

**FINANCIAL ANALYSIS OF THE MAIN HOTEL CHAINS OF THE SPANISH
TOURISM SECTOR**

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Abstract

This paper analyzes Spanish companies' growing need for funding in a crisis context, focusing on one of the most relevant sectors in the Spanish economy: the Spanish tourism sector. Specifically, we will be looking at the twelve main hotel chains. We also provide a brief overview of the main sources of financing that serve as alternatives to those traditionally used in the sector and, subsequently, carry out an analysis of four key financial variables: percentage of indebtedness, volume of equity, overall liquidity, and returns on equity. Finally, we study whether there are statistically significant relationships between the variables, concluding that some expected relationships are confirmed – such as the logical exchange between equity and borrowed capital – as well as other less obvious relationships – like the positive relationship between the returns and the volume of equity.

Key words: Tourism sector; Spain; Financial crisis; Indebtedness; Equity; Liquidity; Returns on equity

JEL classification: G01, G32, L83, P48

1. Introduction

Since the financial crisis of 2008, the problem of access to funding is an issue that has required consideration by Spanish businesses (Calvo and Paúl, 2009; Paúl and Calvo, 2010). Specifically, tourism companies in Spain have turned, for a long time, to loan-based financing, relegating other forms of financing to a secondary role. However, authors such as Such Devesa (2006) coincide in indicating that we ought to highlight the contribution of the Spanish credit system to the development of the tourism sector in our country, which has been and still is quite limited.

The tourism sector is, by far, one of the most important in the Spanish economy, and, in comparison to other sectors, the funding it has received has been relatively scarce. Tourism – according to the OECD report for the year 2012 – represents 10.2% of GDP and 11.5% of employment, data which not only show the importance of the sector in our country, but which are also double the average data registered in the OECD.

Previous literature (Crespo et al., 2012; Rodríguez and Rivadulla, 2012; Rodríguez et al., 2013) repeatedly analyses the tourism sector in terms of hotel occupancy or the number of foreigners that visit our country, tourism as a driving force for development (Lee, 2008; Guisan and Aguayo, 2010; Aguayo, 2011; Navarro et al., 2011; Jackman, 2012; Llorca et al., 2013; and López-Guzmán et al., 2014), etc., leaving aside the need for and forms of financing that these companies require. Therefore, the main objective of this paper is to capture the importance of the tourism sector and its forms of

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financing. Furthermore, we analyze the relationships between four key financial variables – percentage of indebtedness, volume of equity, overall liquidity, and returns on equity – for the twelve main hotel chains operating in Spain, placing special emphasis on the significant correlations that emerge from relating the variables under study. We analyze these relationships through the preparation of correlation matrices – incorporating the Student's t-distribution statistics, as well as the p-values – and scatter plots. The latter confirm whether there are relationships between the variables and if these are negative or positive.

The rest of the paper is structured in the following way: the second section deals with the main causes of the current financial crisis, as well as the evolution of the need for financing in the economy and the general aspects of funding in the hotel sector. The third section looks at the different forms of funding, alternative to those traditionally used in the tourism sector, highlighting their main advantages and disadvantages. The fourth section gathers the empirical analysis itself, that is, the financial profile – financial structure – of each of the twelve hotel chains is analyzed and, subsequently, their main descriptive statistics and the analysis of the correlations between variables are explained in detail, and presented together with the scatter plots. Finally, the fifth section gathers the main conclusions drawn from the study.

2. Justification of the need for financing in a crisis context: the hotel sector

Since 1990, the process of internationalization has involved a growing and dynamic volume of hotel chains, which have experienced accelerated growth in recent years. This growth is due, fundamentally, to the saturation of the national territory and to the spectacular generation of profits experienced by tourism companies on an international and, specifically, Spanish level.

As explained by Such Devesa (2006), the support received by the tourism sector is fundamental, especially if we are dealing with sources of funding that enable the expansion of hotel chains. The existing financial relationship between the hotel sector and the credit system as it is known has altered in a particular way in internationalized companies.

Likewise, it is worth highlighting the importance that the stock market has gained, resulting in the implementation of novel financial supports originating in other sectors, such as the real estate sector. Thus, innovation reaches the Spanish hotel sector via specialization in the form of venture capital, investment funds, and sources of financing less related to the tourism sector.

Currently, companies in the tourism sector feel concerned about not knowing for sure which class of financial instrument they should use, or which type of investor they should turn to for financing. For this reason, the hotel chains dealt with in this paper pose the issue of lacking financial alternatives with which to compare their decisions in relation to the different sources of financing that they may encounter (García et al., 2007).

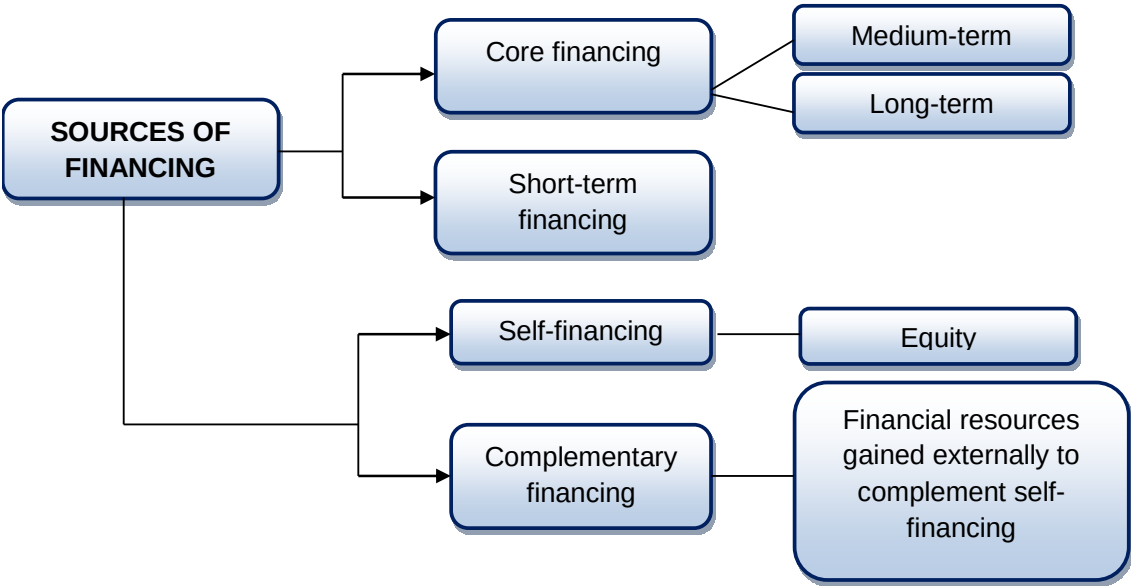
Spanish hotel companies do not particularly stand out for having placed their shares or debt in stock markets, with the exception of the Meliá and NH Hotel chains, which, due to their nature as S.A.s (corporations), turn to the primary markets to carry out stock-exchange transactions. All of this leads us to think that indebtedness via financial institutions, as opposed to financing via equity, is crucial for having a better

understanding of the financial strategies of companies in the tourism sector, at the same time as it helps us gain a better understanding of their financial structure (Becerra, 1998).

3. Alternative sources of financing

After explaining the above, we must now emphasize that a company’s financial activity may rely on two different channels for financing expenditure: equity and borrowed capital. Thus, the company’s financial structure (see Figure 1) stems from the concept of core funding, which Bote Gómez et al. (2005) define as “the set of means obtained by the company and intended, in general, for financing fixed assets and for covering a reasonable margin of working capital.” It can also be defined as “the set of medium and long-term resources that include both equity and borrowed capital, and whose maturity surpasses the period established as short-term.”

Figure 1: Financial structure of the company



Source: Authors’ compilation based on Bote Gómez et al. (2005)

According to Bote Gómez et al. (2005), we can confirm that the tourism sector has not been involved in recent processes of financial innovation. These processes constitute one of the most relevant phenomena in the international business panorama and this transformation of the international financial stage has not affected funding in the tourism sector to the extent that could be expected.

Among the possible sources of funding, special attention is paid to funding via borrowed resources, among which we distinguish, in accordance with debt maturity, short-term borrowed resources, on the one hand, and medium and long-term borrowed resources, on the other.

Furthermore, within the conceptual framework of short-term financing via borrowed capital, we ought to mention the role of *factoring*, which, without being a form

of financing as such, may be relevant since the sale of accounts receivable constitutes a means for funding productive processes.

Factoring has become a relevant instrument for small and medium-sized enterprises in their sales to public bodies, as indicated by Bote Gómez et al. (2005). On the one hand, there is security of collection – as long as we are dealing with the ‘without recourse’ type of factoring, since the alternative, ‘with recourse’ or old line style, does not guarantee the payment of the total owed to the company – but, on the other hand, the payment deadline tends to be long and uncertain. In short, we can say that this does not constitute a core instrument for the financing of tourism companies.

In terms of large companies, there is a tendency to finance via long-term external resources, with bond issuing being one of the most habitual forms, although the most used in Spain is bank credit. Spanish tourist hotel companies turn, in the long-term, to intermediated financing based on credit, since this is one of the most comfortable and accessible channels for this type of business.

Despite the fact that tourism represents, from several points of view, one of the most important activities in our economy, the funding it has received has been relatively limited. The tourism sector has never been favored, perhaps because it is considered an unstable, changing, and uncertain activity, with low productivity and significant measurement difficulties.

According to the Spanish National Institute of Statistics (INE, 2013), the hotel sector, throughout the entire period, represents a minute proportion of overall intermediated financing in Spain, especially if you compare said proportion to the contribution of the Spanish tourism sector to GDP – around 11%.

Companies of a certain size within the sector can opt for other ways to attain resources like flotation, though said options do not gain as much importance as others mentioned previously. On the other hand, the issuing of bonds on the part of tourism companies has been practically non-existent.

Currently, there are numerous forms of financing for companies. However, due to the persistent current economic crisis, some modes of financing, which are a little more unusual or out-dated (Figure 2), have stood out over others.

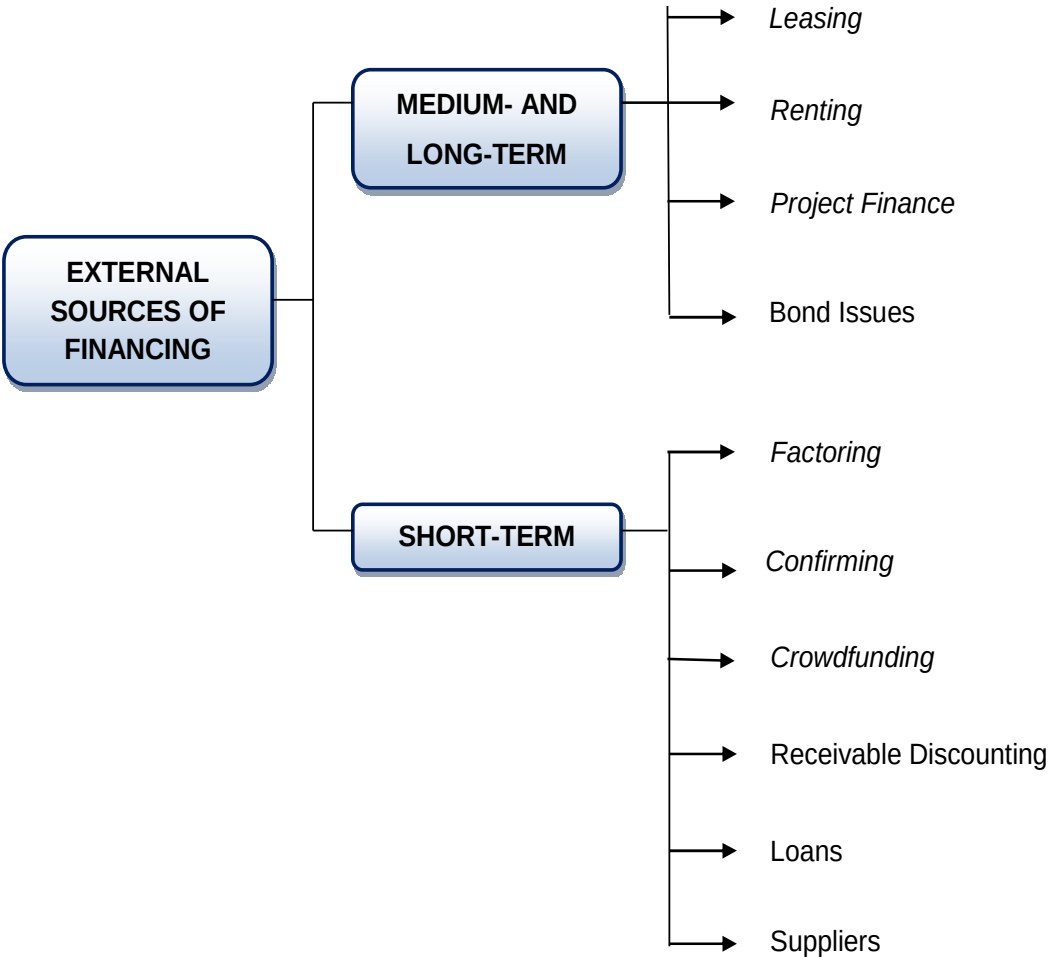
As explained by Bote Gómez et al. (2005), said forms of financing used by Spanish companies can be divided according to their time period, which is either short-term (usually one calendar year) or long-term (with a time lapse greater than the calendar year).

Firstly, we can highlight four financial instruments – leasing, renting, factoring, and confirming – that together cover three fundamental functions:

- Enabling access to new sources of financing, whether that is via new investments, credit yet to be recovered, or the assignment of collection rights to a third party, allowing for request of advances.
- Eliminating administrative tasks through the approval of the outsourcing of administrative services.
- Hedging, ensuring collection even if the client declares him/herself insolvent.

As well as these four instruments that companies use quite regularly, there are others that are less common, but which also present multiple advantages for companies in need of financing and which are gradually becoming more well-known on the national level.

Figure 2: External sources of financing



Source: Authors' compilation based on Bote Gómez et al. (2005)

Here it is worth highlighting the *Project Finance* formula that, according to Brealey et al. (2010), is a type of financing that large international banks tend to be specialists in. It is mainly used in large-scale projects in which a significant amount of investment is needed for initial expenditure and which are expected to generate more or less stable funds. Moreover, the debt of the project is not transferred to the company that promotes it.

Special mention is deserved by *crowdfunding*, a type of group or collective funding, normally online, where the investors provide contributions that are smaller than those normally provided. Therefore, the number of participants is much greater, making this an innovative idea for carrying out projects that cannot find traditional financial backing (like banking instruments, subsidies, corporate financing such as venture capital, etc.). Moreover, the investors receive multiple advantages for their collaboration.

Now that we have shown the importance of the topic under study, as well as the difficulty in achieving funding in a crisis context – especially for companies in the tourism sector, unaccustomed to resorting to certain less traditional forms of financing – we will move on to the financial analysis of the main hotel chains.

4. Financial analysis of the main Spanish hotel chains

a. Introduction

This section analyzes four relevant financial variables corresponding to the ten most important Spanish hotel chains, together with two international chains with business headquarters in our country (Table 1). Furthermore, this paper focuses on the study of the main hotel chains for three different reasons (Moral, 2006): (1) to cover a certain lack of studies focused on this type of company, (2) due to the availability of data, and (3) due to the importance that this small number of companies has in the Spanish tourism sector.

Table 1: List of the main hotel chains analyzed

Origin	Hotel Chain	Name
SPAIN	Meliá Hotels International	Meliá
SPAIN	NH Hoteles	NH
SPAIN	Barceló Hotels & Resorts	Barceló
SPAIN	Iberostar Hotels & Resorts	Ibero
SPAIN	Grupo Hotusa	Hotusa
SPAIN	Grupo Piñero	Piñero
SPAIN	Princess Hotels	Princess
SPAIN	High Tech Hotels and Resorts	High Tech
SPAIN	Hoteles Catalonia	Catalonia
SPAIN	Vincci Hoteles	Vincci
INTER.	Luxury Hotels International of Spain	Marriot
INTER.	Hilton of Spain	Hilton

Source: Authors' compilation based on the Hosteltur ranking of hotel chains http://www.hosteltur.com/110520_ranking-hosteltur-cadenas-hoteleras-2013.html

The financial variables analyzed in depth in this section are: indebtedness, overall liquidity, equity, and returns on equity, and they have been taken from the SABI (Iberian Balance Sheet Analysis System). The period of study begins in the year 2000 and ends in 2012. Moreover, the frequency of the data is annual, and we therefore have 13 observations. The sample analyzed is conditioned by the availability of data provided by the SABI. However, this sample period allows us a broad and quite recent analysis of the financial situation of the main hotel chains operating in the Spanish tourism sector.

Next we carry out a preliminary analysis of the chosen financial variables, as well as the subsequent analysis of correlations.

b. Preliminary analysis

First the main descriptive statistics are studied, allowing for first contact with the financial analysis of the Spanish tourism sector.

b.1. Indebtedness

Indebtedness or financial leverage “is defined as the ratio between the debt and the total value of the company” (Marqués Fernández-Flórez, 1998).

Table 2 gathers the indebtedness behavior reflected in the different descriptive statistics – expressed in percentages – for the twelve hotel chains analyzed.¹ We can observe that the chains that show a higher indebtedness average and median (highlighted in red) are Vincci, Marriot, and Hilton. This higher level of indebtedness (close to 100%) is shown in the two international chains that operate in our country, and in the Spanish chain Vincci. In the case of the first two, the result is logical, since, in principle, they have more ease of access to sources of financing.

Table 2: Descriptive statistics on indebtedness for the twelve hotel chains

Percentages (%)	1	2	3	4	5	6
Mean	72,57	52,76	14,71	69,05	82,86	76,47
Median	70,21	52,12	1,87	69,03	79,21	74,87
Maximum	84,20	66,74	81,04	80,59	107,65	85,49
Minimum	52,62	41,84	0,81	50,30	45,82	70,38
Std. Deviation	8,91	7,89	30,58	9,98	21,12	4,52
Skewness	-0,52	0,25	1,79	-0,36	-0,29	0,65
Kurtosis	2,98	1,95	4,20	1,85	1,84	2,32
Observations	13	13	12	13	12	13
	7	8	9	10	11	12
Mean	78,06	69,01	13,42	96,74	146,31	97,97
Median	89,76	77,72	7,43	97,86	106,29	95,25
Maximum	96,23	93,92	62,34	115,66	463,74	190,11
Minimum	35,17	0,06	0,39	71,86	60,25	24,83
Std. Deviation	21,82	26,75	16,55	11,29	141,49	55,20
Skewness	-1,02	-1,42	2,24	-0,60	1,95	0,19
Kurtosis	2,39	4,31	7,08	3,43	4,97	1,95
Observations	12	13	13	12	7	12

Source: Authors' compilation based on the business database, SABI. Note: The numbering from 1 to 12 indicates the hotel chains analyzed: 1 (Meliá), 2 (NH), 3 (Barceló), 4 (Ibero), 5 (Hotusa), 6 (Piñero), 7 (Princess), 8 (High Tech), 9 (Catalonia), 10 (Vincci), 11 (Marriot), 12 (Hilton).

¹ The results of the Marriot chain are conditioned for all variables by the limited number of observations. Therefore, its descriptive statistics offer atypical results with regard to the remaining eleven chains.

The lowest average and median values (highlighted in yellow) can be found in Barceló and Catalonia. Here we are dealing with companies with a lower percentage of indebtedness (around 15%) and, thus, with a greater level of self-financing. In terms of the maximum and the minimum, these can be found in Hilton and High Tech, respectively.

Additionally, we can see that the highest volatility is reflected in Barceló, Hilton, and Marriot, and in the latter, the difference in comparison to the overall group is more than double the remaining two mentioned here. If we assume that standard deviation leads us to the concept of risk and we define risk as the variations experienced by the company's financial structure, this result may be interpreted as the Marriot chain being the least risk averse of all. This means that Marriot is the chain most likely to carry out operations that pose a high risk. However, this could also be due – as has been indicated – to the limited availability of data for the Marriot case.

Conversely, the chains that are most risk averse (with lower standard deviation) are Meliá, NH, and Piñero, which is interesting given that the first two are the most important at the national level and both are listed on the stock exchange. This could be due to the fact that neither of the hotel chains are interested in risking much in their investments and opt for being more conservative, thus maintaining their leading positions in the Spanish tourism sector.

Finally, it is noteworthy that the chains that are positively skewed are NH, Barceló, Piñero, Catalonia, Marriot, and Hilton, and the rest (50% of the chains analyzed) are negatively skewed (highlighted in green). The chains with excess kurtosis (highlighted in lilac) are: Barceló, High Tech, Catalonia, Vincci, and Marriot.

b.2. Overall Liquidity

According to Marqués Fernández-Flórez (1998), overall liquidity is “the capacity that the assets have to turn into cash [...], i.e., their capacity to tend to their short-term payment commitments.” In this analysis, the data on overall liquidity are expressed through the following formula:

$$\text{Overall Liquidity} = \text{Current Asset/Liquid Liability} \quad (1)$$

With the concept defined, we analyze the descriptive statistics of the twelve companies (Table 3). Firstly, we find average and median data that are clearly higher than the other ten chains in the case of Catalonia, mainly, (with an average 14 times greater than the liquidity ratio of NH, Hotusa, and Princess), and Marriot – possibly due to scarcity of data. Thus, Catalonia presents overall liquidity that is much higher than the rest of the chains analyzed, while its level of indebtedness stands out for being among the lowest.

Secondly, Piñero, Meliá, and High Tech show lower averages and medians in relation to their capacity to convert assets into cash. The maximum was found in the Catalonia chain and the minimum in Barceló.

In terms of standard deviation, there are two chains that show high volatility in terms of their capacity to convert their assets to cash – Catalonia and Marriot – which indicates that their level of cash varies considerably over time. On the other hand, there

are three chains – Piñero, High Tech, and Vincci – that show an elevated level of risk aversion, and thus maintain an overall liquidity that is quite stable over time.

Finally, it is worth pointing out that the chains that are positively skewed are Meliá, NH, Ibero, Hotusa, Piñero, High Tech, Catalonia, Vincci, Marriot, and Hilton. The remaining two, Barceló and Princess, are negatively skewed. In terms of excess kurtosis, the chains Catalonia (7.11), Hotusa (6.50), and Hilton (3.93) are worth mentioning.

Table 3: Descriptive statistics on overall liquidity for the twelve hotel chains

-	1	2	3	4	5	6
Mean	0,53	1,00	0,54	0,79	1,11	0,43
Median	0,46	0,92	0,82	0,62	1,02	0,42
Maximum	0,86	1,79	1,00	1,80	2,90	0,60
Minimum	0,29	0,41	0,00	0,22	0,59	0,26
Std. Deviation	0,18	0,42	0,47	0,56	0,63	0,11
Skewness	0,40	0,25	-0,29	0,80	2,00	0,05
Kurtosis	2,06	2,16	1,15	2,10	6,50	1,81
Observations	13	13	12	13	12	13
	7	8	9	10	11	12
Mean	1,17	0,50	14,36	0,57	7,36	0,65
Median	1,22	0,49	1,84	0,54	3,93	0,67
Maximum	1,60	0,77	87,98	0,88	20,67	1,24
Minimum	0,55	0,31	1,00	0,36	0,86	0,34
Std. Deviation	0,32	0,17	24,87	0,17	7,86	0,26
Skewness	-0,43	0,38	2,27	0,65	0,83	1,12
Kurtosis	2,26	1,72	7,11	2,33	2,07	3,93
Observations	12	12	13	12	8	9

Source: Authors' compilation based on the business database, SABI. Note: The numbering from 1 to 12 indicates the hotel chains analyzed: 1 (Meliá), 2 (NH), 3 (Barceló), 4 (Ibero), 5 (Hotusa), 6 (Piñero), 7 (Princess), 8 (High Tech), 9 (Catalonia), 10 (Vincci), 11 (Marriot), 12 (Hilton).

b.3. Equity

Once again taking Marqués Fernández-Flórez (1998) as a reference, we can define the concept of equity as “the set of funds formed by the contributions of the owners or investor-shareholders to the company, and by the retained earnings.”

In terms of the analysis of the descriptive statistics (Table 4) of the variable ‘equity’ – expressed in monetary units – it is worth noting that the hotel chains with the greatest average values are NH, Meliá, and Hotusa. On the other hand, those that show the lowest averages are Hilton, Princess, and the Vincci chain. These values are

complemented by those found in the percentage of indebtedness of the Vincci and Hilton chains, which show higher levels of debt.²

In terms of the median values, those of Catalonia, Hilton, and NH stand out, with less elevated levels found in Marriot, High Tech, and Piñero. The maximum percentage in terms of equity is found in the Meliá chain and the minimum in Marriot, the international chain with Spanish headquarters.

Regarding volatility, the Princess, Marriot, and Hotusa hotels are the most exposed to risk. Thus, throughout the sample period their equity has experienced greater changes than in the rest of the companies analyzed. On the other hand, those chains that present greater risk aversion– with more stable equity values – are High Tech, Catalonia, and Meliá (presenting the lowest percentage with 1.55E+08%).

Table 4: Descriptive statistics on equity for the twelve hotel chains

Euros	1	2	3	4	5	6
Mean	5,69E+08	7,26E+08	2,38E+07	2,85E+08	5,63E+06	2,03E+07
Median	5,61E+08	6,01E+08	2,38E+07	3,39E+08	3,59E+05	2,08E+07
Maximum	9,96E+08	1,11E+09	2,39E+07	6,24E+08	1,96E+07	2,95E+07
Minimum	3,93E+08	4,02E+08	2,37E+07	4,35E+07	-2,91E+04	4,80E+06
Std. Deviation	1,55E+08	2,82E+08	7,32E+04	2,34E+08	8,14E+06	7,38E+06
Skewness	1,55	0,26	0,17	0,11	0,82	-0,75
Kurtosis	5,60	1,39	1,42	1,33	1,84	2,81
Observations	13	13	12	13	12	13
	7	8	9	10	11	12
Mean	1,19E+05	1,44E+07	5,61E+06	1,31E+06	1,88E+05	-7,44E+05
Median	5,70E+04	1,50E+07	6,60E+06	5,68E+05	-1,28E+05	6,00E+03
Maximum	2,58E+05	4,00E+07	6,72E+06	9,83E+06	1,53E+06	3,50E+06
Minimum	3,90E+04	5,83E+05	9,66E+05	-4,18E+06	-7,90E+05	-5,21E+06
Std. Deviation	9,87E+04	1,07E+07	2,11E+06	3,65E+06	8,38E+05	2,50E+06
Skewness	0,70	1,02	-1,76	0,87	0,62	-0,42
Kurtosis	1,51	3,84	4,28	3,69	1,99	2,42
Observations	12	13	13	12	7	13

Source: Authors' compilation based on the business database, SABI. Note: The numbering from 1 to 12 indicates the hotel chains analyzed: 1 (Meliá), 2 (NH), 3 (Barceló), 4 (Ibero), 5 (Hotusa), 6 (Piñero), 7 (Princess), 8 (High Tech), 9 (Catalonia), 10 (Vincci), 11 (Marriot), 12 (Hilton).

² However, this correspondence is not corroborated for the other cases, given that the data on own funds are expressed in euros, while the level of indebtedness is expressed in percentages. Thus, companies with elevated quantities of own funds (in absolute values) do not necessarily have to correspond with low indebtedness percentages – as we witness in the NH, Meliá, and Hotusa chains.

Finally, it is worth noting that the Piñero, Catalonia, and Hilton chains are the only ones that are negatively skewed (underlined in green), and in terms of excess kurtosis, the Meliá, High Tech, Catalonia, and Vincci groups (underlined in lilac) stand out.

b.4. Returns on equity

On the basis of the definition provided by Marqués Fernández-Flórez (1998), we can define the return on an investment as the “capacity that a good has to generate income”. Specifically, the data on returns analyzed in this paper are obtained with the following formula:

$$\text{Returns on equity (ROE)} = (\text{Yearly earnings/Equity}) \times 100 \quad (2)$$

Table 5 shows the main statistics, in per cent, for the twelve Spanish hotel chains studied.

Table 5: Descriptive statistics on returns on equity (ROE) for the twelve hotel chains

Percentages (%)	1	2	3	4	5	6
Mean	-3,39	3,96	-0,10	-0,94	94,21	-0,17
Median	-2,35	4,57	-0,06	5,77	91,92	-0,84
Maximum	9,38	15,85	-0,03	15,42	507,70	18,90
Minimum	-21,05	-4,52	-0,25	-48,83	-157,61	-16,46
Std. Deviation	10,13	5,29	0,08	18,12	162,45	9,81
Skewness	-0,52	0,53	-0,67	-1,88	1,29	0,14
Kurtosis	2,04	3,19	2,06	5,17	5,30	2,44
Observations	13	13	12	13	11	13
	7	8	9	10	11	12
Mean	1,15	-31,49	5,87	77,24	-18,00	32,14
Median	0,00	-10,83	1,02	64,46	35,34	17,44
Maximum	14,73	4,84	50,28	498,20	534,49	163,04
Minimum	-1,11	-187,13	-0,59	-159,09	-986,47	-305,20
Std. Deviation	4,31	53,32	13,60	190,56	467,70	116,86
Skewness	2,92	-2,16	2,97	0,93	-1,28	-1,83
Kurtosis	9,77	6,75	10,28	3,51	3,97	6,53
Observations	12	13	13	10	7	13

Source: Authors' compilation based on the business database, SABI. Note: The numbering from 1 to 12 indicates the hotel chains analyzed: 1 (Meliá), 2 (NH), 3 (Barceló), 4 (Ibero), 5 (Hotusa), 6 (Piñero), 7 (Princess), 8 (High Tech), 9 (Catalonia), 10 (Vincci), 11 (Marriot), 12 (Hilton).

The last variable to be analyzed is returns on equity, where we can quickly see that the Marriot hotel chain has one of the lowest averages, one of the highest medians, the maximum value and minimum value of the whole table, maximum volatility, excess kurtosis, and is negatively skewed.³

The highest average values belong to the Hotusa group – clearly higher than the rest, with an average at 94.21% – Vincci, and Hilton, and in the lowest values we find High Tech and Meliá – as well as Marriot, as already shown – with negative average returns. In terms of the highest median values, the Hotusa group (91.92%) is clearly differentiated from the rest, followed by the Vincci chain.

Regarding standard deviation, we observe the highest values in the Vincci and Hotusa chains. Conversely, in Barceló, Princess Hotels, and NH we find the lowest values of standard deviation, which is associated with returns that are much more stable over time.

In terms of skewness, half of the chains are positively skewed – NH, Hotusa, Piñero, Princess, Catalonia, and Vincci – and the remaining six are negatively skewed. Lastly, all of the hotel chains present excess kurtosis, with the exception of Meliá, Barceló, and Piñero.

c. Correlation analysis

Now that all of the variables have been explained and the descriptive statistics have been analyzed for the twelve hotel chains, we proceed to checking if the relationships between the variables are significant or not through the use of correlation matrices where the four financial variables (indebtedness, overall liquidity, equity, and overall returns) are combined in sets of two to confirm whether there is some kind of pattern of behavior between them.

In order to check if the relationships found are significant, we use the Student's t-distribution statistic, as well as the associated probabilities (p-value). Moreover, these results are contrasted with the scatter plots showing some significant relationships between variables. Finally, we propose an economic explanation of the different relationships found.

Now we offer a detailed analysis of the Meliá chain and, subsequently, we present a summary of the results obtained for the total of the twelve chains studied.

³ As commented on earlier, this could all be due to the lower number of observations (only seven of the total thirteen annual observations) in comparison with the rest of the hotel chains that present more homogenous and uniform data.

Figure 3: Scatter plots for Meliá Hotels International S.A.

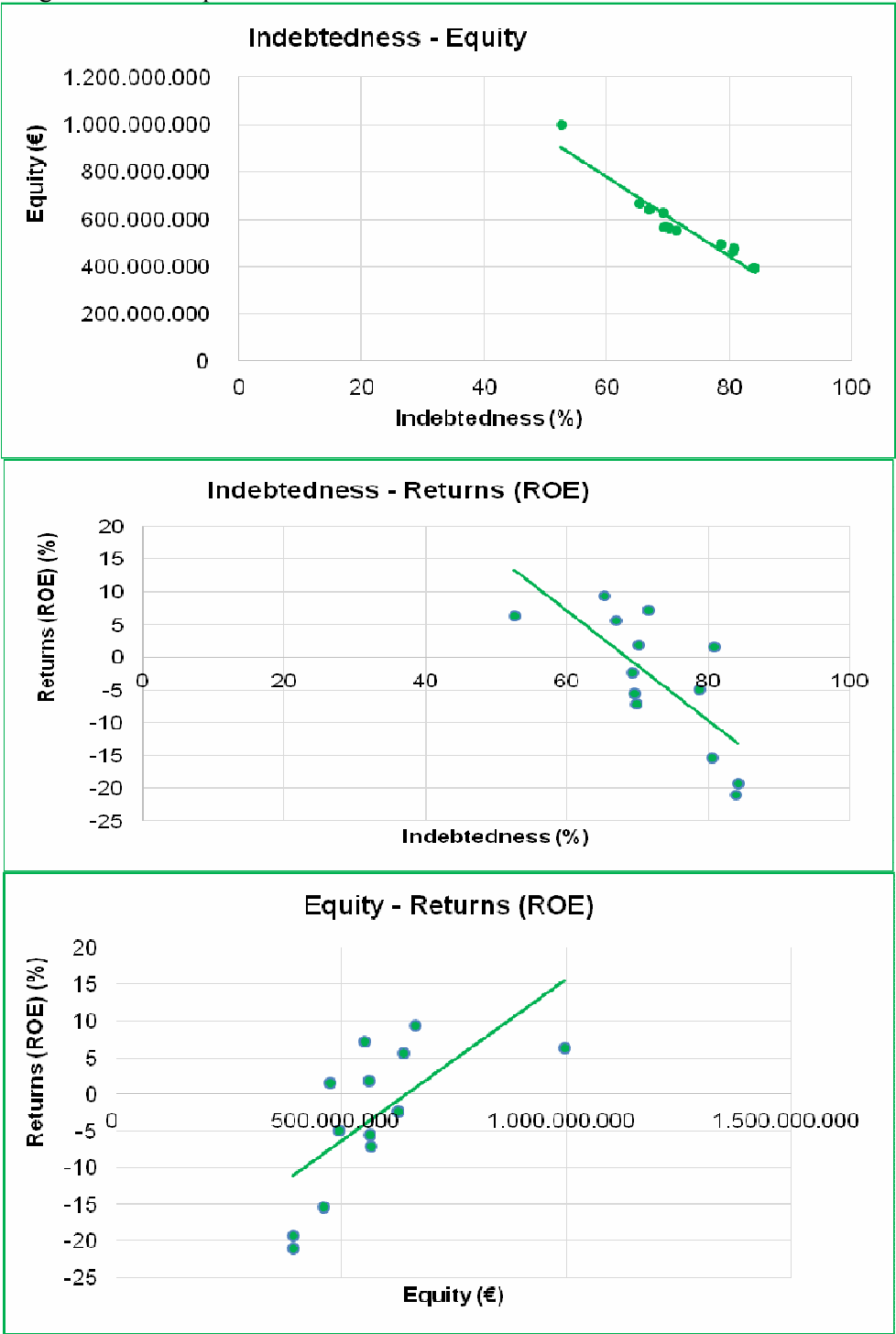


Table 6: Correlation matrix for Meliá Hotels International S.A.

	(1) INDEBT	(1) LIQUID	(1) EQUITY	(1) ROE
(1) INDEBT	1			
t-Student	----			
Probability	----			
(1) LIQUID	-0,192	1		
t-Student	-0,651	----		
Probability	0,529	----		
(1) EQUITY	-0,960	0,167	1	
t-Student	-11,338	0,560	----	
Probability	0,000	0,587	----	
(1) ROE	-0,736	0,197	0,673	1
t-Student	-3,601	0,666	3,020	----
Probability	0,004	0,519	0,012	----

Source: Authors' compilation based on the business database, SABI

In short, the analysis of the correlations for each group of companies is summarized in Table 7. Panel A shows the negative correlations between variables, while Panel B gathers the positive correlations. In this way, we can quickly observe the results obtained from the study carried out.

In relation to the Meliá hotel chain, Table 6 shows that there is significant correlation between the variables indebtedness and equity (-0.96), indebtedness and returns on equity (-0.74), and equity and returns (+0.67). These results are confirmed via the simple visual inspection of the scatter plots gathered in Figure 3.

In Meliá we find a negative significant relationship between the equity used in the company and the level of indebtedness. We are dealing here with a logical result, considering the traditional exchange between self-financing and external financing.

The negative relationship between returns on equity and indebtedness shows us that a greater dependence on borrowed resources means lower financial returns. Therefore, we find negative financial leverage. This result seems to indicate that the company shows an important level of risk aversion.

Finally, the positive relationship between returns on equity and self-financing confirms the positive effect of this type of financing in comparison to external financing. This result is consistent with that found between returns and indebtedness.

In conclusion, we can see a clear majority of negative correlations in comparison to positive ones, and within the negative correlations, we see that the most frequent of all is that relating indebtedness to equity. It is the most common for any group of companies, since it demonstrates a clear exchange between equity and borrowed resources.

Moreover, we find that the second most frequent negative significant correlation among the chains is that of the relationship between indebtedness and liquidity, which demonstrates the fact that there is a lower cash flow when there is greater indebtedness. Secondly, it is worth noting that the least common relationships are those found between indebtedness and returns (only negative and significant for Meliá) and the correlation between equity and returns (only negative and significant for NH and positive and significant for Meliá). In third place, we find the relationships between liquidity and equity and that of liquidity and returns, which, as we can see in Panel A, never offer negative significant correlations.

Table 7: Summary of significant correlations between variables

Panel A: Negative significant correlations

	1	2	3	4	5	6
Indebtedness – Liquidity				X	X	
Indebtedness – Equity	X	X		X		X
Indebtedness – Returns (ROE)	X					
Liquidity – Equity						
Liquidity – Returns (ROE)						
Equity – Returns (ROE)		X				
	7	8	9	10	11	12
Indebtedness – Liquidity	X	X				
Indebtedness – Equity	X			X		X
Indebtedness – Returns (ROE)						
Liquidity – Equity						
Liquidity – Returns (ROE)						
Equity – Returns (ROE)						

Panel B: Positive significant correlations

	1	2	3	4	5	6
Indebtedness – Liquidity						
Indebtedness – Equity						
Indebtedness – Returns (ROE)						
Liquidity – Equity			X			
Liquidity – Returns (ROE)						X
Equity – Returns (ROE)	X					
	7	8	9	10	11	12
Indebtedness – Liquidity						
Indebtedness – Equity						
Indebtedness – Returns (ROE)						
Liquidity – Equity	X					
Liquidity – Returns (ROE)						
Equity – Returns (ROE)						

Source: Authors' compilation. Note: The numbering from 1 to 12 indicates the hotel chains analyzed: 1 (Meliá), 2 (NH), 3 (Barceló), 4 (Ibero), 5 (Hotusa), 6 (Piñero), 7 (Princess), 8 (High Tech), 9 (Catalonia), 10 (Vincci), 11 (Marriot), 12 (Hilton).

Lastly, focusing on the results of Panel B, we can see that only four chains show positive significant correlations. It is worth highlighting the correlation between equity and returns shown by Meliá, which indicates that the greater the degree of self-financing, the greater the corporate profitability. Said relationship is found reversed in Panel A for the NH chain, which is curious given that they are the two most important Spanish hotel chains, and this is a clear example of how the same variables can have different effects.

Additionally, we can see how eight of the twelve chains analyzed do not have positive significant correlations, and how among the total of such relationships, Meliá obtains two of the four.

5. Conclusions

This paper begins by highlighting the obvious need for financing among Spanish businesses. Our country has always required capital from abroad to finance the investments made and this has become one of the elements that have characterized us in recent decades. Since the end of the eighties and until the beginning of the second decade of the 21st century, Spain has needed financing quantified at, approximately, 2.5% of GDP.

If we focus on the area of tourism companies, the need for financing tends to increase progressively, due to the nature itself of the investments they currently face. The lead role of bank financing in the Spanish economy as a whole, in terms of sectors, is a fact that also affects the tourism industry. This sector continues to turn to traditional sources of financing, which remain quite far removed from processes of financial innovation. In the same way, it is worth noting the tendency on the part of the Spanish credit system to provide insufficient credit to the tourism sector, in comparison to other economic activities. This is surprising, given that the tourism sector constitutes an important contribution to the Spanish economy's GDP.

Facing the evident need for financing, this paper provides an overview of different sources of financing. We observe that classic financial instruments – loans, bonds, and discounting – coexist with other less traditional forms – leasing, confirming, and renting. Moreover, in terms of novel and innovative forms of financing it is worth highlighting crowdfunding, since this is directly related to the Internet and does not require financial intermediaries to be carried out.

In the empirical part of the paper, the primary objective is to analyze the main hotel chains that operate in the Spanish tourism sector. Thus, we examine four basic financial variables: indebtedness, overall liquidity, equity, and returns on equity, as well as the relationship that exists between them, in order to identify if there are certain patterns of behavior among them.

In terms of the companies' levels of indebtedness, all of the chains oscillate more or less in the same percentages. While for the volume of equity the differences become sharper, since chains that exceed a billion euros (like NH Hotels) coexist with others like the Hilton chain that barely reaches one million euros for some of the years studied.

As emphasized throughout the paper, ten of the twelve hotel chains subject to analysis show significant correlations. The results confirm an inverse relationship between level of indebtedness and volume of equity, which reflects a clear and expected exchange of self-financing for external financing in the majority of the cases. The results also confirm an inverse relationship between indebtedness and overall liquidity, accompanied by some cases of positive relationships between the volume of equity and overall liquidity. This result confirms the positive effect of self-financing on the business's liquidity, as well as the negative (complementary) effect of external financing.

Finally, we find other significant relationships between variables, which are only found in very specific cases. Thus, only two chains – Barceló Hotels and Princess Hotels – present a direct relationship between liquidity and equity, which explains and complements the previous negative relationship estimated between the liquidity variable and the level of indebtedness of the company. This indicates that the greater the volume of equity in the company, the more internal resources are generated, and the more possibilities there are to achieve greater liquidity.

Lastly, we would like to emphasize that this paper opens up new research paths that could complement, complete, and extend the work presented here. Thus, there is an opportunity to undertake an analysis of the evolution of the stock exchange for those hotel chains that are constituted as S.A.s (corporations), where every quarter or every year we can see the evolution of the stock-market prices, firstly, between them and, secondly, in relation to the IBEX-35 (Spanish Exchange Index). Moreover, an analysis could be carried out taking into account the economic cycle and its possible impact on said stock-market listing.

It would be equally interesting to see which of the Spanish hotel chains analyzed turn to alternative sources of financing to alleviate their financial needs. We could observe to what extent they seek leasing or renting operations, as well as other new sources of financing, such as crowdfunding.

To finish, we believe that it would be very interesting to replicate the study presented in this paper, but applying it to hotels on an individual level. The aim would be to analyze the type of financing they use as well as other types of financial variables, to, thus, be able to compare the results in terms of size, i.e. in terms of small businesses versus large businesses.

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