

# Capital Structure Determinants of Greek Hotels: The Impact of the Greek Debt Crisis



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## 1 Introduction

The debates on capital structure have lasted for six decades since the irrelevance propositions provided by Modigliani and Miller's (1958) claiming that the cost of capital is independent of a firm's capital structure, which is conducted without considering the effects of tax, bankruptcy cost, and agency cost. Considering the divergence and conflict of interests among shareholders, managers, and creditors, Myers' (1984) introducing agency cost into the trade-off theory and predicting an optimal capital structure where the tax benefits of increased leverage are offset by the corresponding bankruptcy costs and agency costs. Nevertheless, pecking order theory argues that firms prefer to use internal resources such as retained earnings to finance their investment rather than issue debt, and equity financing might be the last choice (Myers, 1977; Myers & Majluf, 1984). Similar to the conflicts between theoretical studies, the empirical findings are also contradictory, supporting either trade-off theory or pecking order theory or even both of them (Psillaki & Daskalakis, 2009; Kyriazopoulos, 2017; Chatzinas & Papadopoulos, 2018).

The onset of Greek debt crisis can be traced to the US sub-prime crisis in 2007 (Argyrou & Tsoukalas, 2011). Wickens (2017) attributes this crisis to discretionary policy and the failure of tax revenues to match expenditures, while Tsoukis et al. (2017) find that the rapid rise in costs, loss of competitiveness, rise in consumption, decline in savings, the government budget deficits, demographic changes, and the unsustainable public funding of the pension system all are the causes of the crisis.

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Greece is severely suffered in this crisis, having its rating in 2015 dropped to B-(S&P), Caa3 (Moody's), CCC (Fitch). Moreover, its GDP shrank about 25% over the period of 2010–2015, accompanied with nearly 25% unemployment (roughly 60% youth unemployment) and high ratios of debt to GDP, which were 177% for public and 142% for foreign debt. Also, the capital market was frozen and bank lending mitigated, facts that affected the capital structure of Greek firms (Chatzinas & Papadopoulos, 2018). Furthermore, the Gini coefficient of Greece climbed to approximately 0.34–0.345 in 2013, with the increase of relative poverty rate from nearly 0.12–0.15 (Economides et al., 2017; Tsoukis et al., 2017).

The Greek hotel industry remains an important pillar for economic development since it is considered as the “hard” industry of the Greek economy. According to Dimitropoulos (2018) and Dimitropoulos et al. (2019), hotels' long-term liabilities increased during the crisis period and several hotel firms faced significant problems in raising financing from various sources. This fact has a significant effect on the hotel's capital structure decisions and their ability to finance daily operations and future investment projects. Pacheco and Tavares (2017) argue that the intensive fixed assets structure of hotel firms may influence their capital structure because of the enhanced fixed costs they face and their volatile revenue streams they generate. This may lead hotels to utilize more internal sources of capital instead of lending but on the contrary, the fact that their capital is invested on fixed assets that could be collateralized for assessing bank lending, they could resolve to external financing. Maçãs Nunes and Serrasqueiro (2017) corroborate the above arguments by documenting that external financing is even more difficult for small- and medium-sized hotels due to their high volatility of financial results. This fact could have major importance for hotels especially during times of financial frictions.

This paper aims to investigate the firm-specific determinants of capital structure of Greek non-listed hotel firms before and after the period of debt crisis. In addition, this paper intends to study whether the firm-specific determinates of capital structure and their effects on leverage will differ across those two sub-periods. The first motivation of this paper is the special macroeconomic environment of Greece during the period of crisis, since several studies find that the macroeconomic factors such as economic crisis could affect firm's capital structure (Daskalakis et al., 2017; McNamara et al., 2017; Ahsan et al., 2016). Greece might suffer the most severe consequences of this crisis compared to other Eurozone countries and the period of 2010–2016 seems to be the most severe time for the Greek economy. The lack of literature is also the motivation of this paper, for the reason that most of the previous studies focus on firms in UK or the USA and seldom consider Greece.

Furthermore, studies published on the Greek business setting either investigate the behaviors of small- and medium-sized enterprises (SMEs) or select a different period of time, most of which do not focus on firm-specific factors (Noulas and Genimakis, 2011; Balios et al., 2016). Moreover, the current study extends the previous work by Chatzinas and Papadopoulos (2018) and Kyriazopoulos (2017) by including a largest sample (almost the majority) of non-listed, non-financial corporations in Greece and not focusing only on listed firms as the previously mentioned studies. Moreover, we include a large sample period even before the US financial crisis of 2007–2008,

and thus, we are able to extract more efficient inferences regarding the impact of firm-specific determinants on the capital structure. Finally, this is the first study in the Greek hotel industry that tries to assess the impact of the sovereign debt crisis on the capital structure decisions of hotels.

This paper has five sections. A detailed literature review of the determinants of capital structure including both theoretical researches and empirical studies will be provided in the following section followed by the research design and data selection explained in Sect. 3. The results and discussions will be demonstrated and analyzed in Sect. 4. Finally, an overall conclusion will be summarized in the last section.

## 2 Literature Review and Testable Hypothesis

There are several empirical researches that focused on the determinants of capital structure. Kayo and Kimura (2011) study the hierarchical determinants of capital structure after analyzing the effects of time-level, firm-level, industry-level, and country-level determinants of leverage, finding that 78% of firm leverage can be explained by time-level and firm-level factors. Also, Psillaki and Daskalakis (2009) claim that it is not country-specific but firm-specific factors that explain the differences in leverage choices. Thus, this paper will focus on the firm-level determinants of capital structure. Following previous studies by Chen (2004), Balios et al. (2016) and Moradi and Paulet (2015), size, growth opportunities, profitability, earning volatility, asset tangibility, non-debt tax shields and tax are selected as the possible leverage determinants in the Greek hotel business setting.

### 2.1 Size

A positive relationship between firm size and leverage is expected since large firms are considered to be more diversified and less likely to go bankrupt resulting in lower bankruptcy cost (Ozkan, 2001). At the same time, the transaction costs associated with debt issuing in large firms are expected to be lower compared to other firms. Thus, according to the trade-off theory, large firms might have a high leverage level (Jensen & Meckling, 1976; Myers, 1984), which complies with several empirical researches (Psillaki & Daskalakis, 2009; Abor & Biekpe, 2009). However, large firms may also prefer to issue shares because of their low information asymmetry, considering the pecking order theory, which may result in a low leverage level (Rajan & Zingales, 1995). This opinion is supported by Titman and Wessels' (1988) empirical evidence. Nevertheless, small sized firms are more vulnerable during times of financial turmoil. According to Hoang et al. (2018), smaller firms during crisis are not able to finance their operations from external sources and they resort more often to internal financing. So based on the above discussion, it is expected that firms' size will have a positive impact on total and long-term debt during the crisis period.

*H1: During the crisis period, firm size is positively associated with total and long-term debt.*

## **2.2 Growth Opportunities**

The theoretical predictions about the relationship between growth opportunities and leverage are conflicting. According to the trade-off theory, firms with growth potentials are riskier since they have a higher bankruptcy cost and agency cost of debt, and thus, they might find it difficult to finance operations through debt and thus tend to have lower leverage (Myers 1977, 1984). Nevertheless, the pecking order theory suggests a positive relationship between growth opportunities and leverage (Myers & Majluf, 1984). Yang et al. (2010) and Rajagopal (2011) argue that both negative and positive relationship exist between growth potential and leverage. Of course, during times of financial distress and recession growth is deteriorated and those firms that have growth potential could use that as a potential signal to gain access to financial markets. Hoang et al. (2018) provide evidence of a positive association between debt and growth opportunities during crisis. However, the opposite association could also be true since firms with high growth opportunities may be perceived as riskier and thus they can choose to re-pay a part of their debt obligations during crisis and finance their operations from internally generated funds (Daskalakis et al., 2017). So the second research hypothesis is stated in the null form.

*H2: During the crisis period, growth opportunities will be associated with total and long-term debt.*

## **2.3 Profitability**

The relationships between profitability and leverage under different theories are conflicting. There might be a positive relationship between the variables according to the trade-off theory. Firms with high profitability are expected to have more capacity to benefit from the tax shield of debt because of their high profit and the corresponding low bankruptcy cost (Jensen & Meckling, 1976; Myers, 1984). However, the pecking order theory predicts a negative relationship between profitability and leverage (Myers & Majluf, 1984). Firms with high profitability seems to have adequate retained earnings to meet their investment needs, and thus, they will probably prefer financing through internal sources rather than seek external financing due to latter's high information costs and transaction costs (Myers, 1984; Myers & Majluf, 1984). Especially, during crisis periods profitability is restrained by market recession and decreased demand, making it even more difficult for firms to obtain external financing (Hoang et al., 2018; Daskalakis et al., 2017) and finance their

operations through long-term debt. In consequence, firm's profitability is expected to be negatively associated with firm leverage:

*H3: During the crisis period, profitability will be negatively associated with total and long-term debt.*

## **2.4 Earning Volatility**

Earning volatility refers to the risk and uncertainty of the future income streams of the firm (i.e., the higher the earning volatility, the riskier the firm is). The trade-off theory suggests a negative relationship between earning volatility and leverage since firms with high earning volatility are expected to be more likely to go bankrupt and thus have a high cost of financial distress, which forcing the firms to reduce their debt level (Bradley et al., 1984; Myers, 1984). Specifically, during crisis periods riskier firms may be more inclined to transfer their risk to external finance providers so they tend to borrow more (Daskalakis et al., 2017). Nevertheless, the majority of the previous works find a negative relationship between earning volatility and leverage (Banerjee et al., 2004; Kim et al., 2006; Psillaki & Daskalakis, 2009; Rajagopal, 2011; Choi & Richardson, 2016). Thus, fourth research hypothesis is stated as follows:

*H4: During the crisis period, earnings volatility will be associated with total and long-term debt.*

## **2.5 Asset Tangibility**

Asset tangibility seems to be positively related to debt according to the trade-off theory since tangible assets can be used as collateral for creditors to borrow or issue debt (Miller, 1977; Myers, 1984). During crisis periods, the information asymmetry between borrowers and lenders increases and so tangible assets are more crucial for receiving external financing. Hoang et al., (2018) provide evidence of a positive impact of tangible assets on total and long-term leverage during the crisis period in France. The positive relationship is supported by several studies, such as Hovakimian et al., (2001), de Jong et al. (2008), Frank and Goyal (2003), Yang et al. (2010). Hence, based on the above discussion we state the fifth research hypothesis as follows:

*H5: During the crisis period, asset tangibility will be positively associated with total and long-term debt.*

## 2.6 *Non-debt Tax Shields*

Non-debt tax shields mainly refer to certain items with tax deductibility, such as depreciation, amortization, investment tax credits, and research and development expenses. Non-debt tax shields can be seen as the substitutes for tax deductibility of debt since these items have been deducted before calculating the taxable income, which means that they can also reduce firms' taxable income like debt (DeAngelo & Masulis, 1980). Consequently, according to the trade-off theory, firms having large non-debt tax shields might have lower leverage due to the remaining relatively less deductible tax shields (Modigliani & Miller, 1963; Myers, 1984). A recent study by Daskalakis et al. (2017) in Greece pointed to a negative impact of NDTs on long-term debt during the Greek crisis period because on that period firms' tax burden increased (due to enhanced tax rates) and profits decrease and thus NDTs were the only alternative in order to reduce their taxable income and their tax burden. Consequently, a negative relationship between a firm's non-debt tax shields level and its leverage level is predicted according to the following hypothesis:

*H6: During the crisis period, net debt tax shields will be negatively associated with total and long-term debt.*

## 2.7 *Taxation*

According to the trade-off theory, there might be a positive relationship between taxes and leverage since firms paying large corporate taxes are motivated to issue more debt to take advantage of the benefit of tax deductibility of debt (Modigliani & Miller, 1963; Myers, 1984). However, both the tax rate and profitability should be considered on the basis of the pecking order theory. If firms face a high corporate tax rate (aka, during the Greek crisis period), the retained earnings might be less and firms are forced to issue debt to meet their investment needs, which indicates a positive relationship between tax and debt level (Myers & Majluf, 1984). While the high corporate taxes might also represent a high profitability, which suggests a negative relationship between the variables (Myers & Majluf, 1984; Cespedes et al., 2010), therefore, the final research hypothesis is stated as follows:

*H7: During the crisis period, income taxes will be associated with total and long-term debt.*

### 3 Data Selection and Research Design

The sample of this study includes all private, non-listed hotel corporations registered in the Greek chamber of trade during the period 2003–2016. All data were extracted from ICAP database. We collected data from firms' annual financial statements which closed their fiscal year on December and have full financial data for at least four consecutive years. This procedure resulted in a usable unbalanced sample of 120 hotel firms summing up to 362 firm-year observations.

Following previous empirical studies (Chen, 2004; de Jong et al., 2008; Psillaki & Daskalakis, 2009; Kayo & Kimura, 2011; Balios et al., 2016; Moradi & Paulet, 2015), two dependent variables are employed in the study. Total leverage (TLEV) and long-term leverage (LLEV) are utilized as the proxies of firm's capital structure. Total leverage (TLEV) is defined as the ratio of the book value of long-term debt plus interest-bearing short-term debt to the book value of total assets. This study also adopts long-term leverage (LLEV) to research the relationship between long-term leverage level and the determinants of capital structure. The natural logarithm of total assets is assigned as a proxy for the size of the firm (SIZE) since the transformation of natural logarithm might scale down the amount of total assets. Growth opportunities (GROWTH) is defined as the annual percentage change in the book value of total assets which is also adopted by Moradi and Paulet (2015). Profitability (PROF) is measured as the ratio of earnings before interest and tax (EBIT) to the book value of total assets. The standard deviation of the first difference in the ratio of EBIT to the book value of total assets is employed as the proxy for earning volatility (EVOL).

The ratio of the book value of fixed assets to the book value of total assets is adopted as the proxy for asset tangibility (TANG). Non-debt tax shields (NDTS) is defined as the ratio of the book value of depreciation and amortization to the book value of total assets. The firm's tax level (TAX) is considered as the ratio of the book value of total income taxes to the book value of total assets (Huang & Song, 2006).

Complying with most of the previous studies on capital structure, panel data will be estimated through the ordinary least squares (OLS) and multivariate linear regression model to investigate the firm-specific determinates' impact on firm's capital structure decision. The basic regression model can be specified as follows:

$$\begin{aligned} \text{LEV}_{it} = & \beta_0 + \beta_1 \text{SIZE}_{it} + \beta_2 \text{GROW}_{it} + \beta_3 \text{PROF}_{it} + \beta_4 \text{EVOL}_{it} \\ & + \beta_5 \text{TANG}_{it} + \beta_6 \text{NDTS}_{it} + \beta_7 \text{TAX}_{it} + e_{it} \end{aligned} \quad (1)$$

where  $i$  denotes the firm dimension and  $t$  denotes the time dimension. The dependent variable LEV (including  $\text{TLEV}_{it}$  and  $\text{LLEV}_{it}$ ) represents the leverage level of the  $i$ th firm in  $t$ th year,  $\beta_k$  is the regression coefficient for the  $k$ th independent variable, SIZE, GROWTH, PROF, EVOL, TANG, NDTS, and TAX, represent the size, grow opportunities, profitability, earnings volatility, asset tangibility, non-debt tax shields, and tax level of the firm  $i$  during period  $t$ , respectively,  $\varepsilon_{i,t}$  denotes the error term for the  $i$ th firm in  $t$  year. Model (1) will be estimated by random effect since the Breusch and

Pagan Lagrangian multiplier test for random effects produced a highly significant chi-square value suggesting that random effects is the most efficient estimation method.

## 4 Empirical Results

The descriptive statistics of the sample variables are demonstrated in Table 1. As can be seen in the table, the average total leverage level (TLEV) of the Greek hotel firms is about 36% and seems to have decreased after the crisis period (2010–2016) up to 34.6%. This means that more than one-third of the firms' assets are financed through debt. However, total leverage (TLEV) increased after the crisis to 28.3% from 25.4% before the crisis. This might mainly due to the debt crisis in Greece which increases the needs of financing, and those needs are expected to be covered by external funds. In terms of the independent variables, the average GROWTH and PROF are  $-23.1\%$  and  $-38.8\%$ , respectively, for the whole period, and after the crisis, both variables were significantly deteriorated. Finally, NDTS has increased after the crisis indicating that the sample firms reported higher levels of depreciations. The rest of the variable do not present significant fluctuations between the two sub-periods. The Pearson correlations results of the sample variables are shown in Table 2. As seen in the table, TLEV seems to have a negative and significant relationship to GROWTH, PROF, NDTS, and TAX, while LLEV was positively associated with NDTS. The rest of the correlation coefficients are highly significant and with economic meaning. In order to examine the multicollinearity among the independent variables for the total sample, the variance inflation factors (VIFs) have been performed and the results of VIF for every variables is less than 3, which indicates that there might not be severe multicollinearity among the explanatory variables. Meanwhile, the result of Durbin-Watson test is around 2, meaning autocorrelation in this regression model might be not significant. The model is also tested for heteroscedasticity through plotting method and the outcomes together with the residual statistics show a satisfactory result.

The regression results from the estimation of model (1) using the TLEV and LLEV as the dependent variables are demonstrated in Tables 3 and 4. The only significant independent variables were GROWTH, TANG, NDTS, and TAX. Specifically, GROWTH produced a negative and significant coefficient for the crisis period on both TLEV and LLEV. These findings verify H2 and suggest that high growth opportunities firms may be perceived as riskier, and thus, they can choose to re-pay a part of their debt obligations during crisis and finance their operations from internally generated funds (Daskalakis et al., 2017). Moreover, TANG produced a positive and significant impact on TLEV and LLEV for both sub-periods yielding support to H5. Firms with high asset tangibility might borrow more, resulting in TANG's positive influence on LLEV and TLEV. This result supports the trade-off theory and agency cost theory and complies with the previous studies of Frank and Goyal (2003), Yang et al. (2010), Kyriazopoulos (2017). Furthermore, a negative and significant statistical relationship between NDTS, LLEV, and TLEV is evidenced for the whole period



**Table 1** Descriptive statistics of full sample variables, before and after the Greek debt crisis

Variables	Full sample					Pre-crisis					Post-crisis				
	Mean	St. dev	Min	Max		Mean	St. dev	Min	Max		Mean	St. dev	Min	Max	
TLEV	0.360	0.211	-0.001	1.208		0.382	0.205	-0.002	1.208		0.346	0.197	0.002	1.194	
LLEV	0.271	0.887	-0.001	26.536		0.254	0.210	-0.001	1.019		0.283	1.140	0.000	26.536	
SIZE	14.021	1.766	4.639	23.419		14.145	1.608	8.528	23.367		13.951	1.846	4.639	23.419	
GROWTH	-0.231	13.933	-1008.43	7.413		0.066	0.672	-11.255	6.395		-0.386	17.176	-1008.43	7.413	
PROF	-0.388	27.597	-2257.45	33.319		0.044	0.797	-13.525	33.319		-0.633	34.566	-2257.45	18.697	
EYOL	6.712	6.614	0.354	19.244		3.646	4.325	0.354	14.154		8.463	7.044	1.044	19.244	
TANG	0.326	0.325	0.000	1.139		0.343	0.326	0.000	1.139		0.312	0.324	0.000	1.191	
NDTS	0.788	32.074	0.000	22.927		0.280	0.476	0.000	8.081		1.170	42.445	0.000	22.927	
TAX	0.032	0.044	-0.149	0.928		0.034	0.042	-0.149	0.326		0.031	0.046	-0.088	0.928	

**Table 2** Pearson correlation coefficients of sample variables

Variables	TLEV	LLEV	Size	Growth	Prof	Evol	Tang	NDTS	Tax
TLEV	1								
LLEV	0.617*** (0.001)	1							
SIZE	0.004 (0.902)	-0.151*** (0.001)	1						
GROWTH	-0.080** (0.050)	-0.477*** (0.001)	0.061*** (0.001)	1					
PROF	-0.353*** (0.001)	-0.416*** (0.001)	0.053*** (0.001)	0.667*** (0.001)	1				
EVOL	-0.025 (0.500)	0.018 (0.575)	-0.031** (0.011)	-0.017 (0.223)	-0.014 (0.242)	1			
TANG	0.059 (0.112)	0.001 (0.963)	0.299*** (0.001)	0.016 (0.294)	0.012 (0.352)	-0.009 (0.482)	1		
NDTS	-0.066* (0.078)	0.432*** (0.001)	-0.061*** (0.001)	-0.598*** (0.001)	-0.698*** (0.001)	0.013 (0.350)	-0.009 (0.500)	1	
TAX	-0.328*** (0.001)	-0.162*** (0.001)	-0.338*** (0.001)	-0.021 (0.248)	0.066*** (0.001)	-0.03*** (0.023)	-0.195*** (0.001)	0.016 (0.389)	1

\*\*\*, \*\*, \*, indicate statistical significance at the 1%, 5%, and 10% significance level, respectively. P-values in the parentheses

**Table 3** Panel random effects regression results on the determinants of total leverage before and after the crisis (robust standard errors)

Variables	Full sample				Pre-crisis				Post-crisis			
	Coef	z-test	p-value		Coef	z-test	p-value		Coef	z-test	p-value	
Constant	0.426**	2.09	0.037		0.255	0.91	0.360		0.343	1.61	0.107	
SIZE	-0.003	-0.26	0.794		0.015	0.87	0.384		-0.002	-0.13	0.894	
GROWTH	0.001	0.14	0.890		-0.032	-0.93	0.354		-0.042**	-2.35	0.019	
PROF	0.063	0.25	0.799		-0.449	-1.00	0.317		0.165	0.35	0.727	
EVOL	-0.001	-1.51	0.132		-0.001	-0.49	0.623		-0.001	-0.06	0.948	
TANG	0.107*	1.68	0.093		-0.068	-0.99	0.321		0.165***	2.85	0.004	
NDTS	-0.293***	-3.03	0.002		-0.408***	-3.36	0.001		-0.193***	-3.24	0.001	
TAX	-1.791*	-1.86	0.063		-0.545	-0.36	0.722		-1.581	-1.25	0.211	
Wald- $\chi^2$	33.20***				38.40***				34.11***			
R <sup>2</sup>	0.087				0.217				0.109			
Observations	362				141				221			

\*\*\*, \*\* indicate statistical significance at the 1% and 5% significance level respectively. Dependent variable TLEV

**Table 4** Panel random effects regression results on the determinants of long-term leverage before and after the crisis (robust standard errors)

Variables	Full sample				Pre-crisis				Post-crisis			
	Coef	z-test	p-value	Coef	z-test	p-value	Coef	z-test	p-value	Coef	z-test	p-value
Constant	0.233	1.26	0.207	0.089	0.42	0.676	0.333*	1.88	0.060	0.333*	1.88	0.060
SIZE	-0.003	-0.29	0.774	0.006	0.49	0.622	-0.013	-1.14	0.253	-0.013	-1.14	0.253
GROWTH	-0.010	-0.50	0.619	0.074*	1.69	0.091	-0.058***	-3.43	0.001	-0.058***	-3.43	0.001
PROF	-0.157	-0.95	0.342	-0.625	-1.21	0.226	-0.130	-0.78	0.437	-0.130	-0.78	0.437
EVOL	-0.001	-0.84	0.399	0.001	0.43	0.670	0.001	0.73	0.466	0.001	0.73	0.466
TANG	0.214***	3.38	0.001	0.185***	2.75	0.006	0.248***	5.64	0.001	0.248***	5.64	0.001
NDTS	-0.242***	-5.49	0.001	-0.225**	-2.05	0.040	-0.221***	-6.25	0.001	-0.221***	-6.25	0.001
TAX	-0.312	-0.40	0.686	0.501	0.31	0.758	0.230	0.29	0.770	0.230	0.29	0.770
Wald- $\chi^2$	47.05***			23.18***			78.91***			78.91***		
R <sup>2</sup>	0.127			0.121			0.129			0.129		
Observations	362			141			221			221		

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5% and 10% significance level respectively. Dependent variable LLEV

and also before and after the crisis. This result leads us to accept H6 and complies with the expectation of the trade-off theory, claiming that non-debt tax shields can negatively affect the firms leverage level since they can be seen as the substitutes for tax deductibility of debt, which might result in relatively less deductible tax shields remaining for debt (Myers, 1984). Finally, TAX is negatively related to TLEV but marginally significant at the 10% level. This finding is consistent with the prediction of trade-off theory, focusing on the full utilization of debt's tax deductibility and the expectation of pecking order theory, claiming the possible external financing need caused by the reduce of retained earnings with the increase of tax level (Myers & Majluf, 1984). This result yields support to H7. The rest of the independent variables were insignificant within conventional levels so H1, H3, H4, and H5 were not supported.

## 5 Conclusion

This paper studies the possible hotel firm-specific determinants of capital structure during the pre- and post-debt crisis periods. A multivariate panel regression model is employed using a panel dataset of 8529 Greek firms during the period of 2003–2016. The results indicate that asset tangibility is directly and positively related to total leverage and long-term leverage during the pre- and post-crisis periods, while growth opportunities, non-debt tax shields and tax payments are negatively and significantly impacting total and long-term leverage during the crisis period. This study has important implications for regulators and investors since it extends our understanding regarding the behavior of Greek hotel corporations and how they adjust their financing needs before and during a period of financial turmoil. Regulators could use the findings of the current study in order to adjust state policies (tax policy, financing policy, etc.) for assisting firms to access financing in difficult times, while investors should consider the differential impact of capital structure determinants during troubled times when receiving their financing and investment decisions.

Nevertheless, it should be noted that this paper has some limitations. Firstly, since the data used in this study are all at book value extracted from financial statements, if firms utilize off-balance sheet financing instruments, the capital structure might be influenced and such effects might be difficult to recognize. Meanwhile, this paper is bounded by the inherent drawbacks existing in any regression analysis such as parameter instability. For future research, empirical studies can focus on the determinants of firm-specific capital structure of Greek small and very small hotel firms and their effects on leverage during such period of debt crisis. Furthermore, having studied the relationship between capital structure and its firm-specific determinants, the future researchers are expected to study how to achieve optimal capital structure. Finally, it will be also interesting to consider the ownership structure of hotels (family ownership or dispersed ownership) and how it affects capital structure decisions under a volatile financial environment.

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