

Article

Analysing the Impact of Crises on Financial Performance: Empirical Insights from Tourism and Transport Companies Listed on the Bucharest Stock Exchange (during 2005–2022)

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Abstract: To adapt to the business environment, organisations adhere to management strategies capable of removing the effects of negative events, transforming themselves into resilient organisations. Physical and mental difficulties are the consequences of recent corporate developments, and protecting these organisations is a significant concern for managers. Using regression analysis of panel data, we evaluate the effectiveness and performance of 34 tourism and transport companies listed on the BSE in the 2005–2022 period by testing the effect of leverage on financial performance. Then, we focus on identifying the effects of recent crises (the global financial crisis of 2007–2008 and the COVID-19 pandemic) on financial performance and, implicitly, on organisational resilience. The findings suggest that the research hypotheses were partially validated, noting that the indicators included in the study registered significant decreases for the COVID-19 crisis period compared to the global financial crisis period. The paper provides information on measuring the resilience of companies through their ability to withstand the global financial crisis and the crisis triggered by the COVID-19 pandemic. This study is also among the first to examine the role of financial crises in the leverage and financial performance relationship in Romania.



Citation: Neacșu, Mihaela, and Iuliana Eugenia Georgescu. 2024. *Analysing the Impact of Crises on Financial Performance: Empirical Insights from Tourism and Transport Companies Listed on the Bucharest Stock Exchange (during 2005–2022)*. *Journal of Risk and Financial Management* 17: 80. <https://doi.org/10.3390/jrfm17020080>

Academic Editor: Thanasis Stengos

Received: 24 January 2024

Revised: 12 February 2024

Accepted: 14 February 2024

Published: 18 February 2024



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Keywords: financial performance; global financial crisis; COVID-19 pandemic; tourism; transport

1. Introduction

During economic crises, organisations face strong threats that affect their financial performance and survival (Pal et al. 2014). However, these economic recessions create different challenges that contribute to strengthening the resilience of organisations, as they prove their ability to withstand risky situations. The ability to withstand a crisis can be measured by a firm's financial ratios.

To evaluate the effectiveness and performance of organisations, we propose measuring performance indicators, the most representative of which are Return on equity (ROE) and Return on assets (ROA) (Dang et al. 2024; Danso et al. 2021; Karanovic et al. 2020; Zeitun and Tian 2007). Through the present study, we focus on contributing in terms of identifying the effects of recent crises (the 2007–2008 global financial crisis and the COVID-19 pandemic) on financial performance and, implicitly, on organisational resilience. Thus, we analyse the impact of the leverage effect on the financial performance of companies, a widely debated and problematic topic in the literature (Ahmad et al. 2017; Danso et al. 2021). Capital structure plays a very important role, both strategically and operationally, in most companies (Ahmad et al. 2017; Al-Rdaydeh et al. 2018; Danso et al. 2021). To achieve debt discipline, leverage promotes effective monitoring and minimises managerial opportunism (Qian and Yeung 2015).

The global financial crisis of 2007–2008 triggered macroeconomic imbalances in Romania, affecting the business environment (Robu and Istrate 2014). The COVID-19 pandemic, however, triggered an economic crisis with a worldwide impact, affecting companies

from many fields of activity, especially those in production, transport, tourism, and the technological services sectors (Donthu and Gustafsson 2020).

Considering the current context of economic development, challenges, and threats in the business environment, adequate management of resources and knowledge becomes crucial for the sustainability and resilience of companies. In recent years, various threats have been reported, such as cyber security attacks (Gisladottir et al. 2017), terrorist attacks (Tingbani et al. 2019), natural disasters (Mal et al. 2018), economic crises (Tooze 2018), and unexpected tragedies (Amankwah-Amoah et al. 2021). Among the crises with significant effects on the Romanian economy, we note the global financial crisis of 2008 and the crisis triggered by the COVID-19 pandemic. In the context of globalisation, the global financial crisis of 2007–2008 affected the financial data reported by Romanian companies listed on the Bucharest Stock Exchange (BSE), which significantly impacted the interests of all shareholders (Mareque et al. 2017; Robu and Istrate 2014).

To test their resilience and mitigate crisis risks, companies have to constantly assess external risks and current opportunities and then implement appropriate and timely strategies (Chen and Wu 2022).

In this paper, we analyse the relationship between the leverage and financial performance of tourism and transport companies listed on the BSE. The findings of this paper suggest that leverage, measured by the Total debt/Total assets ratio, has a significant and negative impact on the financial performance of tourism and transport companies listed on the BSE. Subsequently, we demonstrate that the global financial crisis and the crisis triggered by the COVID-19 pandemic have significant and negative consequences on the relationship between leverage and financial performance, with negative effects on organisational resilience.

Our contribution to the existing literature consists in measuring the resilience of companies through their ability to withstand the global financial crisis and the crisis triggered by the COVID-19 pandemic. The ability to withstand crises is substantiated in this study by analysing the leverage effect on the financial performance of tourism and transport companies listed on the BSE.

2. Literature

2.1. Current State of Research on Financial Performance Analysis and Organisational Resilience

To measure the financial performance of organisations, our study uses the following as indicators: Return on assets (ROA) (Brick et al. 2006; Brown and Caylor 2006; Danso et al. 2021; Jackling and Johl 2009; Karanovic et al. 2020; Zabri et al. 2016), i.e., the profit generated by available assets (Epps and Cereola 2008), and Return on equity (ROE) (Danso et al. 2021; Karanovic et al. 2020; Lo 2003; Zabri et al. 2016; Robu and Istrate 2014), which evaluates the profit generated by the organisation using investments (Epps and Cereola 2008). Analysing the relationship between financial performance and capital structure (through leverage) is an essential area of research, and the value of a company increases in direct proportion to the performance of its management (Morck et al. 2000). Financial performance begins to decline when the debt ratio is too high (Bui et al. 2021). Danso et al. (2021) believe that the theory that high leverage would increase corporate earnings led to excessive risk-taking before the 2007–2008 global financial crisis. This crisis has weakened financial structures, leading to operational instability in both emerging and developed markets. The ability to withstand these threats but also anticipate potential risks and adapt to changes, forms the resilience of companies (Duchek 2019).

Being a multidisciplinary concept, resilience was initially used in many fields, such as ecology (DesJardine et al. 2017), psychology (Richtner and Lofsten 2014), physics (Maxwell 1997), and health (Collins 2015). Because resilience is applicable across different fields, this concept can help solve important interdisciplinary problems such as sustainable development (DesJardine et al. 2017). Ortiz-De-Mandojana and Bansal (2016) defined resilience as the ability of organisations to sense and correct maladaptive predispositions and withstand unexpected situations.

Given that the study of organisational resilience emerged in the 21st century (Duchek 2019), there are many definitions of this concept in the literature (Deliaune 2015). Researchers Khin Khin Oo and Rakthin (2022) believe that organisational resilience is an important lever for sustaining and maintaining the sustainability of an organisation, given the dynamic nature of business nowadays. Other researchers (Deliaune 2015; Pinel 2009) believe that resilience is the ability of a system to maintain or regenerate itself at an acceptable level of functioning despite disturbances or failures. After analysing the definitions, we consider that organisational resilience is the ability of organisations to overcome inherent dangers and risks, acquiring a dynamic stability that allows them to carry out their economic activity.

The increasing sensitivity of organisations to environmental hazards that could impact business continuity leads managers to consider resilience as an important point in the strategy of deciphering and anticipating threats, risk management, and organisational adaptation. Thus, organisational resilience turns into a dynamic process that not only accepts potential threats but also strengthens the organisation's strategy and ability to propose new development models. Therefore, resilience has become a major concern for all organisations, both public and private, in learning how to effectively manage daily disruptions, and organisational evolution is becoming a key factor for strategic success. This desire to grow and build resilience is also driven by new competitive demands and market access. Due to ignorance, lack of knowledge, or the inability to integrate the new standards set by economic progress, fierce development of markets, and competition (the emergence of new competitors or competitive tensions), many organisations face various blockages (Deliaune 2015).

Competitiveness challenges companies to create and implement strategies to withstand and thrive in an environment of uncertainty (Carvalho et al. 2016). A resilient company can continue and regenerate under conditions of uncertainty (DesJardine et al. 2017).

In Romania, the global financial crisis triggered macroeconomic imbalances and affected businesses and the business environment alike, leading to a decrease in the financial performance of companies (Robu and Istrate 2014). The literature revealed an interest in the analysis of the concepts of financial performance and resilience (as summarised in Table 1).

Table 1. Summary of research regarding financial performance and resilience.

Authors and Year of Study	Purpose of the Study	Study Findings
Gittell et al. (2006)	Investigating the conduct of ten airlines after the 11 September 2001 terrorist attack	The airline industry suffered a severe decline after the crisis, and rapid recovery requires a viable business model to increase financial reserves.
Pal et al. (2014)	Analysis of the resilience potential of organisations in crises	The study reviews the following resilience strategies: investment financing and cash flow, physical asset ownership, strategic and operational flexibility, and prudent management.
Robu and Istrate (2014)	Analysis of the influence of the global financial crisis on the financial performance of Romanian companies listed on the Bucharest Stock Exchange (BVB)	On average, Romanian companies listed on the BSE maintain a high level of financial autonomy and also a high level of the set provisions.
Ortiz-De-Mandojana and Bansal (2016)	Social and environmental practices associated with organisational sustainability contribute to organisational resilience	Organisations that adopt social and environmental practices show lower financial volatility, increased sales, and higher chances of survival.

Table 1. Cont.

Authors and Year of Study	Purpose of the Study	Study Findings
Carvalho et al. (2016)	Analysis of the relationship between innovation and resilience from the perspective of the evolution of financial performance	Innovative companies can achieve higher financial results than non-innovative ones.
DesJardine et al. (2017)	The impact of social and environmental practices on organisational resilience after the 2008 global financial crisis	Strategic environmental and social practices create interdependencies between investors, leading to stability.
Prayag et al. (2018)	Investigating the relationship between the organisational resilience and financial performance of tourism companies in New Zealand	Planned resilience has no significant influence on financial performance, whereas adaptive resilience does influence financial performance.
Palmi et al. (2018)	Analysing the relationship between corporate, environmental, and social governance practices and the economic performance of organisations, assessing their organisational resilience	The study highlights the importance of organisational resilience. Organisations become able to withstand shocks.
Yu et al. (2019)	Investigating the impact of supply chain dynamism on risk management, resilience, and financial performance	Supply chain dynamism has a positive effect on risk management and supply chain resilience, and resilience influences financial performance.
Danso et al. (2021)	Analysis of the impact of financial leverage on company performance, as well as the extent to which the size of the company and the crisis affect this relationship	Financial leverage significantly and negatively affects firm performance, larger firms have greater resilience, and the global financial crisis did not influence the relationship between financial leverage and firm performance. ¹

¹ Own processing.

Different researchers (Ortiz-De-Mandojana and Bansal 2016; Palmi et al. 2018) demonstrate that social and environmental practices contribute to the organisational resilience of companies, making them able to survive and adapt in the long term. These companies become sustainable and able to continuously improve their viability, maintaining a lower failure rate compared to other organisations. DesJardine et al. (2017) argue that measuring organisational resilience is quite difficult. For this reason, they propose two ways of evaluating it, namely by measuring the severity of the loss, which captures the stability of resilience, and by measuring the recovery time, which presents the dimension of flexibility. Researchers theorise two types of social and environmental practices that contribute to resilience: theoretical and strategic social and environmental practices. Analysing the impact of the 2007–2008 global financial crisis, DesJardine et al. (2017) argue that social and environmental strategic practices contribute to organisational resilience more than theoretical ones.

Gittel et al. (2006) investigated the reasons why some US airlines demonstrated organisational resilience after the September 11 terrorist attacks. A viable business model and financial resources help companies recover promptly from a crisis, innovation allows companies to be reborn over time (Carvalho et al. 2016), and strong leadership, knowledge management, and professionally trained human resources are essential for supporting financial performance (Prayag et al. 2018).

Pal et al. (2014) analysed the restrictions faced by Swedish textile SMEs during economic crises and their impact on economic resilience. Researchers have shown that cash flow and investment strategies facilitate the resilience of organisations to crises. Also, Robu and Istrate (2014) demonstrated that the financial performance of companies listed on the BSE was affected by the global financial crisis.

Yu et al. (2019) examined the relationships between supply chain dynamism, supply chain risk management, supply chain resilience, and financial performance. The study demonstrates that supply chain dynamism positively influences supply chain risk management and supply chain resilience, and supply chain resilience acts as a mediator in the relationship between supply chain risk management and financial performance.

Danso et al. (2021) demonstrated that leverage hurts firm performance, and the 2007–2008 financial crisis had marginal effects on the relationship between leverage and firm performance.

We see a particular interest in research on resilience and sustainability, often studied in correlation. The researchers' debates are mainly focused on whether sustainability practices cause organisations to become more resilient and, implicitly, more financially efficient.

Nowadays, organisations aspire to organisational sustainability, which enables them to strengthen their results, generate knowledge, establish relationships with business partners, and produce goods and services in conditions of efficiency and effectiveness. In order to respond with ease and agility to changes in the business environment, organisations have to integrate sustainability with management strategies.

2.2. Hypotheses

This paper focuses on the idea that the relationship between leverage and financial performance is more detrimental in periods of crisis, and these issues affect the organisational resilience of tourism and transport companies listed on the BSE. First, we evaluate the effectiveness and performance of organisations by measuring performance indicators, the most representative of which are Return on equity (ROE) and Return on assets (ROA). Then, we focus on identifying the effects of recent crises (the 2007–2008 global financial crisis and the COVID-19 pandemic) on financial performance and, implicitly, on organisational resilience. The economic fields analysed in this study are tourism and transport, and the companies included in the study are selected from those listed on the BSE.

The most affected business areas during the crisis were transport and tourism (Donthu and Gustafsson 2020; Hall 2010; Palazzo et al. 2022). For this reason, the current study aims to analyse how recent crises have affected the financial performance and resilience of tourism and transport companies listed on the Bucharest Stock Exchange (BSE). When there is a financial crisis in progress, financial statements satisfy the informational requirements of investors and facilitate the communication of financial information, with an important role in the planning and coordination of the company's activity (Palttala and Vos 2012). By representing the true image of financial information, the role of financial statements becomes vital in assessing the value of businesses but also facilitates the monitoring of economic activity of companies (Pinnuck 2012). Thus, we consider the annual financial statements a safe and important source for identifying the indicators necessary for financial measurements.

To achieve the aim of this research, we used the financial information from the annual reports published by the companies on their websites and on the website of the BSE (www.bvb.ro, accessed on 22 May 2023) over the 2005–2022 period.

The study is carried out in two stages. The first stage seeks to assess the effectiveness and performance of organisations by measuring performance indicators, the most representative of which are Return on equity (ROE) and Return on assets (ROA). In the second stage, we focus on identifying the effects of recent crises (the 2007–2008 global financial crisis and the COVID-19 pandemic) on financial performance and, implicitly, on organisational resilience. Thus, we proposed the following research hypotheses:

H1A. Overall leverage is negatively related to the Return on assets (ROA) of tourism and transport companies listed on the BSE.

H1B. Overall leverage is negatively related to the Return on equity (ROE) of tourism and transport companies listed on the BSE.

H2A. The crisis triggered by the COVID-19 pandemic in Romania significantly affected the financial performance of tourism and transport companies listed on the BSE compared to the global financial crisis.

H2B. The leverage effect was more detrimental to financial performance during the analysed crisis periods than in non-crisis periods, affecting the organisational resilience of BSE-listed companies.

3. Methodology

3.1. Data and Variables

Of the total 36 companies in the fields of tourism and transport, whose securities are traded on the BSE Regulated and AeRO markets in the Premium and Standard sections, 34 companies were selected (Table 2). Two companies in the field of transport were excluded from the study because one company had its activity suspended on the stock exchange, and the other showed discontinuity in reporting financial information during the study.

Table 2. Classification by field of activity of the companies included in the analysed sample.

Field of Activity	Total Companies Listed on BSE	Companies Included in the Study	Weight of Comments
Hotels and restaurants	21	21	61.76%
Transport and storage	15	13	38.24%
Total	36	34	100% ¹

¹ Own processing.

Using a deductive–inductive approach, we selected different financial indicators regarding the financial position and performance of the company recognised in the specialised literature (Brick et al. 2006; Brown and Caylor 2006; Danso et al. 2021; Jackling and Johl 2009; Karanovic et al. 2020; Lo 2003; Zabri et al. 2016; Robu and Istrate 2014) (Table 3); subsequently, we tested the effect of leverage on financial performance during financial crises for BSE-listed tourism and transport companies over the 2005–2022 period. In our econometric models, we used some control variables: firm size (SZ) and asset tangibility (TAN) (Danso et al. 2021). We measure firm size as the natural log of total assets at the end of the fiscal year, whereas asset tangibility is measured as the fixed assets to total assets.

Table 3. Variables used in the study.

Variable	Period	Indicator	Formula
Dependent Variable			
Return on assets	2005–2022	ROA	Net Income/Total Assets
Return on equity	2005–2022	ROE	Net income/Equity
Independent variable			
Overall leverage	2005–2022	LEV	Total debt/Total assets
Control variables			
Firm size	2005–2022	SZ	Log of total assets
Assets tangibility	2005–2022	TAN	Fixed assets/Total assets ¹

¹ Own processing.

Following the research model proposed by Robu and Istrate (2014) for the identification of crisis stages, we established and confirmed the crisis phases in Romania based on the BET index (Bucharest Exchange Trading).

The BET index is a weighted index with the free float capitalisation of the most liquid Romanian companies and reflects a standard of performance and transparency of the regulated market administered by BSE (2023).

Upon analysing the performance of the BET index over the 2005–2022 period, we identified the following phases of the crises in Romania: the pre-crisis (2005–2006), the

financial crisis (2007–2009), the inter-crisis (2010–2018), and the COVID-19 crisis (2019–2022). (Figure 1).

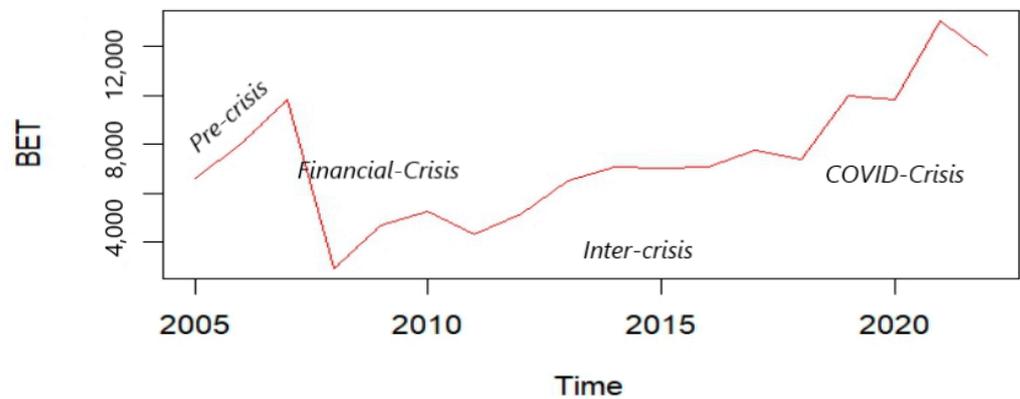


Figure 1. Evolution of the BET Indicator. Source: Own processing in RStudio, based on the data published by BSE, <https://bvb.ro/FinancialInstruments/Indices/IndicesProfiles.aspx?i=BET> (accessed on 12 April 2023).

We note that the BET index had the lowest value in 2008, and slight decreases were identified during the other years (2011, 2020, 2022).

3.2. Descriptive Statistics and Correlations

The mean, median, standard deviation, and minimum and maximum values of the independent and dependent variables for the analysed sample are calculated in Table 4. The information presented is generated for 34 Romanian companies listed on the BSE and operating in the field of tourism and transport, obtaining a total of 612 observations. The descriptive statistics highlight a positive average value of approximately 0.02 for the dependent variable, ROA, and a negative average value of approximately -0.18 for the dependent variable, ROE. The independent variable, Overall leverage (LEV), registers an average value of 0.19. The control variables used in the study, i.e., Firm Size and Assets Tangibility, register average values of approximately 7.58 and 0.8, respectively.

Table 4. Descriptive statistics.

Var	Mean	Median	Std. Dev.	Min	Max	1st Qu.	3rd Qu.	Obs
ROA	0.01973	0.01052	0.09651	-0.40451	0.86148	-0.01398	0.04574	612
ROE	-0.18405	0.01685	5.05483	-124.90297	3.35046	-0.01685	0.05605	612
LEV	0.185247	0.13031	0.18306	0.0003687	1.2834866	0.050351	0.269766	612
SZ	7.583	7.508	0.7599189	5.631	9.903	7.113	8.089	612
TAN	0.8029	0.8741	0.2000671	0.00	1.2562	0.7183	0.9387	612 ¹

¹ Processing in RStudio.

In general, our descriptive statistics suggest that our sample of companies do not suffer from any serious issues such as lack of variation, heterogeneity, and large outliers.

Figure 2 highlights the correlation results of the dependent variables (ROA and ROE) and the other variables used in the analysis. We first note that there is no strong correlation in the study variables, indicating that our estimations do not suffer from collinearity among the independent variables. The correlation between the dependent variables (ROA and ROE) and the independent variable (LEV) is negative and with a weak degree of association (-0.16 and -0.18 , respectively). The correlation between the control variable, Firm Size (SZ), and the independent variable (LEV) is weak and negative (-0.19). Conversely, there is no correlation (0.01) between the control variable, i.e., Assets tangibility (TAN), and the independent variable.

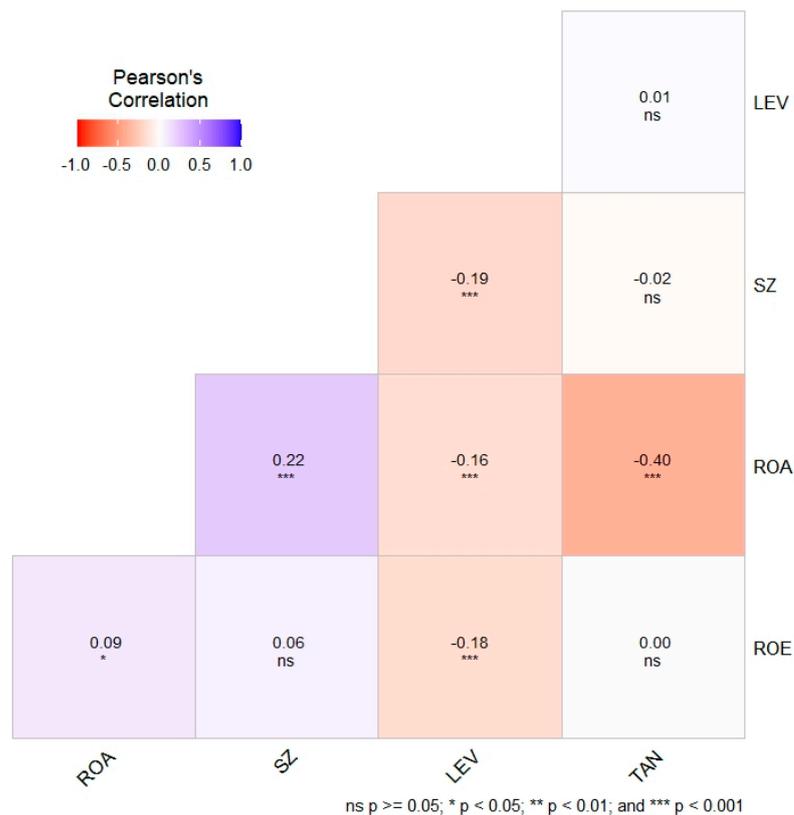


Figure 2. Correlations matrix. Processing in RStudio.

3.3. Method

In this subsection, we analyse which method is suitable for the regression analysis of panel data. The proposals focus on panel-fixed effects or pooled OLS estimation methods. Using the F Test, we establish that the fixed effects models are most appropriate to account for the first equation, and the pooled OLS method accounts for for the last equation (Table 5).

Table 5. Panel Data Regression methods for the full sample period.

Equation	Method of Panel Data Regression
$ROA \sim LEV * (SZ + TAN)$ (1) F = 3.2066, df1 = 33, df2 = 573, p-value = 0.00001284	Fixed Effect Method
$ROE \sim LEV * (SZ + TAN)$ (2) F = 0.75795, df1 = 33, df2 = 573, p-value = 0.8348	Pooled OLS Method

Processing in RStudio.

To control the effect of crises, we estimate the equations for the full sample and separate sub-samples of pre-crisis, financial crisis, inter-crisis, and COVID-19 crisis periods. The appropriate method for measuring a firm’s ability to withstand crises is to use the regression of panel data with the Random effect method.

4. Results and Discussion

In this section, we present the results of the regression estimations carried out for the base model, where the financial performance of tourism and transport companies listed on the BSE is explained by the independent variable (Tables 6 and 7); then, we analyse how the 2007–2008 global financial crisis and the crisis triggered by the COVID-19 pandemic impacted the relationship between overall leverage and financial performance of the companies included in the study (Tables 8 and 9).

Table 6. Regression results for the full sample period. Dependent variable = ROA.

plm(formula = ROA ~ LEV * (SZ + TAN), data = mydata, model = "within")				
Balanced Panel: n = 34, T = 18, N = 612				
Residuals:				
Min.	1st Qu.	Median	3rd Qu.	Max.
-0.3965729	-0.0304096	-0.0025022	0.0261361	0.6638999
Coefficients:				
	Estimate	Std. Error	t-value	Pr(> t)
LEV	-1.04	0.21	-5.03	0.0000006431 ***
SZ	-0.02	0.02	-1.12	0.26
TAN	-0.21	0.02	-8.71	<0.0000 ***
LEV:SZ	0.12	0.03	4.39	0.00001353 ***
LEV:TAN	0.06	0.11	0.59	0.56
Total Sum of Squares: 4.718				
Residual Sum of Squares: 3.5657				
R-Squared: 0.24422				
Adj. R-Squared: 0.1941				
F-statistic: 37.0324 on 5 and 573 DF. p-value: < 0.05				
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

¹ Processing in RStudio.

Table 7. Regression results for the full sample period. Dependent variable = ROE.

plm(formula = ROE ~ LEV * (SZ + TAN), data = mydata, model = "pooling")				
Balanced Panel: n = 34, T = 18, N = 612				
Residuals:				
Min.	1st Qu.	Median	3rd Qu.	Max.
-119.0308	-0.38707	0.022113	0.392037	12.10678
Coefficients:				
	Estimate	Std. Error	t-value	Pr(> t)
(Intercept)	6.98441	3.36482	2.0757	0.038341 *
LEV	-38.0582	10.91093	-3.4881	0.000522 ***
SZ	-0.81661	0.43431	-1.8803	0.06055.
TAN	-0.32396	1.28859	-0.2514	0.801583
LEV:SZ	4.18081	1.43074	2.9221	0.003606 **
LEV:TAN	3.85319	5.60728	0.6872	0.492235
Total Sum of Squares: 15,612				
Residual Sum of Squares: 14,872				
R-Squared: 0.047409				
Adj. R-Squared: 0.03955				
F-statistic: 6.03199 on 5 and 606 DF, p-value: 0.000018447				
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				

¹ Processing in RStudio.

Table 8. Regression results for the determinants of ROA: the role of the crisis.

	Pre-Crisis	Financial Crisis	Inter-Crisis	COVID-19 Crisis
LEV	0.5170429 (0.4622434)	−1.604134 (0.380124) ***	−0.3549116 (0.3894683)	−0.370718 (0.719317)
SZ	−0.0064898 (0.0291470)	−0.035091 (0.017064) *	0.0144361 (0.0104217)	0.025956 (0.031881)
TAN	0.0804022 (0.1022111)	−0.204880 (0.055972) ***	−0.1100167 (0.0367794) **	−0.294951 (0.057288) ***
LEV:SZ	0.1291974 (0.0694073).	0.219251 (0.057210) ***	0.0619663 (0.0431669)	0.026387 (0.095225)
LEV:TAN	−0.5626256 (0.2697109) *	−0.041087 (0.219177)	−0.1694818 (0.1705043)	0.081556 (0.265487)

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

¹ Processing in RStudio. Standard errors in parentheses.

Table 9. Regression results for the determinants of ROE: the role of the crisis.

	Pre-Crisis	Financial Crisis	Inter-Crisis	COVID Crisis
LEV	−4.50479 (2.23941) *	−2.81588 (0.507203) ***	−1.44152 (0.5405435) **	−216.05 (46.2918) ***
SZ	0.12583 (0.13031)	−0.05697 (0.023203) *	−0.00489 (0.0147959)	−6.0935 (2.0366) **
TAN	−1.35785 (0.50944) **	−0.15207 (0.073233) *	−0.116 (0.0510204) *	5.273 (3.6442)
LEV:SZ	−0.30961 (0.32521)	0.421482 (0.076866) ***	0.228456 (0.0602397) ***	29.4817 (6.2732) ***
LEV:TAN	8.44029 (1.36051) ***	−0.36962 (0.291469)	−0.44838 (0.2343129).	−26.1381 (19.0741)

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

¹ Processing in RStudio. Standard errors in parentheses.

4.1. Leverage and Financial Performance

Table 6 presents the results of the panel data regression analysis for the dependent variable, Return on assets (ROA), and the independent variable, Overall leverage (LEV). The estimation method is the Fixed Effect Method. We note that the value of the R-squared coefficient is 0.24422, i.e., approximately 24.42% of the variation of the ROA indicator can be explained by the studied model. The coefficient of the LEV indicator is negative and statistically significant (p -value < 0.05). For every one-unit increase in the Overall leverage indicator, ROA will decrease by 1.04 units. Taking into account the control variable (Firm Size), the value of the ROA indicator will decrease by 0.92 units (−1.04 + 0.12). The control variable, Assets tangibility (TAN), is positive but statistically insignificant for the proposed model (p -value > 0.05).

The null hypothesis was rejected for the relationship ROA~LEV * (SZ + TAN) (p -value < 0.05). This finding confirms hypothesis H1A, which suggests that the efficiency of capital allocated to fixed assets and current assets is influenced by the debt management of BSE-listed companies. The increase in company debt leads to a decrease in the return on assets.

Table 7 presents the results of the panel data regression analysis for the dependent variable, Return on equity (ROE), and the independent variable, Overall leverage (LEV). The estimation method is the Pooled OLS Method. We note that the value of the R-squared coefficient is 0.047409, i.e., approximately 4.74% of the variation of the ROE indicator can be explained by the studied model. The coefficient of the LEV indicator is negative and statistically significant (p -value < 0.05). For every one-unit increase in Overall leverage,

ROE will decrease by 38.06 units. Taking into account the control variable (Firm Size), the value of the ROE indicator will decrease by 36.88 units ($-38.06 + 1.18$). The control variable (Assets tangibility) is positive but statistically insignificant for the proposed model (p -value > 0.05).

The null hypothesis was rejected for the relationship $ROE \sim LEV * (SZ + TAN)$ (p -value < 0.05). An increased return on equity is influenced by effective debt management, confirming research hypothesis *H1B*.

We note that in emerging countries, higher overall leverage leads to a lower level of financial performance of tourism and transport companies listed on the BSE. The larger the company, the lower the impact of leverage.

4.2. Leverage, Crisis, and Financial Performance

Thus far, we have looked at the role of the Overall leverage (LEV) indicator in influencing financial performance. In this subsection, we investigate whether the financial crisis of 2007–2008 and the crisis triggered by the COVID-19 pandemic had an impact on the relationship between Overall leverage (LEV) and the financial performance of Romanian companies in the field of tourism and transport, listed on the BSE. Furthermore, we check if the Overall leverage (LEV) effect is more detrimental to financial performance during the analysed crisis periods than in the other periods, affecting the resilience of BSE-listed companies. To carry out these investigations, we divided the sample data into four periods (pre-crisis, financial crisis, inter-crisis, and COVID-19 crisis) and re-estimated the regression models.

Table 8 highlights the results of the panel data regression analysis for the dependent variable, Return on assets (ROA), and the independent variable, Overall leverage (LEV), for each highlighted period. We confirmed that, in general, the (negative) contribution was not significantly affected by the analysed crises, because the relationship between the subsamples and the statistical significance remains approximately similar in three of the four periods identified (pre-crisis, inter-crisis, and COVID-19 crisis). However, during the global financial crisis, the LEV indicator is significantly and negatively affected, suggesting that for every one-unit increase in the Overall leverage indicator, ROA will decrease by 1.60 units. Taking into account the control variable (Firm Size), the value of the ROA indicator will decrease by 1.38 units ($-1.60 + 0.22$). We note that the relationship between Overall leverage (LEV) and the efficiency of capital allocated in fixed assets and current assets was most significantly affected during the global financial crisis, leading to a decrease in the resilience of companies listed on the BSE during this period.

Table 9 shows the results of the panel data regression analysis for the dependent variable, Return on equity (ROE), and the independent variable, Overall leverage (LEV).

We note that throughout the analysed period, the influence of the LEV indicator was negative and significant. However, the magnitude of this effect is greater during the COVID-19 crisis (-216.05) than during the other periods. For every one-unit increase in Overall leverage, ROE will decrease by 216.05 units. Taking into account the control variable (Firm Size), we note that the value of the ROE indicator will decrease by 186.57 units ($-216.05 + 29.48$). We note that a significant and negative value is recorded in the pre-crisis period (-4.50), higher than during the global financial crisis (-2.82) and much lower than during the COVID-19 crisis. During the global financial crisis, for each one-unit increase of the LEV indicator, the value of the ROE indicator decreased by 2.82 units and 2.4 units, respectively ($-2.82 + 0.42$), taking into account the control variable, Firm Size. Thus, we provide evidence suggesting that a larger company exhibits stronger resilience during the analysed crises.

Therefore, the influence of the LEV indicator was much more detrimental to the financial performance of tourism and transport companies listed on the BSE during the crisis triggered by the COVID-19 pandemic (-216.05) than during the global financial crisis (-2.82). The relationship between Overall leverage and Return on equity shows a high

sensitivity to the crisis triggered by the COVID-19 pandemic, affecting the resilience of companies listed on the BSE.

Based on the results obtained in the research, we can say that the research hypotheses (H2A and H2B) were partially validated. It was noted that during the COVID-19 crisis period (−2.82), the analysis of the relationship between Overall leverage (LEV) and Return on equity (ROE) registered a significant decrease compared to the global financial crisis period (2007–2008) (−216.05). Conversely, the Return on assets (ROA) indicator identified a significant and negative influence solely during the global financial crisis period (−1.60). According to DuPont Analysis, return on equity (ROE) and return on assets (ROA) are related. Financial leverage is an indirect analysis of a company's use of debt to finance its assets, and during good economic conditions, high leverage contributes to high ROE. However, during a significant crisis like COVID-19, a highly leveraged firm will have lower or negative net income and significantly lower or negative ROE.

Continuing the research carried out by [Robu and Istrate \(2014\)](#), we state that during the COVID-19 crisis and global financial crisis alike, the Romanian economy suffered significant declines, affecting the resilience of companies listed on the BSE. Although the resilience of tourism and transport companies listed on the BSE was affected, these companies did manage to adapt to the analysed crises, thus gaining some resilience.

5. Conclusions

In the same vein as in the research of [Danso et al. \(2021\)](#), this study demonstrates that the relationship between Overall leverage (LEV) and financial performance registered a significant and negative influence. We can say that Overall leverage leads to a decrease in the financial performance of BSE-listed transport and tourism companies. The financial crises under analysis affected the relationship between Overall leverage (LEV) and financial performance, but the most significant values were recorded during the crisis triggered by the COVID-19 pandemic. Throughout the analysed period, organisational resilience was affected, but the companies managed to maintain a high level of financial autonomy.

The global financial crisis can be considered a catalyst for some negative events, causing an amplification of unfavourable effects on the financial performance of tourism and transport companies listed on the BSE. On the other hand, during the crisis triggered by the COVID-19 pandemic but also after the pandemic, tourism and transport companies listed on the BSE showed resilience to the identified risks.

The findings of the analysis on the influence of crises on financial performance indicators are consistent with the study carried out by [Robu and Istrate \(2014\)](#), namely that the tourism and transport companies listed on the BSE maintain an average level of financial autonomy and precaution, regardless of the type of crisis.

While facing various challenges to survive and compete in a turbulent market, some organisations show more resilience to various disruptions. Currently, traditional risk management and prevention strategies have many limitations, and the organisation of economic activity has to facilitate the implementation of adaptive strategies in organisations.

Organisational resilience enables organisations to anticipate, avoid, and adapt to shocks in the business environment. Resilience is seen as a latent capacity, dependent on management strategy, which cannot be measured directly, and its benefits manifest in the long-term. To achieve profits, resilient organisations must be prepared to bear short-term financial losses.

This study looks at a single emerging economy (Romania) and only includes the fields of transport and tourism. These considerations are not sufficient to grant generalisability to our findings. For future research, we propose to widen our scope to other fields of activity (agriculture, construction, manufacturing industry, trade, securities transactions, financial intermediaries, and insurance, etc.). Another recommendation is that future research could expand to include pre- and post-pandemic sustainability actions, strategies, and success factors that helped BSE-listed companies remain resilient and sustainable.

Author Contributions: Conceptualization, M.N. and I.E.G.; methodology, M.N. and I.E.G.; software, M.N. and I.E.G.; validation, M.N. and I.E.G.; formal analysis, M.N. and I.E.G.; investigation, M.N. and I.E.G.; resources, M.N. and I.E.G.; data curation, M.N. and I.E.G.; writing—original draft preparation, M.N. and I.E.G.; writing—review and editing, M.N. and I.E.G.; visualization, M.N. and I.E.G.; supervision, M.N. and I.E.G.; project administration, M.N. and I.E.G.; funding acquisition, M.N. and I.E.G. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data generated during the study are presented in this publication only. The calculations were based on official data from the Bucharest Stock Exchange.

Conflicts of Interest: The authors declare no conflicts of interest.

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