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The Determining Factors of Financial Performance of Tourism Companies from Romania – Comparisons with the Pandemic Period

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Abstract Financial performance is an aspect targeted by any company. Analyzing the indicators that have an impact on it is a crucial aspect in obtaining profitability in the activity carried out. The paper aims to identify how the financial policy influence the company`s profitability. The situation imposed by the pandemic period determines the need to analyze the situation from this period separately from the previous one. Thus, the analysis was carried out in the period 2008-2022, but it was divided into two, respectively: the prepandemic period (2008-2019) and the pandemic period (2020-2022). Using the linear analysis method to identify the effects on the profitability of the companies obtained by 20 companies from the tourism industry listed on the Bucharest Stock Exchange, we obtained for the pre-pandemic period an R-squared of 0.122 (for the dependent variable ROA - return on assets), and 0.706 (for dependent variable ROE - return of equity). For the pandemic period, it increases to 0.303 and 0.745, respectively. Considering the independent variables used (long- and short-term debt ratios, solvency and natural logarithm of total assets for ROA and leverage, net profit margin, liquidity and natural logarithm of turnover for ROE) as well as the obtained correlations among these, the study recommends that companies in this industry consider short-term borrowing in difficult times and optimizing the financial structure.

Keywords: *financial performance, profitability, tourism, pandemic influence*

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1. Introduction

The financial policy of the company includes the financing policy, the investment policy and the dividend policy. Optimizing decisions regarding these policies are real challenges for managers. In this context, this paper aims to identify the influences of financing policies on the performances obtained by companies.

In the context of the measures imposed during the COVID-19 pandemic, it is necessary to carry out a separate analysis for this period. Travel restrictions and social distancing measures have impacted the tourism industry. So, another objective of this paper is to make a comparison between the two periods.

Over time, numerous studies and researches have been carried out regarding the financial performance of the company, as well as the factors that influence it.

In one research in which the author studied on a sample of 212 American companies listed on the New York Stock Exchange, in the period 2010-2014, the influence on the performance indicators (ROA and ROE) of the following variables: short-term and long-term debt, liquidity, growth opportunities, net margin ratio, EPS, PER, ETR, CEO age, CEO seniority, CEO duality, and two variables measure of the size of the company (total assets and equity). For this analysis, he built econometric models using panel data. It concluded that the capital structure is an important factor in determining the performance of companies. Regarding correlations, he identified a positive correlation between performance and: short-term debt, leverage, liquidity, margin rate, EPS and PER, and company size. The negative correlations were between performance and: CEO age, CEO seniority, long-term debt level.[1]

Another research carried out on a sample of 89 microfinance institutions from 35 countries in 2015, using regression analysis, concluded that the capital/equity ratio has positive effects on profitability, while the debt/equity ratios and deposits/assets, does not show a significant impact.[2]

Badea M. analyzed 40 companies from the banking sector, in the period 2003-2013, by which she chose as dependent variables the net profit margin and the total return on shares, and as independent variables EPS, current liquidity, CEO remuneration, CEO age, ROIC (Return on Invested Capital), company age, dividend yield, corruption perception index (CPI), ROA and ROA. This

identified positive correlations between profit margin and ROA, ROIC and ROA, and EPS and gross dividend.[3]

In another work, the authors analyzed 23 companies, starting from the following assumptions:

- There should be a negative relationship between leverage and performance;
- Firm size should have a positive impact on financial performance;
- Liquidity should have a positive impact on financial performance;
- There should be a positive relationship between income and financial performance;
- There should be a positive relationship between profitability and financial performance.[4]

In order to verify these hypotheses, the authors of the paper made an analysis using the SPSS and EVIEWS programs through which they identified the influence of the independent variables (leverage, company size, liquidity, revenues, profit) on the dependent variable ROA. The results of the analysis show that liquidity, profitability and income are positively related to return on assets, and firm size and leverage are negatively related to ROA.

The financial performance of tourism companies (more specifically on spa companies) was analyzed in a 2020 study on some companies in Slovakia. The results obtained from the conducted study indicate a great influence of the debt factor on ROE, and then also the use of assets. This indicator is determined to the smallest extent by the operating profit margin. The authors note that these results present the analytical picture of financial performance that contributes to the creation of the knowledge of financial experts.[5]

A study conducted on a sample of 214 firms listed on the Indonesia Stock Exchange analyzed the impact of the COVID-19 pandemic on financial performance. The conclusions drawn from the research showed an increase in the leverage ratio but a decrease in the liquidity and profitability of the companies during the pandemic. Regarding the ratio between liquidity and leverage ratio, there were no significant differences. The information presented in the research supports potential investors in decision-making but also the government in establishing tax incentives granted to affected companies.[6]

The effects that solvency and leverage have on firm profitability were studied in the period 2014-2018 for a sample of 16 tourism firms in Indonesia, identifying significant and positive correlations between return on assets and solvency, and significantly negative effects between profitability and lever.[7]

A study carried out in 2014 identified a significant impact of financial leverage on the profitability of some companies in the tourism sector in Amman. The research results and the research methodology can be used by researchers in analyzing companies in other fields of activity, and the authors' recommendation is to consider other indicators besides those presented.[8]

The effects of the COVID-19 pandemic on companies operating in the field of tourism was highlighted in a research carried out in China. The results obtained indicate a severe negative effect on financial performance during this period, with decreases in revenues, profitability and investments being highlighted. The research highlighted the fact that in China the effects of the pandemic were more pronounced due to the bans (based on the fear of the spread of the virus) imposed by most countries in the world on the import of goods. The authors believe that such situations continue to happen, and the only defense against them is to formulate policies to manage their effects.[9]

2. Research Metodology

The database used consists of 20 companies from the tourism industry listed on the Bucharest Stock Exchange, and the analysis is carried out in two periods: the pre-pandemic period (2008-2019) and the pandemic period (2020-2022). The research method used is the linear regression method. Regression and correlation analysis, as part of statistics, are methods by which the existing dependencies between variables are studied and presented (a variable, characteristic, or outcome denoted y, with one or more variables that are independent, characteristic, denoted by x). Y can also be called a dependent characteristic (effect or endogenous), and X can also be called a factorial characteristic (cause or exogenous). Regression tells us how one variable depends on the other variables (or the other variable), and correlation shows the degree of dependence between them.

The regression model used is based on the following relationship:

$$Y = \alpha_1 x_1 + \alpha_2 x_2 + \alpha_3 x_3 + \alpha_4 x_4 + \varepsilon \quad (1)$$

Whereby:

Y - the dependent variable (in our case for the first analysis it is ROA and for the second it is ROE)

x_1, x_2, x_3, and x_4 - are the vectors of the independent variables

α_1, α_2, α_3, and α_4 - are the coefficient vectors

ε - a variable interpreted as an error.

The basis of a correlational analysis is the analysis of the relationship between two variables, which we analyzed with the help of the Pearson correlation. This type of correlation has values in the range (-1;1).

A negative value indicates a negative correlation, and a positive value indicates a positive correlation. For the interpretation of this correlation, Hopkins' proposal is [10]:

- between 0.0 and 0.1 the correlation is insignificant;
- between 0.1 and 0.3 the correlation is small;
- between 0.3 and 0.5 the correlation has a medium level;
- between 0.5 and 0.7 the correlation is high;
- between 0.7 and 0.9 - very high;
- between 0.9 and 1 - almost perfect.

The dependent variables used for the analysis are [11]:

ROA – return on assets (calculated as a ratio between net profit and total assets *100);

ROE – return on equity (calculated as the ratio between net profit and equity*100).

Independent variables for ROA are: short and long term debt, solvency ratio and natural log from total assets (LnTA).

Independent variables for ROE are: Liquidity ratio, net profit margin, leverage and natural logarim from own capitals (LnOc).

3. The Determining Factor of The Financial Performance of Tourism Companies

The analysis starts from the following hypothesis:

1. the size of the company positively influences its profitability;
2. liquidity and solvency influence the company's profitability;
3. the net profit margin influences the company's profitability;
4. the leverage effect does not influence the company's profitability;
5. the debt ratio influences the profitability of the company.

3.1. Data Analysis for Prepandemic Period

Descriptive statistics contain indicators that facilitate the formation of an overview of the presented indicators. These include[12]:

- Mean;
- The standard error calculated as the arithmetic mean of the absolute values of the individual deviations;
- Standard deviation (average of individual deviations);
- Sample Variance (arithmetic mean of the squares of individual deviation values in relation to their mean);
- Kurtosis (a positive value indicates more extreme values than we would have expected, and a negative value indicates the opposite);
- Skewness (the 0 value of this indicator shows the symmetry of the distribution, the positive value indicates the values towards small values, and the negative value indicates the distribution of the grouped values towards large values)

Table 1. Descriptive statistics for ROA before the pandemic period

ROA	
Mean	0,6034791
Standard Error	0,74711811
Median	0,10551275
Standard Deviation	11,2316479
Sample Variance	126,149915
Kurtosis	20,8240551
Skewness	3,37961734
Largest(1)	86,1479931
Smallest(1)	-41,379943

Table 2. Descriptive statistics for ROE before the pandemic period

ROE	
Mean	-1,7884951
Standard Error	1,54974969
Median	0,11050671
Standard Deviation	23,2978464
Sample Variance	542,789647
Kurtosis	59,1323134
Skewness	-5,3210362
Largest(1)	87,8859943
Smallest(1)	-248,62056

In the pre-pandemic period, the ROA indicator registers an average of approximately 0.6, having two extreme values, it being noted that their number is higher than expected. However, the distribution of values tends to be clustered towards small values.

The ROE indicator registers an average of -1.78, which also has two extreme values. And in its case, more extreme values are identified than would have been expected, and the distribution of the values of this indicator being grouped towards high values.

To begin with, the normality of the distribution was:

Following this, the K-S and S-W test results

Table 3.Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA	,181	20	,086	,879	20	,017
ROE	,208	20	,023	,794	20	,001
Short term debt ratio	,332	20	,000	,746	20	,000
Long term debt ratio	,322	20	,000	,642	20	,000
LnAT	,103	20	,200*	,939	20	,227
Laverage	,369	20	,000	,372	20	,000
Lichiditate	,330	20	,000	,520	20	,000
LnTO	,155	20	,200*	,952	20	,399
Net profit margin	,361	20	,000	,499	20	,000
Solvency ratio	,399	20	,000	,336	20	,000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

where p>0.05 for three of the indicators (ROA, LnAt and LnTO), in which case we cannot reject the null hypothesis for them, as a result they are normally distributed.

Table 4. Model Summary for ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,349a	,122	-,112	,03921

a Predictors: (Constant), LnAt, Solvency , Short term debt ratio , Long term debt ratio Dependent Variable: ROA

In the case of the ROA variable, we observe that it can be explained in proportion to 12.2% by the independent variables.

After obtaining the Pearson correlation, for the ROA variable, the results are as follows:

We observe that there is a positive correlation between ROA and solvency, and a negative correlation with the other indicators.

Regarding the ROE indicator, we have the following results:

Table 5. Correlations between ROA and independent variables

		ROA	Short term debt ratio	Long term debt ratio	Solvency ratio	LnAt
ROA	Pearson Correlation	1	-,082	-,250	,044	-,180
	Sig. (2-tailed)		,732	,288	,852	,448
	N	20	20	20	20	20
Short term debt ratio	Pearson Correlation	-,082	1	-,182	-,244	-,652**
	Sig. (2-tailed)	,732		,443	,300	,002
	N	20	20	20	20	20
Long term debt ratio	Pearson Correlation	-,250	-,182	1	-,185	,484*
	Sig. (2-tailed)	,288	,443		,435	,030
	N	20	20	20	20	20
Solvency ratio	Pearson Correlation	,044	-,244	-,185	1	,061
	Sig. (2-tailed)	,852	,300	,435		,798
	N	20	20	20	20	20
LnAt	Pearson Correlation	-,180	-,652**	,484*	,061	1
	Sig. (2-tailed)	,448	,002	,030	,798	
	N	20	20	20	20	20

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

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

Table 6. Model Summary for ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,840[a]	,706	,650	,04504

a. Predictors: (Constant), Liquidity, Leverage, Net profit margin

b. Dependent Variable: ROE

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

Table 7. Correlations between ROE and independent variables

		ROE	Leverage	LnTO	liquidity ratio	net profit margin
ROE	Pearson Correlation	1	-,831**	,382	,002	-,248
	Sig. (2-tailed)		,000	,096	,993	,293
	N	20	20	20	20	20
Leverage	Pearson Correlation	-,831**	1	-,394	-,085	,170
	Sig. (2-tailed)	,000		,085	,722	,474
	N	20	20	20	20	20
LnTO	Pearson Correlation	,382	-,394	1	-,353	-,321
	Sig. (2-tailed)	,096	,085		,127	,168
	N	20	20	20	20	20
Liquidity ratio	Pearson Correlation	,002	-,085	-,353	1	,085
	Sig. (2-tailed)	,993	,722	,127		,721
	N	20	20	20	20	20
net profit margin	Pearson Correlation	-,248	,170	-,321	,085	1
	Sig. (2-tailed)	,293	,474	,168	,721	
	N	20	20	20	20	20

3.2. Data Analysis for Pandemic Period

Table 8. Descriptive statistic for ROA in pandemic period

ROA	
Mean	1,13416807
Standard Error	1,8131008
Median	-0,2465564
Standard Deviation	12,9481296
Sample Variance	167,654059
Kurtosis	34,1343393
Skewness	5,21325564
Largest(1)	83,5714237
Smallest(1)	-19,978441

Table 9. Descriptive statistics foe ROE in the pandemic period

ROE	
Mean	1,12302185
Standard Error	2,00812595
Median	-0,2771453
Standard Deviation	14,3408877
Sample Variance	205,661061
Kurtosis	29,0736313
Skewness	4,49106063
Largest(1)	88,8772789
Smallest(1)	-29,924667

During the pandemic period, the descriptive statistics for the profitability indicators calculated for the companies that are part of the research sample are presented as follows:

In the pandemic period, the ROA indicator registers an average of approximately 1,13, having two extreme values, it being noted that their number is higher than expected. However, the distribution of values tends to be clustered towards small values.

The ROE indicator registers an average of 1,12, which also has two extreme values. And in its case, more extreme values are identified than would have been expected, and the distribution of the values of this indicator being grouped towards small values.

The analysis carried out for the pandemic period records the following results:

The Summary model tells us that 30.3% of ROA can be explained by the independent variables (compared to 12.2% in the pre-pandemic period).

Table 10. Model Summary for ROA in pandemic period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,550[a]	,303	,088	,07842

a. Predictors: (Constant), Short term debt ratio, Long term debt ratio, Solvency, LnAt

b. Dependent Variable: ROA

Table 11. Model Summary for ROE in pandemic period

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,863[a]	,745	,631	,06616

a. Predictors: (Constant), LnTO, Net Profit Margin, Liquidity, Laverage

The ROE variable can be explained by the independent variables to the extent of 74.5% (compared to 70.6% in the pre-pandemic period).

Table 12. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig
ROA	,257	14	,013	,694	14	,000
ROE	,276	14	,005	,698	14	,000
Short term debt ratio	,243	14	,024	,752	14	,001
Long term debt ratio	,272	14	,006	,780	14	,003
Solvency	,470	14	,000	,338	14	,000
LnAt	,078	14	,200[*]	,990	14	1,000
Leverage	,294	14	,002	,762	14	,002
Liquidity	,198	14	,141	,784	14	,003
Net profit margin	,410	14	,000	,606	14	,000
LnTO	,230	14	,043	,904	14	,130

Tabel 13. Correlations between ROA and independent variables

		ROA	Short term debt ratio	Long term debt ratio	Solvency	LnAt
ROA	Pearson Correlation	1	,495*	-,093	-,075	-,131
	Sig. (2-tailed)		,037	,713	,768	,606
	N	18	18	18	18	18
Short term debt ratio	Pearson Correlation	,495*	1	,065	-,270	-,456
	Sig. (2-tailed)	,037		,797	,279	,057
	N	18	18	18	18	18
Long term debt ratio	Pearson Correlation	-,093	,065	1	-,207	,437
	Sig. (2-tailed)	,713	,797		,411	,070
	N	18	18	18	18	18
Solvency	Pearson Correlation	-,075	-,270	-,207	1	,054
	Sig. (2-tailed)	,768	,279	,411		,830
	N	18	18	18	18	18
LnAt	Pearson Correlation	-,131	-,456	,437	,054	1
	Sig. (2-tailed)	,606	,057	,070	,830	
	N	18	18	18	18	18

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

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

From tables 10 and 11 it can be seen that the dependence between the variables increases during the pandemic. This may indicate that in situations of uncertainty (as was the case during the COVID-19 pandemic) the factors that influence the company's profitability may change

Following the K-S and S-W test, for seven of the indicators p>0.05 (ROA, ROE, long and short term debt ratio, LnAt, liquidity and LnTO), as a result we cannot reject the null hypothesis for them, being normally distributed.

The correlations between the dependent variables and the independent variables are highlighted in the following tables.

The ROE variable is positively correlated with the indicators of leverage, liquidity and net profit margin.

Tabel 14. Correlations between ROE and independent variables

		ROE	Leverage	Liquidity	Net profit margin	LnTO
ROE	Pearson Correlation	1	,542*	,003	,832**	-,178
	Sig. (2-tailed)		,020	,992	,000	,542
	N	18	18	18	14	14
Leverage	Pearson Correlation	,542*	1	-,316	,789**	-,072
	Sig. (2-tailed)	,020		,201	,001	,808
	N	18	18	18	14	14
Liquidity	Pearson Correlation	,003	-,316	1	,051	-,092
	Sig. (2-tailed)	,992	,201		,863	,754
	N	18	18	18	14	14
Net profit margin	Pearson Correlation	,832**	,789**	,051	1	,055
	Sig. (2-tailed)	,000	,001	,863		,852
	N	14	14	14	14	14
LnTO	Pearson Correlation	-,178	-,072	-,092	,055	1
	Sig. (2-tailed)	,542	,808	,754	,852	
	N	14	14	14	14	14

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

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

3.3. Discussion and Findings

The results of the correlational analysis for the two periods indicate a volatility of the industries and also the permanent need to identify the factors that act on the company, respectively the profitability. The comparison of the two periods started primarily from the consideration that companies active in the tourism industry were affected by the measures to limit travel and those of social distancing.

From tables 4, 6, 10 and 11 we observe that the value of R-squared increases in the case of both dependent variables during the pandemic period. Thus, the ROA variable is explained in proportion to 12.2% in the pre-pandemic period, a percentage that increases up to 30.3% in the pandemic period.

The dependent variable ROE is explained by the independent variables in the pre-pandemic period in proportions of 70.6%, and in the pandemic period of 74.5%.

The results obtained from the Pearson correlation analysis are also different. In the pre-pandemic period, we observe a negative but very close to zero correlation (thus being considered insignificant) between the dependent variable ROA and the short-term debt ratio.

Small negative correlations are also identified between ROA and the long-term debt ratio and the natural logarithm of total assets, and the only positive (but insignificant) correlation is with the solvency indicator.

The dependent variable ROE also registers negative correlations in the pre-pandemic period with the leverage effect (high correlation) and with the net profit margin (low correlation). A positive correlation of average significance of this variable is with the natural logarithm of the turnover.

During the pandemic, the results are different. so that if the ROA did not have a significant correlation with the short-term debt ratio, now a medium-level positive correlation is identified, which may indicate that the company's short-term debt can be an option in periods of uncertainty.

With the other independent variables, the correlations are negative in this period but very close to zero.

The correlation with the leverage effect changed from a strong negative coefficient obtained in the pre-pandemic period to a high level in this period, a fact that indicates the need to optimize the financial structure.

Another difference between these two periods can be found in the correlation with the net profit margin, which increased from a negative correlation to a strongly positive one.

4. Conclusions of the Study

The dependent variables, before the pandemic period, can be explained by the independent variables in proportions of 12.2% and 70.6%, respectively. During the pandemic period, their percentage increases to 30.3% and 74.5%, respectively.

Before the pandemic period, we observe that the ROE variable is moderately influenced by turnover. A strong negative correlation is observed between leverage and the dependent variable. Net profit margin and total assets have no significant influence on the company's profitability.

- We also note that the company's ability to be solvent does not influence its profitability.
- During the pandemic the situation is as follows.
- The correlations with the profitability indicators identified in this period are with the short-term debt ratio (a moderate correlation), with leverage and net profit margin (strong correlations).

As general conclusions we can say that:

√ the liquidity indicator has no influence on the profitability that the company has;

√ the leverage effect has an average negative correlation with the company's profitability in both analyzed periods;

- √ the ability to be solvent has no influence on profitability regardless of the analyzed period;
- √ the short-term debt ratio has influences on profitability during the pandemic period;
- √ net profit margin has an influence on profitability only during the pandemic period;
- √ leverage moderately influences profitability in the pandemic period, while in the pre-pandemic period it has a negative correlation
- √ turnover and total assets do not influence profitability in the pandemic period, and in the pre-pandemic period turnover has a reduced influence.

5. Study Recommendations

The study highlighted first of all the fact that the results can vary in a period of uncertainty, therefore, the managers are forced to take measures adapted to the situations. Short-term debt can be a solution.

The financial structure represents the ratio between the sources that the managers choose to finance the activity (equity or borrowed capital). The identification of methods to optimize financial policies is an aspect to be taken into account in the long term.

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