REVIEW

The concept of optimal capital structure has garnered significant attention in academic research, resulting in the development of various theories.

The capital structure irrelevance theory, proposed by Modigliani and Miller in 1958, first suggested that in a world with perfect capital markets, no corporate tax, agency costs, or bankruptcy risk, a firm's value is not affected by its capital structure. However, their theory, attracted much criticism due to its unrealistic assumptions, and was later amended by the same authors, concluding that when the tax effect of debt is considered financial leverage increases firm value (Modigliani & Miller, 1963). The trade-off theory adds to the equation the bankruptcy risk (Myers, 1984; Fama & French, 2002). It posits that firms must strive to achieve an optimal debt-equity mix, which maximizes the benefits of debt in terms of tax and minimizes the costs of financial distress. The pecking-order theory (Myers & Majluf, 1984) ranks a firm's financing options in order of preference, with internally generated funds (via retained earnings) being the first choice, and debt or new stock being last in that order. Research shows that some capital choice decisions are better explained by this theory (Fama and French, 2002). The agency cost theory, which was proposed by Jensen and Meckling in 1976, focuses on the conflicting interests between managers and shareholders and how these conflicting interests can influence financing decisions. According to this theory, managers may be opposed to using debt as a financing source due to increased monitoring and regulation from creditors, while shareholders may be in favor of using debt for exactly the same reasons. Finally, the market timing theory, developed by Baker and Wurgler in 2002, suggests that a firm's capital structure choice is affected also by market conditions. They argued that firms tend to issue equity when their market valuation is high and prefer debt issuance when their market valuation is low (Bessler et al, 2008).

The relationship between a firm's capital structure and its profitability has been the subject of much research over the years. While some scholars have found a positive relationship between these two variables (Margaritis & Psillaki, 2007; Gill et al., 2011), many have found them to be negatively related (Mendell, et al., 2006; Shubita & Alsawalhah, 2012; Alarussi & Alhaderi, 2018; Zaitoun & Alqudah, 2020; Habibniya et al., 2022). In some studies, mixed results have been reported, with a negative relationship between capital structure and ROA and a positive relationship with ROE, or vice versa (Nasimi, 2016, Nguyen et al., 2019).

Given that leverage is a significant determinant of performance, and that the empirical literature often yields conflicting and contradictory results, it is justified to conduct further research, particularly in the tourism industry where research on leverage and capital structure is scarce. Based on this, we have formulated the following hypotheses:

H1: Financial leverage has a negative impact on firms' ROA in the MENA tourism industry.

H2: Financial leverage has a negative impact on firms' ROE in the MENA tourism industry.

## 3. DATA AND METHODOLOGY

In this study, the OLS and panel regression models are utilized to analyze data extracted from the Refinitiv database for a period of 12 years, from 2010 to 2021, for 71 tourism firms in the MENA region. This results in an unbalanced panel of 768 firm-year observations. To measure financial performance, this study follows previous research in using the return on assets (ROA) and return on equity (ROE) ratios, as identified by Abor (2005), Gill et al. (2011), Nasimi (2016), Nguyen et al. (2019), Habibniya et al. (2022), and Demiraj et al. (2022). Leverage is measured using the debt ratio (TL/TA) and equity ratio (TE/TA), as proposed by Abor (2005), Karadeniz et al. (2009), Gill et al. (2011), Alarussi & Alhaderi (2018), and Habibniya et al. (2022). In addition to the profitability and leverage variables, four control variables are also included in the model: non-current assets (NCA), size (S), liquidity (LI), and inflation rate (IR). A description and formula for each variable can be found in Table 1. The data used in this study was not cleaned of outliers, but rather winsorized at the 2% level using STATA software.

**Table 1: Variables**

Variable Category	Variable Description	Formula
Dependent variables	Return on Assets (ROA)	Net Income / Total Assets
	Return on Equity (ROE)	Net Income / Total Equity
Independent variables	Debt Ratio (TL/TA)	Total Liabilities / Total Assets
	Equity Ratio (EA)	Total Equity / Total Assets
Control variables	Non-current Assets ratio (NCA)	Non-current Assets / Total Assets
	Size (S)	Ln of Total Assets
	Liquidity (LI)	Current Assets / Current Liabilities
	Inflation Rate (IR)	Consumer Price Index

The below model has been adopted to test our hypothesis.

$Performance = f(Leverage, Control Variables)$

$PERFORM = \alpha it + \beta_1 FLEV + \beta_2 CONTROL VARIABLES + FIXED EFFECTS + \epsilon it$

Where: PERFORM refers to ROA or ROE of firm *i* in year *t*; FLEV. refers to TL/TA or TE/TA; and control variables refer to NCA, S, LI, and IR. Country (CTY) and year (YR) are the fixed effects, included in the model.  $\epsilon it$  represents the error term.

#### 4. FINDINGS

Table 2 presents the descriptive statistics for the variables included in this study, including the number of observations, mean values, standard deviation, and minimum and maximum values. The skewness and kurtosis for each variable are also included in this table. The standard deviation, skewness, and kurtosis values suggest that there are not many outliers in the sample and that the probability distribution is relatively symmetrical. Additionally, the variance inflation factor (VIF) values did not indicate any issues of multicollinearity.

**Table 2: Descriptive Statistics**

Variables	Observations	Mean	Std. Dev.	Min.	Max.	Pr (Skewness)	Pr (Kurtosis)
ROA	768	0.0311447	0.096281	-0.20993	0.318615	0	0
ROE	768	0.0432223	0.164483	-0.45405	0.443447	0.0001	0
LA	768	0.3141723	0.236093	0.011927	1.025965	0	0.0048
EA	768	0.6858278	0.236093	-0.02596	0.988073	0	0.0048
NCA	768	0.7050633	0.261264	0.020534	0.977938	0	0.0017
S	768	19.07273	2.388423	14.98524	23.30239	0.1975	0
LI	768	3.439871	7.414323	0.081548	44.46992	0	0
IR	768	3.497266	3.860215	-2.08	14.4	0	0

Table 3 shows the correlation among the variables included in this study. The correlation between TL/TA and ROE and ROA is negative, while the correlation between TE/TA and ROE and ROA is positive. The table also reveals a significant correlation between ROA and ROE, as well as between TL/TA and TE/TA, so they are analyzed in separate regression models. The other variables show moderate to low correlation.

**Table 3: Variables Pairwise Correlation Matrix**

Variables	ROA	ROE	LA	EA	NCA	SIZE	LI	IR
ROA	1							
ROE	0.6924*	1						
LA	-0.1310*	-0.0165	1					
EA	0.1310*	0.0165	-1.0000*	1				
NCA	-0.1542*	-0.2534*	-0.1629*	0.1629*	1			
SIZE	0.2384*	0.2519*	0.3525*	-0.3525*	-0.3896*	1		
LI	-0.0221	-0.0083	-0.3227*	0.3227*	-0.3944*	0.0417	1	
IR	-0.0165	-0.0103	0.1780*	-0.1780*	0.0302	0.1300*	-0.0176	1

\*Statistically significant at 5%.

Despite the correlation matrix offering a general understanding of the paired association among the variables, a regression analysis is necessary to determine the actual impact of the independent variables on the dependent variables. We employ both OLS and Panel regression models and for more robust results.

Tables 3 and 4 reveal the condensed results of both OLS and Panel regression models regarding the relationship of debt ratio (TL/T) and equity ratio (TE/TA) with ROA and ROE. For the panel data regression, the fixed effects model was chosen based on the Hausman test values.

Table 3: OLS &amp; Panel Regression Results for TL/TA with ROA &amp; ROE

		TL/TA - ROA relationship				TL/TA - ROE relationship				
OLS	Variables	No dummy	Year dummy	Country dummy	Year and country dummy	Variables	No dummy	Year dummy	Country dummy	Year and country dummy
		ROA	ROA	ROA	ROA		ROE	ROE	ROE	ROE
	TL/TA	-.136***	-.124***	-.154***	-.146***	TL/TA	-.141***	-	-	-
Standard error	(0.016)	(0.016)	(0.017)	(0.017)	Standard error	(0.028)	(0.027)	(0.030)	(0.029)	
		<i>Fixed Effects*</i>				<i>Fixed Effects</i>				
PANEL	Variables	No dummy	Year dummy	Country dummy	Year and country dummy	Variables	No dummy	Year dummy	Country dummy	Year and country dummy
		ROA	ROA	ROA	ROA		ROE	ROE	ROE	ROE
	TL/TA	-.118***	-.094***	-.118***	-.094***	TL/TA	-.206***	-	-	-
Standard error	(0.023)	(0.022)	(0.023)	(0.022)	Standard errors	(0.043)	(0.042)	(0.043)	(0.042)	

\*\*\*p < .01, \*\*p < .05, \*p < .1

Table 4: OLS &amp; Panel Regression Results for TE/TA with ROA &amp; ROE

		TL/TA - ROA relationship				TL/TA - ROE relationship				
OLS	Variables	No dummy	Year dummy	Country dummy	Year and country dummy	Variables	No dummy	Year dummy	Country dummy	Year and country dummy
		ROA	ROA	ROA	ROA		ROE	ROE	ROE	ROE
	TE/TA	.136***	.124***	.154***	.146***	TE/TA	.141***	.116***	.114***	.094***
Standard error	-0.016	-0.016	-0.017	-0.017	Standard error	-0.028	-0.027	-0.03	-0.029	
		<i>Fixed Effects</i>				<i>Fixed Effects</i>				
PANEL	Variables	No dummy	Year dummy	Country dummy	Year and country dummy	Variables	No dummy	Year dummy	Country dummy	Year and country dummy
		ROA	ROA	ROA	ROA		ROE	ROE	ROE	ROE
	TE/TA	.118***	.094***	.118***	.094***	TE/TA	.206***	.158***	.206***	.158***
Standard error	-0.023	-0.022	-0.023	-0.022	Standard errors	-0.043	-0.042	-0.043	-0.042	

\*\*\*p < .01, \*\*p < .05, \*p < .1

According to the results presented in Tables 3 and 4, it can be concluded that the debt ratio is significantly and negatively related to ROA in the MENA tourism industry. This supports our first hypothesis that more leveraged firms have lower ROA. The OLS and panel regression models show that an increase in the debt proportion (TL/TA) and a decrease in the equity proportion (TE/TA) of the capital structure is associated with a decrease in return on assets (ROA) at a rate of 0.154 and 0.118, respectively. This relationship is statistically significant at the 1% level under both methods. Our second hypothesis, that more leveraged firms have lower ROE, is also supported by these results. The OLS and panel regression models show that an increase in the debt proportion (TL/TA) and a decrease in the equity proportion (TE/TA) of

\* Based on Hausman test, only fixed effects are analyzed

the capital structure is associated with a decrease in return on equity (ROE) at a rate of 0.141 and 0.206, respectively. This relationship is statistically significant at the 1% level under both methods. These findings are consistent with the research of Alarussi and Alhaderi (2018) and Zaitoun and Alqudah (2020).

## 5. CONCLUSION

Based on the results regarding the impact of financial leverage (TL/TA and TE/TA) on firm performance (ROA and ROE) in the MENA tourism industry, it appears that more leveraged firms have inferior financial performance. This finding is contrary to the capital structure irrelevance theory, which suggests that a firm's capital structure is not relevant to its profitability. Instead, the results suggest that firms may improve their performance by keeping their debt levels to a minimum. These findings are consistent with the trade-off theory, which posits that there is a point at which the cost of debt outweighs its benefits and begins to impair a firm's profits. Contrary to the expectations of the agency theory, the results also suggest that more debt does not necessarily translate into better and more efficient management in the MENA tourism industry, due to the additional external pressure and monitoring that comes with higher levels of debt. Instead, the more profitable firms tend to use less debt, which is consistent with the pecking order theory. However, although the leverage effect of debt should, in theory, positively impact ROE, the results reveal that this is not the case for firms in the MENA tourism industry. One possible explanation for this could be that these firms either engage in underperforming investment projects or borrow at excessively high rates, which worsens the shareholders' position instead of improving it.

In conclusion, managers in the MENA tourism industry should be cautious of financial leverage. Capital structure is an important decision that can significantly impact financial performance. An overly aggressive capital structure policy can impair a firm's performance, both ROA and ROE. While a moderate use of debt can have benefits such as tax savings and the leverage effect, being too reliant on debt can pose a threat to a firm's performance. It appears that firms in the MENA tourism industry may have reached the point where more debt becomes counterproductive, and they should be mindful of this when making capital structure decisions.

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