

## ANALYZING INCOME STATEMENT OF 3 STAR HOTELS IN THESSALONIKI

*UDC 657:640.4(495)*  
*Review*

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Received 12 May 2011  
Revised 4 November 2011  
21 November 2011

### **Abstract**

The sector of hotel business in Greece is facing major problems. Based on several scientific studies, there is deteriorating financial situation and reduced efficiency. Moreover, many hotels have shown repeated losses. This study has attempted to investigate the effectiveness of the three star hotels of the city of Thessaloniki compared with the whole country. Also, with the regression method (regression analysis) sought the sources of profit or loss. Based on the accounts of all the hotels of this category in Thessaloniki, it was found that the economic situation and their effectiveness is not significantly different to that of the national total, although in general the situation is better. In addition, the structure of balance sheets and income statements show many differences between the different companies so it is not possible to draw firm conclusions about the sources of efficiency.

**Keywords** Hotels, Hotel operations, Profitability, Financial statements

### **INTRODUCTION**

The importance of tourism to economic growth in Greece is indisputable, since the tourism industry according to the Institute of Tourist Research and Forecasts creates added value levels around 20% of GDP and boosts employment by about 700,000 jobs (Papanikos 1999). For this reason tourism has been characterized as "heavy industry" in the country, which in the past, when Greece had a separate national currency, "the drachma", contributed greatly to reducing the balance of payments deficit and to mitigating the effects on variation currency. In the annual survey of ICAP for the tourism industry it is estimated that in a few years tourism will exceed 60 billion and investments in the sector will reach 12 billion, representing 13% of total investment and employment will formed around 800,000 jobs, contributing to 17% in total employment (ICAP 2006).

Leidner Rudiger in the report he has prepared for the enterprise Directorate-General of the European Commission (January 2007) found that:

- Europe strengthens its position as the first destination of world tourism in the new millennium. However the global economy is not favourable and international arrivals have been declining suprisingly though in Europe arrivals have been increasing.
- The EU enlargement has increased astronomically in tourist flows between old and new countries.
- Different costs between old and new members have increased competitiveness.

- Due to income disparity among the new members positions in the tourism industry are taken up by non-residents in their countries.
- An improvement of statistical data on this area in the community is required.

Considering the fact that about 40% of a package tour concerns accommodation, makes it particularly interesting to investigate the financial situation of the hotel sector, which together with the travel agencies are the major players in the hospitality industry. In Greece, the administrative and financial structure of the hotel has some peculiarities, related mainly to the family nature of many hotels, the seasonality function (17% did not exceed 4 months of operation (Papanikos 1999), legal form, especially in small units. A significant differentiator from other countries is the tax status of the country which allows different accounting treatment. It follows, that we cannot draw safe conclusions about the cost of hotels according to the fundamental analysis of financial statements. In addition, it should be taken into account that (not only in Greece) managers use different accounting actions to mislead analysts (Ng et al 2001). According to a study in England, managers do not evaluate efficiency and focus only on economic data without taking into account the quality of service, customer satisfaction, other marketing objectives and the organization of units (Brawn et al, 2001.) But unlike Anderson's (et al 2006) argument, when financial statements of competitors were examined they did not reveal all the data on activity and efficiency. Problems also occur, according to Burgess (2007), when inadequate economic leaders use international accounting standards.

## 1. REVIEW OF LITERATURE

J. Hales (2005) argues that the financial analysis of the hotel is necessary to analyze the figures of the past to assess the future. Thus we have to focus on past and present. It should be daily, weekly, monthly and quarterly reports to show the same periods in the future, but most important are the monthly reports which are examined by both internal and analysts on the part of shareholders of each hotel. The hotel managers need to know how to assess the productivity of their employees. This can be done using two methods. Measuring productivity in the past and the assessment and measurement of productivity in the future (Ball et al 1986).

Jangels and Ralston (2006) argue that three broad groups of people are interested in the evaluation of ratios: internal operating management, current creditors and the organization's shareholders. The managers have the responsibility of safeguarding the assets, controlling costs and maximizing profit. Ratio evaluation is a major technique used by management to monitor the operation's performance against predetermined standards to determine if the operating budget objectives are being achieved. Certain ratios are used to evaluate the effectiveness of day-to-day operations, to assess its current liquidity position etc.

Patricia Douglas (2000) argues that the traditional means of measuring productivity in the hotel industry is not sufficient to provide a fair representation of the results. For decades, the evaluation applied the "rule of 1" to express the relationship between the cost of ownership and the average efficiency of the room. So the return on investment

(return on investment) = 1 means that for every \$ 1,000 investment per room it had to match revenues \$ 1 per room. This measure, however, ignores the use of assets.

Two measures are proposed: the average revenue for rooms that are used “total revenue/occupied rooms” and the “number of rooms occupied / total available rooms”. By using the DuPont model that imposes the use of two factors simultaneously, namely the profit margin and the use of assets, P. Douglas conjures up the measurement unit “total revenue/room availability”. In the future, hotels need to focus efforts in offering new products and services to customers rather than traditional sales service facilities. Furthermore, it proposed other measures that take into account all the rooms offered in the region, the average days per client, the market share of each hotel, etc.

P. Jones (2007) argues that despite productivity's importance and an increasing wealth of data, we know very little about how to manage productivity. For example the reasons of the low productivity in Britain's hotels are the age (75% more than 40 years old), low chain penetration, small average size etc. Many companies are under-performing because they have not adopted the right policies or technologies.

Candice Harris and David Williamson (2008) found that the James Cook Hotel Grand Chancellor in New Zealand improved productivity through the strong commitment of staff to the culture of client service and better work.

W. Dai and Qiao Lin (2008) studied the efficiency of 179 hotel in Zhejiang province with the method of Data Envelopment Analysis. According to this study the grade and scale appear to significantly affect hotel efficiency but there is no evidence that efficiency is affected by ownership and operation type.

Shinn Sun (2004) in a study regarding the success of 47 international hotels in Taiwan during the period of 1997-2001 (using regression analysis) he came up with the conclusion that many hotels did not have management ability. The scale economies of 46 out of 47 hotels are negative. In addition, the room services and the catering were not functioning properly. The number of employees and the management style affect significantly the success of a hotel.

The sectoral study of the ICAP (2006) for the hotel sector in Greece provides much information and conclusions about the structure, financial position and performance of hotel units in Greece. Although it is found that there are several differences between the islands, coastal areas and mountainous regions, there are different characteristics in terms of operational structure and financial situation in the units which are located in areas where tourism is traditionally strong.

The studies of ICAP differentiate units by region and category of hotel. Some conclusions relevant to this study are the following:

- a. The highest gross margins are hotels of category B (corresponding to a general 3-star hotel), estimated approximately to be 32%.
- b. The luxury hotels have a negative operating profit margin, as well as return on equity.

- c. The B class hotels have the largest return on equity ratio, nevertheless its value is small (about 3%).
- d. The B class hotels excel in both overall liquidity to a ratio 5.21 and immediate liquidity (4.62), but the debt burdens, although the latter presents several differences between the hotels.

A similar picture is presented in other studies as well such as Hellstat (2009) in relation to the various financial ratios, whereby the marginal increase in revenue (1.3%) is determined, as is a marked decline in net profits, resulting in the net profit margin (although improving) 0.5% to be small. Another finding is the low capital leverage, modest bank loans and finally as a result of the above, that the return on capital is only 0.4%.

STAT BANK (2008), shows the negative picture of the profitability of hotels, indicating that the reduced profits and losses are growing and as a result loss-making enterprises are more than the profitable ones (442 injurious versus 424 profitable).

In addition, a sectoral study of Piraeus Bank about hotels (Dagkalidis, 2008) confirmed the superiority of the number of loss-making enterprises (the ratio of profitable to loss-making is 80% for small businesses). In this study, the calculations the net profit margin is negative (-0.57) as that is the negative return on equity (-0.28%). With regard to Northern Greece, on which this study focuses on, it is noted that there is a slight superiority in gross profit margin (33.74 against 32.82 of the total).

The negative return on equities is demonstrated by another study by the Organisation of Tourism Research and Forecasting (Pasouratis 2002), in which the reason is the small size that does not allow the exploitation of economies of scale. Typical of the relation of the low average size of Greek hotels, is the fact that in Greece the total number of rooms of hotel units is 373,000, although only the Intercontinental chain has 620,000 rooms (Papadopoulos 2009). Nevertheless, the number of beds per unit has increased beyond 10% over the last decade, having peaked in the B class hotels.

It should be noted that in 2004 when Olympic Games were held in Greece, the hotel industry did not show profitability because despite the increase in average revenue per room, a drop occurred in occupancy from 55% in 2003 to 51% in 2004 (Ikkos 2005).

Finally, in the excellent study of Mandilas, Madytinou and Dimitriadis (2009) where an assessment of economic fundamentals was conducted according to the International Accounting Standards, did not reveal significant differences in financial position nor the negative profitability ratios of return on equity amounts to -0.12% and gross margins to -2.90%.

## 2. STUDY OF 3-STAR HOTELS IN THESSALONIKI

Thessaloniki is the second largest city of Greece (population over 1 million), with significant production power, trade and tourism activity. It was founded 2300 years ago by the successor of Alexander the Great Cassander, and since then is the capital of Northern Greece. During these years it has never lost its importance as an economic and cultural center of a large area of the Balkan Peninsula, which at different periods of history belonged to the same state formation (eg the Byzantine period, the Ottoman Empire, etc.).

Thessaloniki is home to a large number of historic sites from all periods of history, such as churches, monasteries, castles, etc, of which the most important is a tower of the Ottoman period, the so-called White Tower, which is the emblem of the city.

Nevertheless these landmarks are not as important as the Acropolis is to Athens, the sea is to Crete or the Aegean islands, to attract visitors. Only in September there do we notice an influx of visitors due the International Fair. This has resulted in the diversification of tourism in the whole country with a special note that 70% of hotel guests who stay in Thessaloniki are greek and 30% are foreigners according to a recent (January 2011) study of the Thessaloniki Hotels Association.

These rates are in reverse throughout the rest of the country (70% are foreigners and 30% are greeks) (ICAP 2006). As far as the origin of foreign visitors throughout the country 17.6% British, 14.5% Germans, Italians 7.3%, etc. In Thessaloniki the largest percentage are Germans (3.4% of total) followed by Cypriots (3.2%) and significant percentage (although lower than in the past) from the Balkan countries. High tourist season across the country reaches its peak during the summer months June, July and August whereas in Thessaloniki it is in September during the International Fair. It is also notable that 65% of visits are for business reasons (Koutoulas 2006). Finally the average number of nights throughout the country (for foreigners) is over 10 (ICAP 2006), while in Thessaloniki (all visitors) is only 2.3 (Koutoulas 2006).

It is therefore of great interest to study the financial situation and profitability of hotels in Thessaloniki in order to compare it with the rest of the country and explore the reasons for similarities and differences. This financial study of hotel companies, which belong to their respective hotels, uses the basic measures of this analysis, namely Return on Equity (ROE), Return on Assets (ROA), debt ratio and profit margin on sales compares them to the whole country.

Today, according to data extracted from the Hellenic Chamber of Hotels, 65 hotels are in operation, of which 9 are five-star luxury 3, 5 are four-star, 6 are first class, 21 are three-star, 2 are class B, 9 are two stars and 11 are one star. The business hotels holding a 3-star hotel (Class B) have been chosen for this study, because they are the largest number of hotels showing a certain uniformity and they are easier to compare. Moreover, these hotels according to a study of ICAP are in better financial condition and effectiveness compared to the other categories. Two of them belong to the same company, one is owned by a religious institution and four do not operate as a Limited Liability Company in order to prepare and publish a balance sheet (required under

Greek law). Finally a company owns 4 hotels of which only one is in Thessaloniki and the rest are in Chalkidiki.

The 14 hotel companies are examined and presented below in Table 1. The numbers in this table are the same on the other tables for economy of space.

Table 1: **3 Star business hotels of Thessaloniki**

	Company name	Hotel name	Adrees	Rooms	Beds
1	Hotel Company Queen Olga SA	B. Olga	B. Olgas 44	148	162
2	Hotel and tourism company Ath.Brovas	ABC	Aggelaki 41	100	157
3	Aigaion” SA, hotel company	Aegeon	Egnatia19	50	80
	Aigaion” SA, hotel company	Egnatia	Antigonidon 16	48	86
4	Kiligaridis-hotel-tourism company	Byzantio	Ring Road	30	62
5	Luxembourg, hotel and tourism company	Luxemburg	Kominnon 6	46	71
6	Tourism-construction-hotel-cinema company	Metropolitan	B. Olgas 65	118	224
7	“Olympia” SA, Hotel-tourism-commercial-craft company”	Olympia	Olympou 65	97	180
8	Hotel and tourism company Madrinou	Mandrino	Antigonidon 2	72	136
9	Stegi-hotel-tourism-investment company	Pallace	Tsimiski12	56	113
10	Hotel and tourism company PARK SA	Park	I. Dragoumi 81	56	98
11	Alexandros Hotels	Platsa	12 <sup>th</sup> klm Thessaloniki - Edessa	40	74
12	Hotel companies RotondaS.A.	Rotonda	Monastiriou 97	79	142
13	Karagiannis S and E El S.A.	El Greco	Egnatia23	90	162
14	«Hotel and tourisme companies, Hotel Olympic A.E.	Olympic	Egnatia25	52	90

Source: Hellenic Champer of Hotels

Table 2 presents details of the the financial statements of these companies, as well as the average, ie the elements of a hypothetical single sheet of the hotel industry's three stars of Thessaloniki. It is therefore a weighted average of data.

Table 2: Balance sheets and income statements data

000 euros

Hotel number according to Table 1	Fixed assets	Total assets	Equity	Turnover	Gross profit	Net profit	Fixed assets per room	Total assets per room
1	2186	2581	1867	1129	271	-292	14,8	17,4
2	1609	1876	1347	1604	486,9	226	16,1	18,8
3	4932	5286	4142	2906	595	162	50,3	53,9
4	1206	1659	218	448	421,8	40	40,2	55,3
5	547	1448	1049	687	659	12	11,9	31,5
6	3899	5213	4475	2116	-35,6	-152	33,0	44,2
7	2793	3210	1687	1214	991	-371	28,8	33,1
8	351	612	445	1060	163,1	117	4,9	8,5
9	874	1569	474	1012	887,5	78	15,6	28,0
10	1470	1849	1266	852	852,5	-123	26,3	33,0
11	293	722	447	722	688,2	20	7,3	18,1
12	2340	2707	1178	691	-124,6	39	29,6	34,3
13	680	908	80	1417	511	12	7,6	10,1
14	1508	3222	324	501	288	9	29,0	62,0
<b>total</b>	<b>24688</b>	<b>32862</b>	<b>18999</b>	<b>16359</b>	<b>6654,8</b>	<b>-223</b>	<b>22,8</b>	<b>30,4</b>
<b>average</b>	<b>1763</b>	<b>2347</b>	<b>1357</b>	<b>1169</b>	<b>475</b>	<b>-16</b>	<b>22,8</b>	<b>30,4</b>

Source: Published financial statements

By combining Tables 1 and 2 some interesting conclusions can be drawn regarding the size of hotels and investments in fixed assets in relation to the size and number of rooms.

1. While the entire country's average bed unit for all categories is 75 and the hotels of category 3 star hotel is looking at 93, Thessaloniki's is 138 that is larger by 48%. Note that only 4 companies have fewer beds than the national average and that 2 units have more than 200.
2. In the group of 14 units the situation is not homogeneous since the fluctuation is large. It is significant that the larger unit is nearly four times the size (261 beds) than the smaller (71 beds).
3. The difference is greater if we take into account that the relationship of fixed assets of the rooms is the value of each room including the commercial value of the property, construction costs and equipment. While the average is about 23 euros per room, the hotel Mandrino's is 5 euro, just 22% of the average and the hotel Egnatia Aegean's is 50 euro, (more than twice the average).
4. The situation is also similar with the basis of total assets per room, where the average is 12 thousand euros, Platza's is only 4 thousand and Aegean's is 29 thousand euros.
5. However evidence indicates that there are no economies of scale in construction costs of hotels. Though it would be expected according to the economic theory to conclude that the larger-sized hotels of the same class have substantially lower costs per room, (since the total cost spreads over several rooms), by using the least squares

method we calculate the correlation coefficient, which despite being positive, is nonetheless very small (only 5%) to have a correlation assumed between the two sizes.

6. It is understood however that the statistical correlation between the number of rooms and the value of fixed assets is more important (60%), namely the amount of fixed assets depends on the size of the hotel when measured by the number of rooms.. By using linear regression (regression analysis) we find that the slope of the function  $y = a + bx$  is 24. This means that for every additional room in a hotel, fixed assets valued at 24 thousand euros are needed. This amount is higher than the average fixed assets per room (22.8), which are estimated using a large standard deviation of the data (standard deviation = 14).

7. As expected, the data on the number of beds are similar to those of the rooms.

The last part of this paper will attempt to interpret the data on the size of the hotel and the deviations are which are presented.

Table 3 presents some important financial ratios, based not only on the financial statements data but on each hotel rooms number

Table 3: **Financial and other ratios**

hotel number according table I	Return on equity	Return on assets	Nets profit margin on sales	Gross profit on equity	Gross profit on assets	Gross profit margin on sales	Debt ratio	Sales per room	Sales per bed
1	-0,156	-0,113	-0,259	0,145	0,105	0,240	0,28	7,6	4,33
2	0,168	0,120	0,141	0,361	0,260	0,304	0,28	16,0	10,22
3	0,039	0,031	0,056	0,144	0,113	0,205	0,22	29,7	17,51
4	0,183	0,024	0,089	1,935	0,254	0,942	0,87	14,9	7,23
5	0,011	0,008	0,017	0,628	0,455	0,959	0,28	14,9	9,68
6	-0,034	-0,029	-0,072	-0,008	-0,007	-0,017	0,14	17,9	9,45
7	-0,220	-0,116	-0,306	0,587	0,309	0,816	0,47	12,5	6,74
8	0,263	0,191	0,110	0,367	0,267	0,154	0,27	14,7	7,79
9	0,165	0,050	0,077	1,872	0,566	0,877	0,70	18,1	8,96
10	-0,097	-0,067	-0,144	0,673	0,461	1,001	0,32	15,2	8,69
11	0,045	0,028	0,028	1,540	0,953	0,953	0,38	18,1	9,76
12	0,033	0,014	0,056	-0,106	-0,046	-0,180	0,56	8,7	4,87
13	0,150	0,013	0,008	6,388	0,563	0,361	0,91	15,7	8,75
14	0,028	0,003	0,018	0,889	0,089	0,575	0,90	9,6	5,57
average	-0,012	-0,007	0,014	0,350	0,203	0,407	0,42	15,1	8,45

Source: Author's calculations



A review of the table's data reveals the following:

- a. Return on equity (ROE-Return of Equity) and ROA (ROA-Return on Assets) of the industry is negative as shown in all these studies. But of the 14 hotel companies only 4 have negative profitability and even the two of them (numbers 6 and 7) are not only involved in hotelier and tourism but also in other sectors, such as cinema. If you do not take into account these two companies then the ROE is 2.1% (positive) and ROA 1,3% (also positive).
- b. The net profit margin is small (1.4%), while it is better than that of the national total (-1.7% for the industry). But still, it varies greatly from company to company. If we do not consider again the two specific companies (numbers 6 and 7) the net profit margin is much better (2.5% positive).
- c. Revenue per bed is 8.45 thousands or approximately 15% higher than average (8.05) of all hotels in Greece (calculated on the basis of ICAP).
- d. Gross profit margin is for the average hotel about 40% significantly higher than the average for the whole country (30%). But there are significant variations by company, with differences ranging from -18% to 100%. It is obvious that the same principles are not applied, or at least the "cost of goods sold" appears in the results of use accounts elsewhere. What causes the most concern is that "Hotel companies Rotunda" although it has a negative gross margin, showing positive profits. These confirm the Ng et al (2001) as reported in the previous paragraph, namely that it is difficult to draw reliable conclusions from the financial statements of hotels.
- e. Since some hotels have financial losses we can not make comparisons of profitability. For this reason in the Return on Equity (ROE) and Return on Assets (ROA), we replaced the numerator with the gross operating income. Therefore the average price of the Gross Profit on Equity (GPOE) that amounts to 35% is almost double of the entire country (17%) and the same applies with the index on Gross Profit on Assets (GPOA) (20% on 3 star hotels in Thessaloniki vs. 10% for the whole country).
- f. According to these ratios there is great diversification for the group of hotels that we examined and they range from negative to positive for the GPOE, 10% up to 630% and for the GPOA from negative to positive, 5% up to 56%.
- g. The debt ratio is the same as all 3 star hotels in the country, but the differences between hotels in Thessaloniki is very high among the hotels numbered 4, 13 and 14 which show very large debt burden, while the enterprise numbered 7 has minimal liabilities.
- h. If you combine the investment per room and daily revenue per room, taking into account that the annual occupancy is about 60%, hotels in Thessaloniki is far beyond the traditional measure of profitability that is the rule of \$1 referred to Patricia Douglas (2000).

### 3. DISCUSSION

To investigate the sources of efficiency and the causes of large differences in economic structure and efficiency, we have considered three cases and aimed to reach their mathematical confirmation, using the method of least squares.

First case: Revenue per room should be proportional to the amount of assets, namely the best location, construction and equipment of the hotel should reflect a greater value per room, resulting in higher revenue per room. Thus, correlating revenue per room with all the assets, the correlation coefficient  $R^2$  is only 0.16 which does not confirm the case. As expected, there is little correlation between profits and total assets (0.05).

Second case: There is a diseconomy scale ie revenue per bed diminishes when the number of beds is high, because of the size of economies of scale in construction and operating costs. But the correlation coefficient for income per bed is positive but small (2%). It has been calculated that for the whole country the corresponding correlation is about 8%. The case was also not confirmed. Further research is done by the method of regression analysis. Despite the small statistical correlation for the coefficient beta (the regression equation  $y = a + bx$ , where  $y$  is the revenue per room and  $x$  number of rooms) throughout the country, the price is 1104 while in Thessaloniki discussed here is only 163.3.

The contradictions we observed lead us to consider whether there are less economies of scale in receipts relative to the size of business. The value of the correlation coefficients for income to total assets is about 66%, which is interpreted as a function of income. The above observations have yet to enter a reservation, because the revenue per room may depend on the degree of occupancy of the hotels for which we have no data.

Case Three: Effectiveness when measured by the ratio GPOA depends on the number of rooms or turnover (due to economies of scale) and when measured by the ratio GPOE on the debt burden of the phenomenon of financial leverage. The statistical analysis shows the following:

Both the correlation coefficients GPOA to all of the rooms and turnover have negative values equal to 0.50 and 0.28 respectively. This means that small hotels have better use of facilities and equipment than large ones and therefore there is noeconomies of scale efficiency. The correlation coefficient GPOE to the leverage ratio has a value of 0.65, ie the relationship is statistically significant and confirms the hypothesis of financial leverage.

Finally, on the issue (albeit marginally) of more efficient operation of the 3-star hotels of Thessaloniki compared with those of the rest of the country, it would have been interesting to know the different pricing, but this goes beyond the framework of this paper.

Large variations in the structure of balance sheets and profitability of hotels, as evidenced by the corresponding study, require a detailed study of financial data. From this we conclude that it is very likely that economic operators should not use the same methods of presentation of the financial situation. It is significant that the hotel Rotunda presents net income and its gross operating result (gross profit) is negative.

Since the financial analysis was not sufficient for interpreting the modulation efficiency, the only explanation is the management capacity of managers of hotels and how it is manifested, which confirms the aforementioned bibliography.

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