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Firm-Specific Factors Influencing the Performance of Young Small and Micro-Sized Firms Located in Algarve: The Case of the Tourism-Related Sector

Abstract

The main objective of this paper is to study how firm-specific factors affect the financial performance of tourism-related young small and micro-sized firms located in Algarve, Portugal, that started their activity during the last years of the debt crisis in Europe. The sample included 106 Portuguese small and micro-sized firms in the hospitality sector, established between 2012-2014, which remain active in 2019, and financial data from 2015 to 2018 was analyzed. Descriptive statistics, group statistics, correlations, and regression model analyses were applied. The dependent variable representing profitability was the return on assets ratio (ROA). The independent variables were short-term, long-term, and total debts, slack resources, sales growth, tangibility, and size of the firm. A negative relationship between performance and long-term and short-term debts was found, confirming the theory that the most profitable firms tend to borrow less as they do not need external capital. Also, a negative relationship between ROA and tangibility was found, which means that as the level of tangible assets lessens, more intangible assets there are. These results give some hints to help tourism-related small and micro-sized firms located in Algarve to take innovation, flexibility, and digitalization strategies, particularly important during a pandemic crisis.

Keywords: small and micro-sized firms, financial performance, tourism, performance determinants

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1. Introduction

One of the primary goals of firms is to understand their productivity and their intrinsic variables for maximizing performance. So, understanding the management practices of small and medium-sized firms (SMEs) in the tourism sector could improve their performance (Set et al., 2017). The performance of a firm is a multifaceted indicator composed of several dimensions (Simerly & Li, 2000), such as operational and organizational effectiveness dimensions (Venkatraman & Ramanujam, 1986). In finance, performance is commonly measured by profitability (Serrasqueiro & Nunes, 2008; Charitou et al., 2010). Having a good performance in the early stage is essential for tourism-related firms, ensuring further survivability, sustainable growth, smart specialization, and the creation of competitive advantage, among others. This is especially important in destinations quite dependent on the tourism and hospitality sector, such as the Algarve, Portugal (Andraz et al., 2015; Viseu et al., 2020).

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When studying the performance of firms in the context of the European economy, SMEs are seen as a pillar of change, a source of innovation and job creation, and a tool to fight the crisis in small and developed economies (European Commission, 2017). For our study, we select small and micro-sized firms because they represent 80% of tourism firms in Portugal. Small and micro-sized firms are defined by the European Commission as independently or privately held firms with less than ten employees, with an annual turnover of up to EUR 2 million (European Commission, 2019). However, small and micro-sized firms tend to have a high failure rate during the first years due to their fragile financial capacity and informal strategic management. Understanding firm-specific determinants that influence the performance in the early stage of small and micro-sized firms is thereby of utmost importance.

The objective of this paper is to study how firm-specific factors affect the financial performance of newly created small and micro-sized firms located in the Algarve, in the south of Portugal. This study intends to achieve this aim by combining in a single model the potential determinants of financial performance that have been considered in previous research in an isolated matter, such as debts (Botta, 2019), slack resources (Tan & Peng, 2003), sales growth rate (Jang & Park, 2011), asset tangibility (Nunes & Serrasqueiro, 2017) and the firm's size (Sardo et al., 2018). To the best of our knowledge, the approach to this topic focusing only on small and micro-sized firms has still not been explored, which is another contribution of this study. This approach can help managers of this type of firm to understand better what factors are likely to contribute more to the firm's performance, and so, what aspects deserve more attention and monitoring. The sample of this study is composed of 106 tourism-related small and micro-sized firms situated in this region that initiated their activity during the 2012-2014 period, and the financial data was analyzed from the following four years.

Tourism is a strategic sector of the Portuguese economy. It plays an important role at both micro and macroeconomic levels by contributing to the country's economic growth, job creation, entrepreneurship, and private investment in Portugal. The tourism sector supported 15.4% of the global GDP in 2019 and 9.4% of global employment in Portugal in 2018 (Instituto Nacional Estatística [INE], 2020).

The region of the Algarve was chosen for this study due to its economic and social characteristics. The Algarve is worldwide recognised as a holiday destination. The regional economy is mainly based on tourism (accommodation and catering), retail and wholesale, and construction sectors. The region is characterized as a low-density population area, with the predominance of small urban clusters and rural areas where the creation of new firms is more challenging than in metropolitan areas. Unlike in metropolitan areas, local small and micro-sized firms are essential for regional economies and employment in rural areas. Thus, research about the performance of small and micro-sized firms from the Algarve region can be used as a representation of other rural and intermediate regions of Europe.

Another distinctive factor of this study is that it analyses the performance of tourism-related small and micro-sized firms, established during the 2012-2014 period – the last years of the European crisis. At that time, several eurozone member states, including Portugal, were unable to repay or refinance their government debt without the assistance of third parties like the European Central Bank and the International Monetary Fund. Thus, this study displays the performance determinants of small and micro-sized firms in the tourism sector that is affected by seasonality and the adverse economic effect of the crisis.

Descriptive statistics, group statistics, and regression model analyses were applied to study the relationship between financial performance and the accountant indicators of newly established small and micro-sized firms. These indicators illustrate the financial and operational capacity and development of small and micro-sized firms, including short-term, long-term, and total debts, slack resources, sales growth rate, asset tangibility, and firm size.

The results obtained in this paper provide some contributions to tourism-related activities in the Algarve. It is suggested that more profitable firms tend to have lower debt levels and lower levels of fixed assets, proposing that they use alternative drivers of performance – related to innovation, intangible assets, and service quality.

After this introduction, the following section concerns the literature review, presenting the proposed study hypotheses. The following section describes the data, the sample, and the methodology and defines the variables. The results and the discussion are analyzed in the fourth and fifth sections, respectively. The last section contains the conclusions of the study and provides some implications for tourism-related activities in the Algarve.

2. Literature review

2.1. Performance

Enhancing performance is the primary goal of any economic activity, making its determinants an important study field. The firm's performance is a multidimensional indicator (Simerly & Li, 2000), determined by economic, behavioral, and social paradigms (Hansen, 1989). From a financial perspective, the performance of firms is commonly measured by profitability (Serrasqueiro & Nunes, 2008; Charitou et al., 2010; Chen et al., 2013). Therefore, this study uses an accounting-based measure for financial performance - return on assets ratio (ROA).

Several elements can affect financial performance: environmental, firm strategy, and organizational factors (Capon et al., 1990). The present study focuses on firms' organizational characteristics such as debt level, slack resources, sales growth rate, asset tangibility, and firm size.

2.2. Leverage and debts

Firms use leverage, i.e., debts, for funding their activity and accelerating growth. The capital structure shows how the firm finances its activity and uses equity and debt capital. The debate is to understand the ideal mix of equity and debt for each firm and each stage of business. The seminal work of Modigliani and Miller (1958) about capital structure suggests that, under restrictive assumptions of perfect capital markets, a tax-free economy, investors' homogeneous expectations, and no transaction costs, capital structure is irrelevant in determining the firm's performance. However, these restrictive assumptions do not hold in real economies. Other succeeding studies have shown that capital structure may affect a firm's performance (e.g., Botta, 2019).

Currently, there are two main theories about capital structure: the trade-off theory and the pecking order theory. The trade-off theory supports the existence of an optimal capital structure, as an optimal debt ratio determined by the counterbalance of benefits and cost of debt (Acedo-Ramírez & Ruiz-Cabestre, 2014) which is maximizing the firm market value. In this approach, the advantage of debts to be considered is tax-saving benefits and the disciplinary role of debt in reducing Free Cash Flow problems. At the same time, the disadvantage is the financial distress and bankruptcy costs. The pecking order theory does not support the existence of an optimal debt ratio (Acedo-Ramírez & Ruiz-Cabestre, 2014). Still, it defends that investment is financed first with internal funds, then by new debt issues, and finally with new equity issues (Pacheco & Tavares, 2017). This pecking order is explained by asymmetric information between firms and the market and the disciplinary effect exerted by the market on firms (Acedo-Ramírez & Ruiz-Cabestre, 2014). Serrasqueiro and Nunes (2014) test the applicability of the trade-off theory and the pecking order theory in hotel sector firms. They conclude that both theories explained capital structure.

Following the logic of pecking order, most profitable firms tend to borrow less as they do not need external capital. On the other hand, the less profitable firms run into debt as they do not have sufficient internal funds to finance their activity (Dalbor & Upheja, 2002; Pacheco & Tavares, 2017). Simerly and Li (2000) argue that indebtedness may limit a firm's strategic choices, affect the ability of managers to carry out critical strategic decisions and limit the firm's ability to compete, therefore harming the performance. Serrasqueiro and Nunes (2008) found a negative relationship between the level of debts of Portuguese SMEs and their performance, suggesting that firms with higher debts have a higher need to pay off the debts periodically, and are less able to finance strategies that could improve performance. Dalbor and Upneja (2002), in their study about restaurant firms, found that firms with bigger financial wealth have useless long-term debts and prefer

to finance their activity with short-term debts. Al-Najjar (2014) and Aissa and Goaid (2016) studied the effect of leverage on the performance of hotel firms, and their results suggest a negative relationship between financial leverage and performance. Based on the arguments presented and considering that the study focuses on newly created micro-firms, which have not yet reached a sufficient level of reputation and credibility, with accessing credit higher, the following hypothesis is defined:

Hypothesis 1: *There is a negative relationship between debt level and the financial performance of a small and micro-sized firm.*

2.3. Slack resources

Slack in an organization can be defined as the resources exceeding the minimum necessary to produce a given level of organizational output (Nohria & Ranjay, 1996). George (2005, p. 661) describes slack as “*potentially utilizable resources of the firm that can be diverted or redeployed for the achievement of the organizational goals*”. There are different types of slack resources, such as financial, capital, or human resources (George, 2005).

Holding slack resources in the firm can decrease internal control and provide ground for undisciplined and risky investments, thus contributing to financial inefficiencies (Nohria & Ranjay, 1996; George, 2005). Alternatively, slack is the unused resources essential to face unpredicted issues, follow innovative strategies and develop differentiation strategy and competitiveness (Nohria & Ranjay, 1996; George, 2005), and ensure the survival of the firm (Tan & Peng, 2003). For tourism sector firms, slack resources are essential to face seasonality and price fluctuation (Pacheco, 2016). Prior research has shown evidence of an inverse U-shaped relationship between slack resources and a firm's performance (Nohria & Ranjay, 1996; Tan & Peng, 2003). Slack may be essential for a firm, but there is a limit beyond which further holding of slack became inefficient and costly for the firm, which causes inefficiency in performance (Tan & Peng, 2003). Therefore, too much or too little slack has a negative correlation with performance, and a moderate level of slack has a positive correlation with performance (Tan & Peng, 2003). This study considers young firms that initiated their activity during the last years of the European debt crisis. In this circumstance, slack can become a resource for conflict resolution (Tan & Peng, 2003). Besides, for tourism-related firms, slack helps to face seasonality, price fluctuation, and unpredicted events (Pacheco, 2016), ensuring survivability and enabling firms to apply innovative strategies. Considering the above, we expect that slack is positively correlated with the firm's performance. Thus, we define the following hypothesis:

Hypothesis 2: *There is a positive relationship between slack resources and the financial performance of a small and micro-sized firm.*

2.4. Sales grow rate

Any business planning, investment projects, or establishment of the firm's objectives starts with the definition of sales targets. Sales growth is often used to measure the firms' growth (Jang & Park, 2011). Sales growth can be a tricky indicator as it must be compared with the industry sales growth, as a firm with positive growth but smaller than its industry growth presents poor performance. Likewise, it cannot be a singular performance indicator. Still, it must be used together with other goals, as it may happen that sales growth is not capable of compensating the losses consequent from the asset or loan management.

Brush et al. (2000) explain that sales growth is an essential factor for firm performance, enhancing internal motivation, and constituting a basis for promotion and retaining talented employees. For newly created micro-firms, the rise of cash inflow gives the possibility to invest in new equipment, innovation, and technologies and upgrade the production system. So, we define the following hypothesis:

Hypothesis 3: *There is a positive relationship between sales growth and the financial performance of a small and micro-sized firm.*

2.5. Asset tangibility

Assets represent a financial and physical investment in the firm that generates cash inflows and can be tangible or intangible. Intangible assets, usually related to new information technology (Serrasqueiro & Nunes, 2008), are patents, trademarks, copyrights, and other intellectual property. Tangible assets include long-term assets, such as plant, equipment, land, and building, while current assets are the account receivable, cash, and inventory. Asset tangibility is the portion of the fixed assets of total assets, highlighting, in this way, the intangible level of assets as well.

Prior empirical research identifies a positive relationship between the level of intangible assets and firm performance (Gamayuni, 2015) and a negative relationship between the firm's tangible asset level and its performance (Serrasqueiro & Nunes, 2008). Teece (1998) points out that intangible property management is essential for acquiring and protecting know-how, achieving a competitive advantage, establishing an ideal network, stripping out the barriers of communication, and having closer access to customs and suppliers. These activities, perceived as innovation, lead a firm to higher performance (Teece, 1998; Acedo-Ramírez & Ruiz-Cabestre, 2014). Internally-generated intangible assets include items of substantial value for a firm, such as brand reputation, product development, and customer relationship, largely absent from financial statements as they are difficult to quantify (Lim et al., 2020). The study of Lim et al. (2020) highlights that intangible assets play an increasingly determinant role in the current economy, making traditional accounting-based measurement more and more distant from reality. Ngo and Vu (2020) provide empirical evidence of the impacts of customer agility on the performance of firms in the tourism sector. Nowadays, an increasing number of firms build their market value exclusively by brand reputation, knowledge, patents, intellectual capital, and social or environmental concept implementation. So, it is suspected that a lower percentage of tangible assets in the total assets will improve performance for newly created tourism-related firms. Thus, we define our next hypothesis:

Hypothesis 4: There is a negative relationship between the level of tangible assets and the financial performance of a small and micro-sized firm.

2.6. Firm size

Several studies in the literature consider that the size of a firm is an important variable to explain performance. Some studies show evidence of a positive relationship between size and performance (Serrasqueiro & Nunes, 2008), while others defend a negative relationship (Goddard et al., 2005; Sardo et al., 2018).

The literature revealed that a larger firm's size is associated with a higher capacity for innovation (Rogers, 2004; Marques & Ferreira, 2009; Martínez-Román et al., 2015), which is an essential condition for improving performance. This may be due to bigger-sized firms taking advantage of scale economies and their implications, such as optimizing production. Consequently, these firms can generate more profits and increase their financial power to develop a competitive advantage, diversify their strategies, invest in innovation and have stronger negotiating power with clients and suppliers (Rogers, 2004; Serrasqueiro & Nunes, 2008). Also, larger firms may have easier access and better conditions for loans, allowing them to have a suitable capital intensity and operate more efficiently in the market (Rogers, 2004; Sarmiento & Nunes, 2011). Larger firms may have access to a broader range of knowledge and human capital skills (Rogers, 2004), while entrepreneurs of smaller firms tend to have inferior management skills and lower education levels (Sarmiento & Nunes, 2011), which may reflect the performance.

However, a greater size can also contribute to diminished firm performance (Goddard et al., 2005) due to the scale effects, constant fixed costs, and seasonality, which is characteristic of tourism, since empty beds produce no income (Sardo et al., 2018). Smaller firms, given the lesser rigidity of their organizational structure, may find it easier to recognize growth opportunities (Serrasqueiro & Nunes, 2008) and adapt faster to the changes in the market. Also, smaller firms may have a greater ability to adjust to the innovation process and establish a network with others (Serrasqueiro & Nunes, 2008).

Considering that this work analyses the newly created firms, it is expected that the higher the size, the higher the performance. This is because most recently born firms did not achieve their optimal production capacity or scale economies yet. Thus, they still have the potential to increase their size and enhance performance. Consequently, it is formulated the following hypothesis:

Hypothesis 5: *There is a positive relationship between the firm size and the financial performance of a small and micro-sized firm.*

3. Methodology

3.1. Sample

This study uses data from tourism-related micro-sized firms located in Algarve, Portugal. Financial data was obtained from the Amadeus database regarding all firms in the accommodation and food services sector, established between 2012 and 2014 and remained active in 2019. For these firms, financial data was obtained for four years, from 2015 to 2018. Following the definition of small and micro-sized firms of the European Commission (2017), firms only with less than ten staff headcount and turnover lower than 2 million euros were selected.

Firms whose sales and the number of employees were not available or appeared as zero for the required years were excluded from the analysis. The final sample contained a total of 106 firms.

3.2. Study variables

Financial performance, represented by return-on-assets (ROA), was considered the dependent variable. The following variables were considered independent: leverage ratios (short-term, long-term, and total debts), slack resources, sales growth rate, asset tangibility, and firm size.

Instead of using short-term indicators, it is desirable to study how the variables influence performance over some time. Accordingly, we selected variables over four years, from 2015 to 2018, and averaged them. This method was used by Simerly and Li (2000), using a five-year range and a regression model, to study how environmental dynamics influence leverage and performance. Four years period was considered in our study because it was possible to have available data for this period for specific firms which allowed us to make a regression model. Moreover, since we are considering firms that started their activity between 2012 and 2014, these firms' financial data was only available from 2015. Table 1 summarises the variables' definition, their calculation methodology, and abbreviations.

Table 1
Variables, abbreviation, and calculation methodology

Variables	Abbreviation	Calculation method
Dependent variable		
Performance	\overline{ROA}	Ratio net income to total assets
Independent variables		
Total debt	\overline{DA}	Total debts divided by the total assets
Short-term debt	\overline{SDA}	Short-term debts divided by the total assets
Long-term debt	\overline{LDA}	Long-term debts divided by the total assets
Slack resources index	\overline{SR}	(Current assets to current liabilities ratio) and (Working Capital to Sales Ratio) standardised and summed
Sales growth rate	\overline{Gsales}	Average of the percentage change in turn over (sales)
Assets tangibility	\overline{Tang}	Tangible fixed assets (net property, plant, equipment) divided by total assets
Size 1	$\ln \overline{E}$	Natural logarithm of the number of employees
Size 2	$\ln \overline{A}$	Natural logarithm of total assets

Source: Own elaboration.

Performance

ROA is the chosen *proxy* ratio to quantify the financial performance in this study. ROA measures the return on investment in assets after a firm has covered its operating expenses, interest costs, and tax obligations (Melicher & Norton, 2017). Following studies of Inoue and Lee (2011), Sardo et al. (2018), and Charitou et al. (2010), ROA was calculated with net income divided by total assets. When obtained ROA of each of the three years in the analysis, their arithmetic average was calculated, as in the study of Simerly and Li (2000).

Total, long-term, and short-term debts

We included in the model total debts, and long-term and short-term debt ratios, to measure firms' indebtedness and understand what type of debt they use to finance their activity. The total debt ratio is calculated as total debts divided by total assets, following Upneja and Dalbor (2000) and Charitou et al. (2010). The long-term debt ratio is measured as long-term liabilities divided by total assets, following studies of Upneja and Dalbor (2000) and Nunes and Serrasqueiro (2017). Short-term debt is measured as current liabilities divided by total assets, also according to Upneja and Dalbor (2000) and Nunes and Serrasqueiro (2017). These ratios were measured for each year of the 2015 to 2018 period. Then, their arithmetic average was computed, following the study of Simerly and Li (2000).

Slack resources index

Organizational slack was measured as proposed by Chen and Miller (2007). The following *proxies* for available slack were calculated: i) current assets to current liabilities ratio; ii) and working capital to sales ratio. Those ratios were standardized and summed to form a composite slack index for each year (Chen & Miller, 2007). Finally, the average slack index for the three years was calculated, following Simerly and Li (2000).

Sales growth rate

The sales growth rate, representing the growth rate of the firm (Jang & Park, 2011), was calculated according to Nunes and Serrasqueiro (2017) by subtracting sales of last year t to year $t-1$ and dividing by sales of $t-1$. It calculated sales growth for each year of the 2015-2017 period and, lastly, averaged according to Simerly and Li (2000).

Asset tangibility

In this study, the tangibility was calculated with the ratio of fixed tangible assets over total assets, according to Devesa et al. (2009) and Nunes and Serrasqueiro (2017). This ratio was calculated for each year of the 2015-2018 period. Then, following Simerly and Li (2000), their average was calculated.

Firm size

In the literature, studies using a similar statistical model measured size with *proxies* of the natural logarithm of total assets (Chen et al., 2013; Sardo et al., 2018; Pacheco & Tavares, 2017), the natural logarithm of sales (Serrasqueiro & Nunes, 2008; Acedo-Ramírez & Ruiz-Cabestre, 2014; Nunes & Serrasqueiro, 2017) or natural logarithm of the number of employees (e.g. Serrasqueiro & Nunes, 2008). This study measures firm size with two variables: the natural logarithm of total assets and the natural logarithm of the number of employees. Both size variables were calculated for each year of the 2015-2018 period. Subsequently, their average was computed, as proposed by Simerly and Li (2000).

3.3. Proposed model

Since this study intends to explain the performance that young firms present in their first three years of operation, a multiple regression model is proposed to analyze the relationship between performance and the

aforementioned independent variables. SPSS Statistics, version 25, was used to conduct the analysis. The following model will be tested:

$$\overline{ROA} = \beta_0 + \beta_1 \overline{DA} + \beta_2 \overline{SDA} + \beta_3 \overline{LDA} + \beta_4 \overline{SR} + \beta_5 \overline{Gsales} + \beta_6 \overline{Tang} + \beta_7 \ln \overline{E} + \beta_8 \ln \overline{A} + \epsilon$$

where \overline{ROA} is the return on assets ratio; β_i are the regression coefficients to estimate; \overline{DA} is the total debts to assets ratio; \overline{SDA} is short-term debts to assets ratio; \overline{LDA} long-term debts to assets ratio; \overline{SR} is slack resources index; \overline{Gsales} is firm sales growth rate, \overline{Tang} is asset tangibility; $\ln \overline{E}$ is the natural logarithm of the number of employees; $\ln \overline{A}$ is the natural logarithm of total assets; and ϵ represents the random error term.

Before testing the research hypotheses, the model was assessed regarding the absence of severe multicollinearity and heteroscedasticity.

4. Results and analysis

4.1. Descriptive statistics

Table 2 presents descriptive statistics for the variables under study. The average ROA is 8.24%, having a standard deviation much higher than its average value (19.67%). As can be observed, the ROA ranges from 66.89% to 48.07%, so there was a significant hiatus in performance among young small and micro-sized firms located in Algarve. The short-term debt ratio is higher than the long-term debt ratio, meaning that firms use, on average, more short-term debts to finance their activity. The average slack index is positive but nearly zero, showing that, on average, firms use their resources efficiently and hold in scarcity the slack resources. The sales growth rate is positive, having some volatility over the firms in the sample. Tangibility and firm size present reduced volatility, with the variable's standard deviations less than their means.

Table 2
Descriptive statistics

Variable	N	Minimum	Maximum	Mean	Std. deviation
ROA	106	-66.89	48.07	8.24	19.67
Total debt	106	0.03	15.01	1.31	1.94
Short-term debt	106	0.03	15.01	0.99	1.89
Long-term debt	106	0.00	2.85	0.32	0.45
Slack resources index	106	-3.40	12.00	0.07	1.59
Sales growth rate	106	-0.36	6.99	0.42	1.06
Asset tangibility	106	0.00	0.96	0.37	0.28
Size 1 (employees)	106	0.00	2.35	1.39	0.58
Size 2 (assets)	106	2.02	6.53	4.24	1.04

Source: Own elaboration.

4.2. Multiple linear regression

Before testing the research hypotheses, the presence of strong multicollinearity was assessed with the analysis of the Tolerance and Variance Inflation Factor (VIF) for each independent variable. Low tolerance values and high VIFs are well-known measures of excessive multicollinearity (Wooldridge, 2000). Table 3 shows the collinearity statistics for the model estimated after deleting the variable total debt. Indeed, as the variable total debt is the sum of short and long-term debts, keeping the three variables in the model would provoke perfect multicollinearity, and thus the impossibility of estimating the model). Once eliminating the variable total, table 3 shows that the model presents tolerance values of all the variables greater than 0.1 and VIFs lower than 10. Thus, this model is not suffering from the multicollinearity problem (Fleming & Nellis, 2010; Wooldridge, 2000).

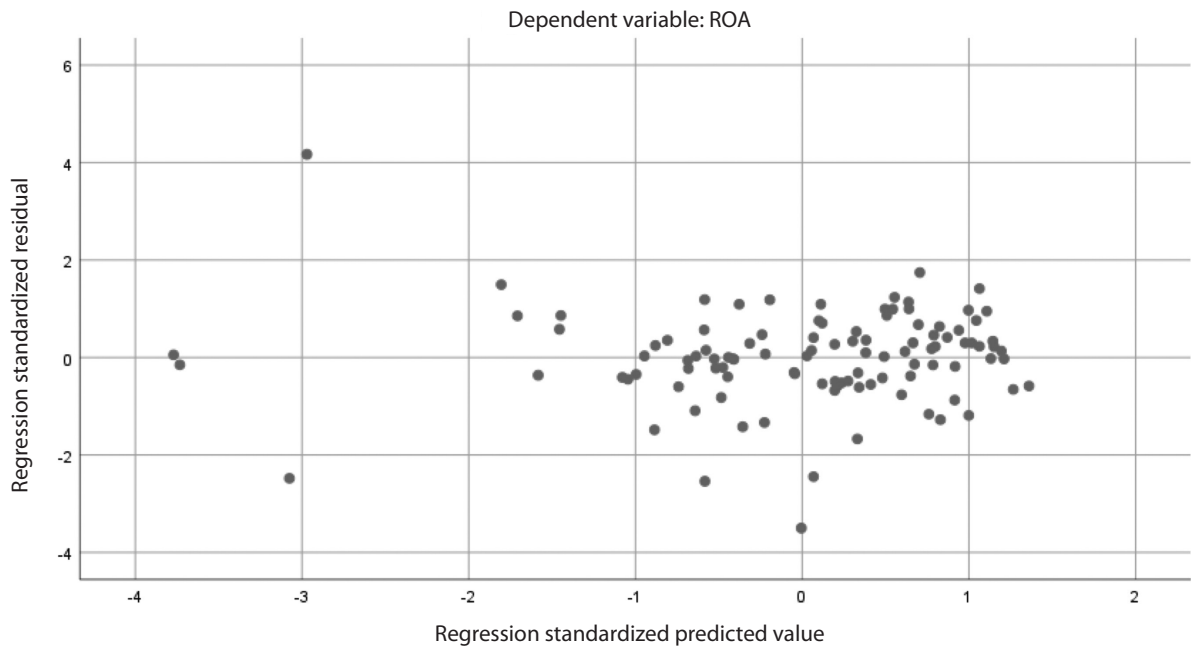
Table 3
Collinearity analysis

Variable	Model with 7 independent variables	
Short-term debt	0.847	1.180
Long-term debt	0.804	1.243
Total debts	---	---
Slack resources index	0.917	1.091
Sales growth rate	0.936	1.068
Asset tangibility	0.642	1.558
Size 1 (employees)	0.825	1.212
Size 2 (assets)	0.618	1.619

Source: Own elaboration.

We used the scatterplot of standardized predicted values versus studentized residuals to analyze homoscedasticity (Pestana & Gageiro, 2014). Figure 1 shows that the residuals are randomly distributed around the chart's origin, thus not reporting an increasing or decreasing tendency. Therefore, there is no evidence that the assumption of homoscedasticity is being violated in the proposed model.

Figure 1
Scatterplot of standardized predicted values versus studentized residuals



Source: Own elaboration.

Next, we present the results for the estimated model. The R^2 is 0.292 for the regression, which shows that, overall, the regression model explains 29,2% of ROA variation in the current study. As Wooldridge (2000, p. 40) referred to, "low R -squares in regression equations are not uncommon, especially for cross-sectional cases". Moreover, the ANOVA test for the overall significance of the model indicates that the model's predictors can account for a significant amount of variance of small and micro-sized firms' performance ($p = 0.000$). Table 4 shows the results of each predictor in the model.

Table 4
Regression estimates on factors affecting profitability

	Unstandardized coefficients		Standardized coefficients	t	One-sided sig.
	B	Std. error	Beta		
(Constant)	22.546	8.686		2.596	0.005
Short-term debt	-3.644	0.981	-0.352	-3.713	0.000
Long-term debt	-14.255	4.050	-0.325	-3.519	0.000
Slack resources index	-0.806	1.096	-0.065	-0.736	0.232
Sales growth rate	-1.038	1.623	-0.056	-0.639	0.262
Asset tangibility	-14.833	7.472	-0.211	-1.985	0.025
Size 1 (employees)	1.724	3.167	0.051	0.544	0.294
Size 2 (assets)	-0.600	2.052	-0.032	-0.292	0.386

Source: Own elaboration.

Accordingly, the estimated regression model for ROA can be written using the following equation:

$$\overline{ROA} = 22.546 - 3.644\overline{SDA} - 14.255\overline{LDA} - 0.806\overline{SR} - 1.038\overline{Gsales} - 14.833\overline{Tang} + 1.724\ln\overline{E} - 0.600\ln\overline{A}$$

A negative significant relationship was found between ROA and both short-term debts and long-term debt ratios. Moreover, a negative significant relationship was found between ROA and the tangibility of small and micro-sized firms. The relationships between ROA and the variables slack resources, sales growth, and sizes 1 and 2 are not individually significant at a 5% significance level.

5. Discussion

In the discussion of the results, one must consider the characteristics of small and micro-sized firms located in Algarve, Portugal, established between 2012-2014, which remained active in 2019. Table 5 summarises the conclusions about the research hypotheses.

Table 5
Conclusions for the hypotheses of the study

Hypotheses	Results
H1: There is a negative relationship between debt level and the financial performance of a small and micro-sized firm.	Supported
H2: There is a positive relationship between slack resources and the financial performance of a small and micro-sized firm.	Rejected
H3: There is a positive relationship between sales growth and the financial performance of a small and micro-sized firm.	Rejected
H4: There is a negative relationship between the level of tangible assets and the financial performance of a small and micro-sized firm.	Supported
H5: There is a positive relationship between the firm size and the financial performance of a small and micro-sized firm.	Rejected

Source: Own elaboration.

The negative relationship between debt level and performance of tourism small and micro-sized firms allows us to support hypothesis H1 of this study. This result confirms the pecking order theory and indicates that the most profitable firms tend to borrow less as they generate and retain more capital for financing their activity and invest in projects that would improve their performance, needing no external capital. In the same way, less profitable firms do not have sufficient internal funds to finance their activity, and, thus, they run into debt. This finding is consistent with the studies of Pacheco and Tavares (2017) and Serrasqueiro and Nunes (2008) that argues that a greater level of debts in SMEs reveal agency problem between owners and creditor, and imply a more considerable effort to pay off the debts and may contribute to diminished performance. In the same vein, Goddard et al. (2005) found a negative relationship between profitability and the current debt level of firms in their study that includes not SMEs but all privately held firms from Belgium, France,

Italy, Spain, and the UK. These authors suggest that firms with a low level of debt can adapt to changing circumstances more rapidly in an increasingly volatile competitive environment and have a stronger position to maintain high profitability. This rationale applies to tourism-related small and micro-sized firms of Algarve, as this region suffers from notorious high volatility in the tourism sector and price fluctuation during the year due to seasonality, therefore, requiring smart management of working capital and cautious investment projects. In these firms, a high level of indebtedness can lead to limitations of strategic choices, affect the ability of managers to carry out critical strategic decisions (Simerly & Li, 2000), and treats the firm's capacity for sustainable performance.

Hypothesis H2 is rejected, indicating that it is not possible to conclude the existence of a relationship between slack resources and financial performance. This result suggests that holding slack resources may not impact the financial performance of a young tourism-related micro-firm, which started the activity at the end of a financial crisis.

The relationship between performance and sales growth rate is not statistically significant, so we reject hypothesis H3. Thus we cannot conclude about the impact of sales growth on the financial performance of small and micro-sized firms, which is in light of some previous studies that also had inconsistent results (Jang & Park, 2011).

The negative relationship between performance and tangibility asset level of firms supports hypothesis H4 of this study. This means that small and micro-sized firms with lower tangible assets are more likely innovative and flexible, contributing to increased performance. The same conclusion was found in the study of Serrasqueiro and Nunes (2008) that argue that this relationship indirectly shows that the SMEs have a greater level of intangible assets directly associated with innovation. This argument is supported by Gamayuni (2015) study that showed that as higher are intangible assets owned by the firm, the higher the firm's ability to generate profits. The same finding was found in our study regarding newly created firms. Marques and Ferreira (2009), in their study about the innovation of firms of the Beira Interior region, found a strong relationship between the performance and the innovative capacity of the firms. Hjalager (2010), in the review of innovation in tourism, described the nature, driving forces, and determinants of innovative behavior of tourism-related firms. For tourism sector firms, there may be other factors invisible to financial records, but that enhance the performance such as internal administrative organization, external network, distinguishing localization, traditional know-how, entrance in niche markets, and trends like eco or rural tourism, among others.

According to the results, the relationship between firm size and financial performance is not supported, which may be understandable because the study focuses on very small firms.

6. Conclusion

This study aimed to identify the determinants of performance of young tourism-related small and micro-sized firms located in Algarve, Portugal. As a measure of performance, it was considered the return on assets ratio. In its turn, the tested determinants were short-and long-term debt, total debt, slack resources index, sales growth rate, asset tangibility, and firm size.

We conclude that there is a negative and statistically significant relationship between debt level and the performance of small and micro-sized firms. This relationship confirms the pecking order theory and indicates that the most profitable firms tend to borrow less as they generate and retain more capital for financing their activity and invest in projects that would improve their performance, needing no external capital. On the other hand, firms with higher debt levels may have agency problems between creditors and owners, have a stronger effort to pay off the debts, and therefore contribute to diminished performance.

The results reveal a negative relationship between firms' performance and asset tangibility level, suggesting that small and micro-sized firms with lower tangible assets are more likely innovative and flexible, contributing to increased performance. Contrarily, the study does not find any statistically significant relationship between performance and the determinants of slack resources, sales growth, and firm size for newly created small and micro-sized firms in the tourism sector of Algarve.

The results of this paper may provide some implications for tourism-related activities in the Algarve. The negative relationship between financial performance and short-term and long-term debts confirms the theory that the most profitable firms tend to be financially self-sustainable. Less profitable firms run more into debt as they do not have sufficient internal funds to finance their activity. The indebtedness of a firm combined with the seasonality of the tourism industry may affect the ability of managers to carry out critical strategic decisions, limit the firm's ability to adapt to unpredictable situations, and, therefore, harm performance. The negative relationship between ROA and asset tangibility highlights the important role of intangible assets. Intangible asset development in tourism is essential to enhance performance through an external network, brand reputation, distinguishing localization, traditional or specialized know-how, exclusive service offers, and trends like eco or rural tourism.

Additionally, these conclusions can indicate that most profitable firms in tourism tend to own fewer physical assets such as property, plant, and equipment, but rent and outsource these assets and use them only on demand. Alternatively, these more profitable firms tend to channel the investment into innovation, digitalization, and automatization toward dematerialization concepts. This could provide an opportunity for managers to focus on the essential core business and smart specialization, releasing the firm from extra costs and efforts related to the ownership and management of physical assets.

This study is important for tourism-related small and micro-sized firms located in Algarve because it identifies firm-specific characteristics, such as having lower debt levels and lower levels of fixed assets, that could improve their profitability. These characteristics help firms to take innovation, flexibility, and digitalization strategies, particularly relevant during a pandemic crisis. However, the effects of the Covid-19 pandemic on small and micro-sized firms related to the tourism sector are still tricky to determine. It depends on the duration of the crisis, the effectiveness of the support mechanisms put in place within a national framework, and the coordinated encouraging actions at the global and European levels.

This study is limited to a sample of tourism-related small and micro-sized firms of the Algarve region in Portugal. Further research could include tourism SMEs of other countries, with a study of country-specific differences influencing performance. Another possible future investigation could include all tourism SMEs of the Algarve to study significant differences in performance determinants between micro, small and medium-sized firms. Further research could also investigate the relationship between performance and variables such as innovation, product quality (e.g. proxy customer satisfaction), and ecological sustainability in the tourism sector. Finally, due to the pandemic situation that began in 2020, the database should be updated, which will allow knowing how firms' profitability adapts to adverse market conditions.

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