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Indebtedness of the tourism sector in Mediterranean countries

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Although the economies of Mediterranean countries were very negatively affected by the global and financial crisis, little attention has been devoted to their sector-specific performance, especially tourism. Tourism is a key sector in these countries, so the consequences of the crisis should be explored and tools to improve the sector's performance provided. This paper therefore focuses on the influence of the indebtedness process on tourism sector performance in selected Mediterranean countries (Bosnia and Herzegovina, Croatia, Greece, Italy, Macedonia, Montenegro, Portugal, Serbia, Slovenia and Spain). Using data from firms' financial statements for 2006–2010, the tourism sector is compared to all non-tourism sector with a focus on the indebtedness process and the functioning of the financial accelerator as the key obstacle to future performance. Furthermore, the paper investigates investments in core activities and financial assets as the main drivers of debt accumulation in the boom and bust periods.

Keywords: tourism sector performance; investments; indebtedness; Mediterranean countries

JEL classification: G01; J30; L83

Tourism has achieved continuous growth and the importance of tourism, especially for economic growth, is widely recognised and researched (UNWTO, 2009b; Dwyer *et al*, 2010; WEF, 2011). In the past two decades tourism has resisted the pressures of recessions to become one of the most important economic engines of growth and sources of income in many countries (Cooper *et al*, 2008). The globalization of tourism activities to expand market share and profitability has led to the rapid development of tourism enterprises at the international level. However, this has made companies more vulnerable to 'global risks' that occur when running businesses at that level (Jessop, 1999). An interdependent and connected world, in combination with the current financial and economic crisis, has had a negative impact on the tourism industry at the global level (Ritchie, 2004; Maditinos and Vassiliadis, 2008). The decrease of income and a consequent reduction in travel expenditures and

exchange rates has affected the tourism sector, especially in eurozone countries (Papatheodorou *et al*, 2010; Dritsakis, 2012). However, much of the financial behaviour and strategies of firms under financial stress have remained under-researched (Sheldon and Dwyer, 2010).

With the increasing scale and complexity of the crisis, the number of processes required to return to the previous normal state increases, and proper evaluations, effective emergency planning and operations are needed to reduce the impact of the crisis (Beirman, 2003; Wang, 2009). This pro-active approach is crucial and it is especially important to analyse the causes of the crisis and to take quick and effective decisions on the basis of that analysis (Ritchie, 2004; Okumus *et al*, 2005; Okumus and Karamustafa, 2005). There is a need for accurate forecasting and the development of new tools (Huan and O'Leary, 1999; Prideaux *et al*, 2003).

Against this background, this paper sheds light on the indebtedness process of tourism firms in order to add to our understanding of the firms' behaviour leading up to the crisis and during it. The crisis revealed severe problems, includ-ing the importance of a proper functioning financial sector so that non-financial organizations – including in the tourism sector – can be supplied with adequate liquidity for working capital and long-term investment in fixed assets. The crisis also revealed that financing problems coupled with a fall in external demand (the crisis effect) crucially determine companies' and sectors' performance.

The aim of this paper is, therefore, to address firms' adjustments regarding investments and consequently the indebtedness process in the time leading up to and after the crisis to examine debt accumulation processes in the tourism sector. Based on the model developed by Bernanke *et al* (1999) and extended by Bole *et al* (2012), we apply an econometrical model that captures variations in annual changes of financial debt (differences) as a result of variations in firms' core business investments and long-term financial investments. In other words, we investigate whether the accumulation of debt was caused by investments in core business activities (tourism activities) or financial investments (for example, portfolio real estate not closely connected to the core activities and investments in other financial derivatives). The empirical part of the analysis uses balance sheet and income statement data for companies from 10 Mediterranean countries: Bosnia and Herzegovina,[1] Croatia, Greece, Italy, Macedonia (former Yugoslav Republic of (FYR)), Montenegro, Portugal, Serbia, Slovenia and Spain during the period 2006–2010. In particular, the focus is on tourism firms' debt accumulation process compared to firms in all other sectors. In the period leading up to the crisis, the low price of capital encouraged firms to increase investments excessively (the boom period). However, with the crisis, the supply of capital decreased and the process of forced deleveraging emerged (the bust period).

This paper adds to the literature in several ways. To our knowledge, we are among the first to provide evidence on the financial behaviour and strategies of firms under financial stress in the tourism sector. In particular, we investigate the debt accumulation process driven by investments in core activities and financial assets. Second, we compare the indebtedness of firms in the tourist sector to firms in the non-tourism sector in 10 Mediterranean countries in the boom and bust periods. Spain, Italy and especially Greece have been of much interest recently, but the Western Balkan countries, although hit hard by the

present crisis, have received much less attention. Therefore we also add to the existing literature on the effects of the crisis in this region.

The next section reviews the literature and empirical findings concerning the crisis and the tourism sector's performance during the crisis. The third section outlines the macroeconomic picture, especially the effect of the crisis on the tourism sector performance and the trends of the debt accumulation process of non-financial institutions. In the fourth section we provide the model for empirical testing, and the results are presented in the fifth section. The sixth section concludes the paper.

The economic crisis and tourism sector performance

The decline in production, limited access to financing and increasing unemployment, together with global interdependence, meant that the economic crisis affected tourism sector performance (Jessop, 1999; Ritchie, 2004; Maditinos and Vassiliadis, 2008;), although the tourism sector has been less affected than, for example, the manufacturing sector (Smeral, 2009). Most advanced and emerging economies have experienced a decline in GDP, manifested in the tourism sector with a decrease in arrivals and negative growth rates of tourist expenditure (see Papatheodorou *et al* (2010) for summary of negative consequences; see also Sheldon and Dwyer (2010), Song and Lin (2010) and Page *et al* (2012)). The current wave of bankruptcies and consolidation in the sector are taking their toll and capacities will not easily be recovered as the crisis has affected travel behaviour – encouraging a tendency to travel out of season, spend holidays closer to home, look for cheaper accommodation and change booking times (Gallup Organization, 2009; UNWTO, 2009b). The reduced performance of the tourism sector, of course, has repercussions in other sectors (Paraskevas and Altinay, 2013), and, similarly, events not directly connected to tourism, such as friction in financial markets, may have a significant impact on the tourism sector (Pine and McKercher, 2004; Ito and Lee, 2005).

Past research has identified common characteristics of economic crises. They occur suddenly, cause insecurity and are congested in time (Stafford *et al*, 2002). The current crisis originated in the collapse of financial markets (and certain institutions) and had a devastating spillover effect on the global economy. Friction in financial markets led to inefficient market functioning, not accounted for in standard macroeconomic models (Stiglitz, 2011). Financial accelerators (indebtedness of firms as actual returns are higher than expected leading to bubbles) before the crisis might, thus, lead to balance sheet problems post-crisis (Bernanke, 1999, Miller and Stiglitz, 2010, Bole *et al*, 2012). In contrast, Agosin and Huaita (2012) put the key causes of the crises in developing countries with capital surges that occurred due to the inadequate regulation of capital inflows; this pertains especially to certain Mediterranean countries, as shown by Bole *et al* (2012).

A crisis causes the postponement of investment in tourism (Okumus *et al*, 2005); tourism businesses reduce investment and profits fall (Tourism Economics, 2008). Declining asset values decrease the ability of tourism companies to invest or fund their debt. Problems in financing, such as credit unavailability, resulted

in a decreasing number of capital projects (Dwyer *et al*, 2010; Sheldon and Dwyer, 2010). In 2008 real capital expenditures in tourism fell at the global level for the first time since 2002 (WTTC, 2009). A sharp slowdown in the investment cycle is an additional factor that causes reduced export and employment opportunities (Tourism Economics, 2008). Dwyer *et al* (2010) call for increased investigation in to the distortions that lower the availability of financing for tourism investments, arguing that the outcomes of investments have been insufficiently studied and that tourism economists should strive to understand the conditions for successful investment.

Research on the effects of the current crisis on the tourism sector in the Mediterranean countries is still limited. While Ritchie *et al* (2010) report on the consequences for Mexico, the USA and Canada and Page *et al* (2012) for the UK, Song and Lin (2010) forecast the demand for tourism in Asia and Sheldon and Dwyer (2010) present the perspectives of the Academy for the Study of Tourism on the current crisis. Dritsakis (2012) examines the relationship between economic growth and tourism development in Spain, France, Italy, Greece, Turkey, Cyprus and Tunisia. Nonetheless, detailed benchmark analysis of the tourism sector in selected Mediterranean countries is scarce.

Macroeconomic setting

As a starting point for the discussion to follow, we provide selected tourism sector indicators and outline the macroeconomic context of the investigated Mediterranean countries. The effect of the crisis varies both in size and timing as various factors influence the transmission of the global crisis (among others, the openness and structure of the economy, the institutional setting of the capital and labour markets and the indebtedness of sectors) (Prašnikar, 2012). Among the countries studied, Greece, Spain and Portugal were the most severely affected by the crisis in terms of increased total debt, unemployment and social distress. Total output fell; unemployment rose and many companies went bankrupt. Appendix Table A1 shows that Greece and Italy experienced negative GDP growth rates in 2008, whereas the greatest drop in GDP was observed in Slovenia in 2009. We also notice that in 2010 the majority of investigated countries had already experienced positive economic trends that resulted in positive GDP growth rates.

Table 1 reports the gross debt of non-financial institutions as a percentage of GDP and shows the indebtedness of firms as a percentage of GDP. In the study period non-financial institutions' debt steadily increased until 2009 in the boom period, when interest rates were low and capital was easily accessible (except in Croatia, and Bosnia and Herzegovina, where non-financial institutions were accumulating debt even in 2010). After the peak in indebtedness and the decision of the banks not to roll over credits, there was a period of deleveraging, resulting in a decrease in debt. In absolute terms the indebtedness of non-financial institutions was highest in Portugal and Spain and lowest in Bosnia and Herzegovina, and Macedonia.

To consider the importance of the tourism sector in the countries investigated, we report on tourism's contribution to GDP (WTTC, 2013). In 2007 the travel and tourism total contribution to GDP varied from around

Table 1. Debt of non-financial institutions (% of GDP).

Country	2006	2007	2008	2009	2010
Bosnia and Herzegovina	25.9	30.7	36.3	36.9	38.6
Croatia	58.9	66.3	77.9	86.4	93.0
Greece	55.4	59.2	67.3	69.2	64.4
Italy	69.9	75.2	78.6	81.7	80.4
Macedonia	49.0	50.4	54.0	49.5	50.4
Montenegro	22.6	58.5	66.6	58.2	51.5
Portugal	106.2	114.2	124.4	130.2	129.5
Serbia	68.8	59.9	51.6	78.5	84.0
Slovenia	62.1	73.2	82.1	87.3	87.3
Spain	106.0	117.0	123.0	127.0	127.0

Source: IMF (2012), Eurostat (2012).

Table 2. Tourism contribution to GDP (%).

Country	2007	2011	2007/2006[a]	2011/2010[a]
Bosnia and Herzegovina	10.4	7.4	6.7	–5.5
Croatia	27.7	26.4	4.0	–0.3
Greece	5.1	4.7	2.5	6.9
Italy	23.6	15.4	–0.8	2.0
Macedonia	5.9	6	9.7	7.4
Montenegro	17.5	16.5	35.1	–5.7
Portugal	9.3	8.6	7.5	1.6
Serbia	13.8	15.2	40.2	–0.3
Slovenia	11	12.8	7.8	4.6
Spain	15.5	14.8	3	3.5

Note: [a] Real growth adjusted for inflation.
Source: WTTC (2013).

5.1% in Greece and 5.9% in Macedonia to 23% in Italy and 28% in Croatia (Table 2). The real growth of the direct contribution of tourism to GDP, adjusted for inflation, in 2007 compared to 2006 and the real growth of the direct contribution of tourism to GDP in 2011 compared to 2010 are shown in Table 2 (WTTC, 2013). While the tourism contribution to GDP in the majority of the investigated countries increased in 2007 (compared to 2006), it decreased in 2011 (compared to 2010) for the Balkan countries (Bosnia and Herzegovina, Croatia, Montenegro and Serbia). In Montenegro, for example, the tourism contribution to GDP decreased substantially in 2009. In Greece, Italy, Macedonia, Portugal, Slovenia and Spain, the contribution increased in 2011 compared to 2010.

Table 3 reports the share of capital investment spending by all sectors directly involved in the travel and tourism industry compared to all fixed investment spending as well as its real growth. Investment spending by other

Table 3. Share of capital investment (%).

Country	2007	2011	2007/2006[a]	2009/2008[a]	2011/2010[a]
Bosnia Herzegovina	4.1	4.8	26.4	–13.4	–14.3
Croatia	14.2	11.3	–6.6	–27.8	0.6
Greece	2	1.8	24.1	–5.7	0.7
Italy	20.7	23.5	–12.7	–20.4	–15.2
Macedonia	1.9	2.5	19	–0.9	–3.6
Montenegro	14.3	13.9	4.9	–11.7	–16.4
Portugal	4.9	4	19.9	–33.1	2.3
Serbia	5.7	11.5	31.2	–19.9	2
Slovenia	6.1	9.9	36.1	–21.8	2.2
Spain	5.1	5.6	–4.5	–2.8	–1

Note: [a] Real growth adjusted for inflation.
Source: WTTC (2013).

sectors on specific tourism assets are also included, which is consistent with the total tourism gross fixed capital formation (WTTC, 2013). In 2007 Italy, Croatia and Montenegro were the countries where the share of the tourism sector capital investments was greatest (more than 20% in Italy and around 14% in Croatia and Montenegro). Compared to 2006, the majority of countries increased their share of tourism sector capital investments, except for Italy, Croatia and Spain. Other countries in the sample, however, decreased their share of capital investments in 2009 (negative growth rate in 2009 as reported in Table 3). The greatest drop in investments was in Portugal and Croatia (by about one-third). In some countries in 2010 investments began slowly to increase and we can again see modest positive growth in 2011. The share continues to decline steadily in Montenegro, Italy, and Bosnia and Herzegovina.

We investigate the effects of the indebtedness process on the tourism sector because, as Bole *et al* (2012) have shown, the sector may have a severe effect on the economy, we also included rankings according to the Travel & Tourism Competitiveness Index (TTCI) in 2007 and 2011 (WEF, 2007; 2011).[2] The majority of the investigated countries in 2011 ranked in the first quarter, with Spain ranking highest at eighth place. Macedonia was somewhere in the middle and Serbia, and Bosnia and Herzegovina were in the second third of the ranking. Observing the rankings before the crisis, however, we notice that in fact the ranking of most of the investigated countries improved, especially that of Croatia, Italy, Macedonia, Montenegro and Spain.[3] Whereas the ranking of Greece and Portugal deteriorated and they experienced a fall in their Travel & Tourism Competitiveness Index. Although the fall of the indexes in Greece and Portugal correlates to their increased indebtedness, Spain in contrast improved its position regardless of increased indebtedness, which could reflect the fact that the tourism sector was less disturbed by the crisis and the high debt levels than the Spanish economy as a whole. In general, the reported indexes support the idea that the tourism sector reacted differently from the wider economy.

Empirical model of debt accumulation

Our empirical analysis is focused on studying the influence of debt drivers (investments in core activities and financial assets) on the indebtedness process of companies in Mediterranean countries, focusing on tourism sector compared to non-tourism sector performance. We decided to focus on the indebtedness process as the crisis has revealed severe problems, including the importance of a proper functioning financial sector in order to supply non-financial corporations (including the tourism sector) with adequate liquidity for net working capital and long-term investments in fixed assets. The crisis has also revealed that financing problems coupled with a fall in external demand (the crisis effect) crucially determine the performance of companies and the sector as a whole. A key issue in determining the strength of these effects is the functioning and presence of a financial accelerator (that is, when the expected returns on companies' investments are smaller than the actual returns).

The differences between the tourism sector and the non-tourism sector in the distribution of firms' investments and the size of the financial accelerator, are probably the most important factors behind the differences in the debt drivers' impact on the debt intensity process. Specifically, the impact of the sudden stop effect (a sudden unexpected drop in the loanable funds inflow) and the collateral amplification effect, on the damage caused by the 'bust' depends on the size of the financial accelerator (and, therefore, the average scale of companies' debt dynamics) as well as on companies' distribution of debt dynamics (conditional on the average size of debt) immediately before the regime switch (bubble burst).

Based on the theoretical model of the financial accelerator (Bernanke *et al*, 1999), as extended by Bole *et al* (2012) and prepared for empirical specification, we attempted to identify the characteristics of the increasing indebtedness of Mediterranean countries and the tourism sector specifically during the boom–bust period of 2007–2010. We specified the empirical model with the financial accelerator, so that financial and core investments are the main debt drivers in the model. To study the sector-specific effects, tourism and non-tourism sector dummies were added. It was expected that these dummies would predominantly encompass the effects of the sector differences with regard to the size of the financial accelerator and the distribution of firms' investment dynamics.

Our econometric model captures the annual changes in financial debt (the differences) as a result of variations in firms' core business investments (constructed by adding investments in fixed assets to the differences in stock and subtracting from this sum the profit/loss) and long-term financial investments (differences in financial assets). The latter represents the non-core business investments variable. All variables are calculated per unit of average balance sheet sum for companies in the observed period.[4] We augmented the set of explanatory variables with the variable equity in the average balance sheet sum of the companies in the observed period; used as an indicator of a firm's financial health.

Because the debt build-up process was not stationary, and even the direction of causality could be changed, the regressions are calculated for each year separately. Debt, financial investments and core investment variables were given in units of the average balance sheet sum in order to mitigate heteroscedasticity

Table 4. Travel & Tourism Competitiveness Index.

Country	Bosnia and Herzegovina	Croatia	Greece	Italy	Macedonia	Montenegro	Portugal	Serbia	Slovenia	Spain
TTCI 2011	97th	34th	29th	27th	76th	36th	18th	82nd	33rd	8th
TTCI 2007	104th	58th	20th	42th	114th	79th	11th	79th	44th	25th

Note: In 2007, Serbia and Montenegro were one country.
Source: WEF (2007, 2011).

problems. The debt model is specified and estimated for periods studied separately for each year. The models are estimated with the Huber robust regression to neutralize possible effects of differences in the organizational and sector specifics of production on heteroscedascity:

$$dmbil\_fdebt_i = \alpha_0 + \alpha_1 dmbil\_core_i + a_2 dmbil\_fininv_i + \alpha_3 mbil\_cap_i + \alpha_4 TOURISM + \varepsilon,$$

where subscript i denotes a specific company, $dmbil\_fdebt_i$ denotes the difference in financial debt, $dmbil\_core_i$ investments in core business activities, $dmbil\_fininv_i$ financial investments and $mbil\_cap_i$ the equity of the firm. All variables are normalized per unit of average balance sheet sum of the companies during the observed period. *TOURISM* represents the dummy for the tourism sector.

Sample description

To analyse the indebtedness of companies and indirectly companies' performance in the tourism sector[5] compared to the non-tourism sector in Bosnia and Herzegovina,[6] Croatia, Greece, Italy, Macedonia, Montenegro, Portugal, Serbia, Slovenia and Spain, we gathered balance sheet and income statement data for companies with more than 250 employees during 2006–2010. The data were retrieved from the Amadeus database (Amadeus, 2012) and filtered for outliers by cutting off the upper and lower percentiles of the observed variables. The cleaned sample includes 4,996 companies with complete sets of values, of which 10% were tourism sector companies.[7]

Table 5 presents the median values of the observed companies for the selected variables per unit of average balance sheet sum of a company during 2007–2010. We calculated the average value of total assets by company, which serves as a nominator, to decrease fluctuations in the value of total assets in a specific year. The median values are stated for the tourism sector and non-tourism sector companies separately.

Table 5. Median values of selected variables in proportion of total assets.

Variable	2007	2008	2009	2010
		Financial debt		
Tourism	0.215	0.240	0.235	0.265
Non-tourism	0.208	0.236	0.238	0.253
		Investments in core activities		
Tourism	0.084	0.051	0.018	0.021
Non-tourism	0.072	0.044	0.016	0.019
		Financial investments		
Tourism	0.002	0.001	0.000	0.002
Non-tourism	0.002	0.002	0.000	0.002

Source: Amadeus (2012); authors' calculations.

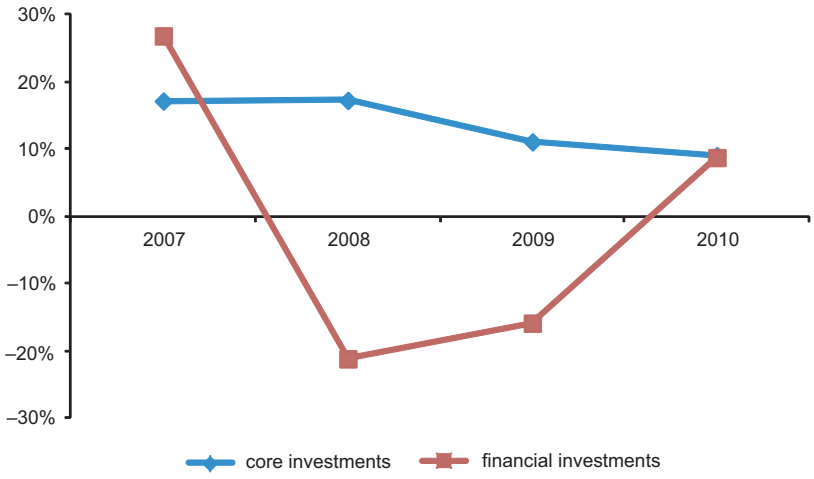

Figure 1. Relative position of tourism sector versus non-tourism sector in debt drivers.
Source: Amadeus (2012); authors' calculations.

Table 5 shows that the stock of financial debt for the median company increased for both tourism and non-tourism sector companies. We can see that there was some deleveraging in the tourism sector for the median company in the bust year of 2009, while in the non-tourism sector the median company increased its financial debt in each of the observed years. When focusing on debt drivers, we observed investments in core activities and financial investments. Investments in core activities were roughly 17% higher in the tourism sector for the median company in the boom years (2007 and 2008) and remained around 10% higher in the bust years (2009 and 2010) in comparison to the non-tourism sector (Figure 1). The financial investments of the median company were close to zero for both sectors (Table 5). However, as seen in Figure 1, financial investments for the median company were higher in the non-tourism sector.

Figures 2–4 reveal the financial debt dynamics, core investment dynamics and financial investment dynamics across the distribution of companies during the observed years as the difference between the tourism and non-tourism sector. Figure 2 shows that in the boom period the growth of financial debt was higher in the tourism sector, especially at the upper margin of the distribution (75th and 90th percentiles – companies that were indebting themselves most rapidly), than in the non-tourism sector. There is convergence in the growth of financial debt in 2009 in the whole distribution of companies. In 2010 companies from the lower end of the distribution (10th and 25th percentiles) and from the non-tourism sector displayed greater dynamics regarding financial debt.

Figure 3 reveals that tourism sector companies invested more in core activities than non-tourism sector companies across the whole distribution of companies and in all observed years, the only exception being the upper ends of the distribution (75th and 90th percentiles) in 2009. Figure 3 shows that there is convergence between the tourism and non-tourism sectors in 2009 and

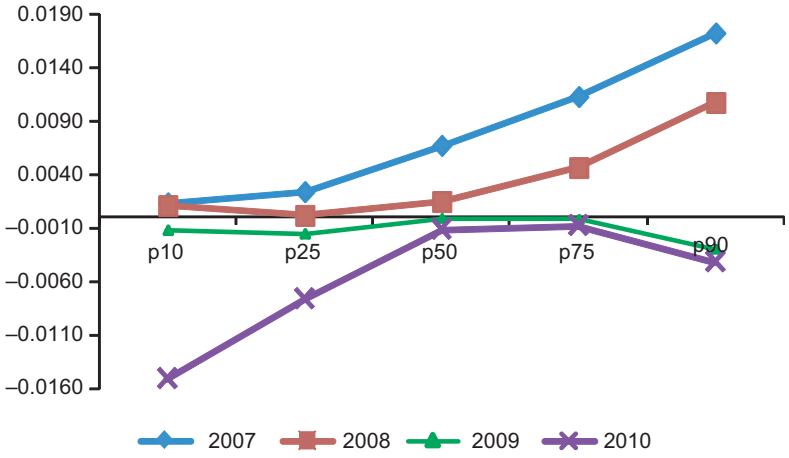

Figure 2. Distribution of debt build-up process dynamics.
Note: Lines depict the difference between the tourism and non-tourism sectors.
Source: Amadeus (2012); authors' calculations.

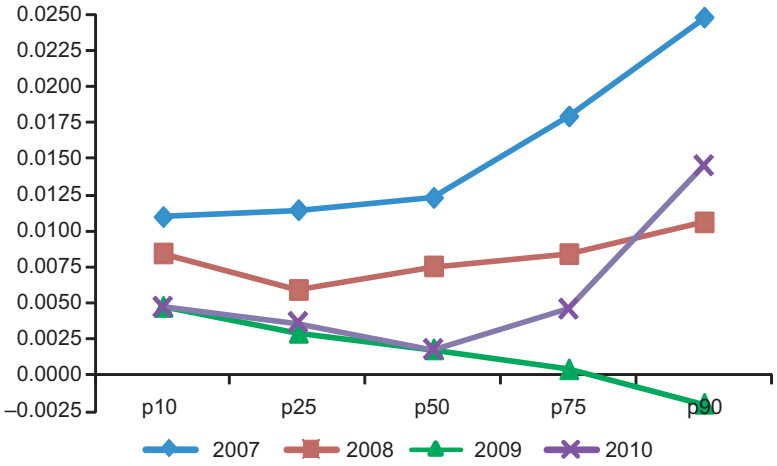

Figure 3. Distribution of core investment dynamics.
Note: Lines depict the difference between the tourism and non-tourism sectors.
Source: Amadeus (2012); authors' calculations.

2010 in the lower half of the distribution. Interestingly, in 2010 tourism sector companies in the 90th percentile again increased investment activities with respect to non-tourism sector companies.

In contrast, Figure 4 shows that financial investments differed between the tourism sector and non-tourism sector companies mainly in the upper margin of the firms' distribution (75th and 90th percentiles). In 2007 and 2010 (for the 90th percentile) financial investments were larger in the tourism sector

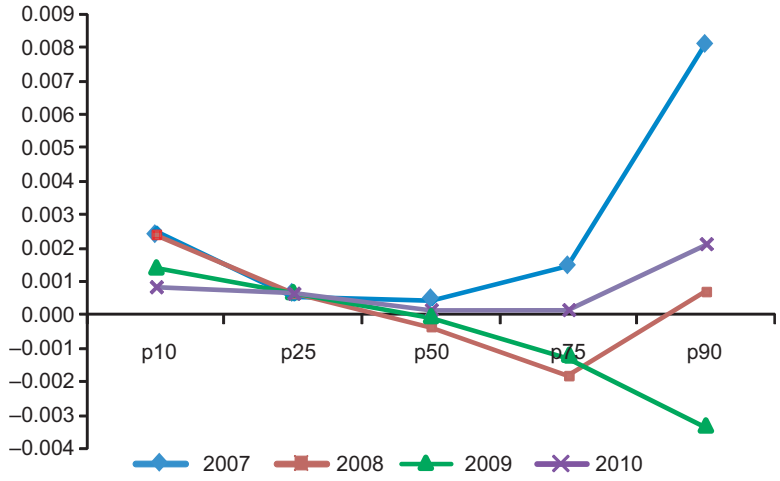

Figure 4. Distribution of financial investment dynamics.
Note: Lines depict the difference between the tourism and non-tourism sectors.
Source: Amadeus (2012); authors' calculations.

whereas in 2008 (for the 75th percentile) and 2009 they were larger in the non-tourism sector.

Empirical results

Table 6 presents the results of the Huber regression. We found the investment coefficients in the core business activities highly statistically significant, positive and of considerable size. This supports the thesis that, during the observed period, a substantial part of the financial debt related to firms' investments in core activities. Therefore, during the boom period (2007–2008) companies increased their financial debt to finance investments in core activities in both tourism and non-tourism sectors, and the effect was strongest in 2008. The size of the dummy coefficient for the tourism sector notes that the impact of tourism sector specifics in the debt build-up process was less. The manufacturing sector dummy is very small and significant only in 2009; therefore, the effect for manufacturing companies did not differ from the sample as a whole. In 2007 and 2008, the effects of core investment on debt increased through the financial accelerator in Mediterranean countries were strong, because of the (documented) dynamics of core investments across the whole distribution of companies. Nevertheless, the impact relative to the non-tourism sector of the lower financial accelerator and/or the different shape of the firm investment distribution on the debt increase was 1.6% lower in 2007 and 1.2% of the balance sheet sum lower in 2008 for tourism sector companies.

Coefficients are positive and significant in 2009, which show that companies on the distribution that decreased core investments also decreased their indebtedness. The tourism sector dummy is not significant for 2009, showing

Table 6. Determinants of financial debt (Huber regression results).[a]

Variable	Mediterranean countries			
	2007	2008	2009	2010
Investment in core business activities[b]	0.183***	0.205***	0.139***	0.115***
	(0.007)	(0.007)	(0.006)	(0.006)
Financial investment[c]	0.312***	0.189***	0.065***	0.093***
	(0.015)	(0.016)	(0.013)	(0.013)
Tourism sector (dummy)[d]	–0.014***	–0.014***	–0.006	–0.012***
	(0.005)	(0.005)	(0.004)	(0.004)
Manufacturing sector (dummy)[d]	0.003	–0.004	–0.005***	–0.004*
	(0.002)	(0.002)	(0.002)	(0.002)
Equity[f]	–0.039***	–0.011***	–0.003	0.006***
	(0.004)	(0.003)	(0.002)	(0.002)
Constant	0.026***	0.017***	–0.001	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Observations	4,881	4,953	4,996	4,759
R^{2}[g]	0.210	0.163	0.099	0.075

Notes: Standard errors are in parentheses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$. [a]The dependent variable is the difference in financial debt per unit of the average balance sheet sum of a company during 2007–2010. [b]Investment in core business activities are calculated as investments in fixed assets + change in inventories – profit/loss and are calculated per unit of average balance sheet sum of a company during 2007–2010. [c]Financial investment is calculated as the between-years difference of financial assets and are calculated per unit of average balance sheet sum of a company during 2007–2010. [d]The non-tourism and non-manufacturing sector serves as a base dummy. [f]The equity variable is an indicator of a company's financial health and is calculated as total equity per unit of average balance sheet sum of a company during 2007–2010. [g]Although the R^2 values are somewhat low, the R^2 is only an indicator of the completeness of the regression model and therefore low values do not contradict the argument that our selected independent variables have significant explanatory value for understanding the variation in the difference of financial debt.

Source: Amadeus (2012), AJPES (2012), authors' calculations.

that there was no significant difference in the indebtedness process between tourism and non-tourism sector companies. In 2010 the tourism sector dummy becomes significant (and negative) again, showing that the effect of the indebtedness of tourism sector companies was smaller by 1% of the balance sheet sum.

The coefficients for the financial investments variable are positive and highly significant throughout the observed period. The effect of the coefficient is smallest in 2009, revealing that companies that decreased their financial debt in 2009 did not achieve it through decreased financial investments (even less so for tourism sector firms). The explanation probably lies in devaluations or sales of financial assets, which also serve as collateral for bank credit. As non-tourism sector firms, especially manufacturing firms, have more fixed assets than tourism sector firms, they were able to invest more aggressively during the boom period in core activities and financial assets. They were also forced to deleverage through reduced investment in core activities and financial assets in the bust period. The results of the regression analysis confirm that explanation (the negative value of the coefficient of the tourism sector dummy).

Conclusion

When the crisis erupted in the second half of 2008, the economies of Mediterranean countries were very negatively affected. External demand fell significantly, financial sectors did not perform well and were, and still are, unable to support companies with credit. The tourism sector, as a specific service sector, was not exempt. Nevertheless, there is certain evidence that the tourism sector was not as hard hit as other sectors. By studying investment activities and the indebtedness process and revealing the functioning of the financial accelerator of companies in the Mediterranean countries, we have shown that there is possibly a difference and that non-tourism sector companies have been hit harder than tourism sector companies.

One reason why tourism sector companies were not as hard hit by the crisis as non-tourism sector companies is that, because of their lower debt potential in the boom years, the functioning of the financial accelerator did not affect them as much (the tourism sector dummy was negative in the empirical model throughout the observed period). In addition, they had more scope for manoeuvre during the bust years, emerging healthier than the non-tourism sector firms, and were able to raise debt for net working capital and even for some new investments. Our analysis focuses on only one aspect of the influence of firms' performance but reveals that even the specific indebtedness process and financial accelerator played an important role in the better performance of the tourism sector during the observed period in Mediterranean countries. It also reveals that tourism sector companies went into and came out of the crisis with slightly better prospects than non-tourism sector companies. Nevertheless, problems in financing will still play a crucial role. New investment will need more capital than just funds for net working capital. But in many cases firms with positive cash flow from core activities and low collateral potential, already have problems raising funds for net working capital.

Consequently, many European destinations have introduced measures to mitigate the negative impacts of the crisis on tourism (UNWTO, 2009a). These measures consist of increased promotion, fiscal stimulus, avoidance of over-regulation, more favourable credit terms, the introduction of financing systems to support tourism firms, the maintenance of employment in the sector and infrastructure development. Stimulus measures must be adapted to changes in demand patterns, and emphasis should be placed on international cooperation and the avoidance of protectionist policies (UNWTO, 2009a).

Endnotes

1. Only data for companies from the Republic of Srpska is included as only these data are available in the Amadeus database.
2. TTCI measures several different regulatory and business related issues, which have been recognized as a means of improving countries' tourism competitiveness. The TTCI survey sample includes CEOs and top business leaders (people making investment decisions) in all economies covered by WEF's research (WEF, 2011).
3. The changes in the rankings, however, do not fully reflect the changes in the competitiveness index and, looking at the mean scores of countries, the improvements in the index are not as substantial.
4. This denomination was also made to minimize the effect of possible revaluations of financial assets.

5. The tourism sector is defined for all companies falling under NACE 2 Rev. classification codes: 55.10, 55.20, 55.30, 55.90, 56.10, 56.21, 56.29, 56.30, 77.11, 77.21, 77.34, 77.35, 79.11, 79.12, 79.90, 82.30, 91.02, 91.03, 92.00, 93.11, 93.19, 93.21, 93.29.
6. Data gathered for Bosnia and Herzegovina were gathered only for the Republic of Srpska due to data availability in the Amadeus database.
7. The representativeness of the sample was assured using a procedure by which, for every country, the sectoral distribution of revenue per employee calculated from official sectoral data was compared with the distribution of sectoral averages of revenue per employee calculated from the data of the sample of companies. The difference between distributions is tested by the non-parametric Wilcoxon Man–Whitney (rank-sum) test for 2009 and 2010. The test values document that the company structure of the experimental sample does not differ significantly from the company structure in the whole economy for the countries and periods analysed.

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Appendix

Table A1. Real GDP growth rate (%).

Country	2006	2007	2008	2009	2010
Bosnia and Herzegovina	6.0	6.7	6.2	–3.0	0.8
Croatia	4.7	5.5	2.4	–5.8	–1.2
Greece	4.6	3.0	–0.1	–3.3	–3.6
Italy	2.2	1.7	–1.2	–5.5	1.8
Macedonia	0.1	0.1	0.1	0.0	0.0
Montenegro	8.6	10.7	6.9	–5.7	2.5
Portugal	0.5	2.4	0.0	–2.9	1.4
Serbia	5.2	6.9	3.8	–3.5	1.0
Slovenia	5.8	7.0	3.4	–7.8	1.2
Spain	4.0	4.0	0.1	–3.7	–0.1

Source: IMF (2012), Eurostat (2012), national statistical offices.