

## Conference Paper

# Financial Analysis as a Measure of Risk Management in Croatia's Hotel Industry

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## Abstract

The purpose of this article is to examine the relative financial performance of the Croatian hotel industry and identify recent trends by combining fundamental financial analysis, descriptive statistics and trend analysis as measures of risk management. Based on the data aggregated from the Croatian Financial Agency (FINA) for the period of 2007-2017, cumulative financial statements are generated for the entire hotel industry. The findings of ratio analysis reveal that although hotel companies have experienced strong growth in real estate investments and capital reserves accumulation during the period, the overall hotel industry in Croatia is nevertheless highly leveraged, operationally inefficient, unprofitable and plagued with liquidity problems. Most of these issues can be attributed to the unfinished transition of select hotel companies to a free market economy. The study's results are relevant both for the scientific and the professional field, as empirical analyses of financial performance of the domestic hotel industry have been scarce to date. In that respect, this has been a first study of its sort conducted for the hotel industry in Croatia which addresses the lack of existing literature and is expected to provoke similar studies in the future.

**Keywords:** risk management, fundamental analysis, ratio analysis, hotels, Croatia

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## 1. Introduction

Fundamental financial analysis is a powerful and versatile analytical tool for determining the intrinsic value of a company or an industry segment based on its future earning potential. Also known as ratio analysis among both academics and finance practitioners, it extracts historical and present data from financial statements, transforming it into valuable fragments of information based on which sound financial decisions can be made. While most of the findings obtained from fundamental financial analysis are

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used in the financial sector for investing and risk management purposes by financial institutions, it is worthwhile to note that the same analytic principles can easily be applied to an entire sector of the economy. This seems especially pertinent if that sector – in this case, tourism in general, and the hotel industry in particular – has been the impetus behind Croatia's overall economic growth in recent years.

Given this observation, it may come as a surprise that very little attention has been devoted to the financial aspects of the hotel industry in Croatia by academic and professional researchers alike. While the opening of new hotels – either independent or as part of international chains – is usually what piques the public's interest, an economically significant part of the Croatian hotel industry which was built, operated and inherited from the previous system remains on the margins of the spotlight. These veritable "industry dinosaurs", with large assets and even larger liabilities on their balance sheets stand in stark contrast to the new, much smaller and agile hotel companies vying for space on the budding tourism map of Croatia. Therefore, the purpose of this study is to apply fundamental financial analysis to the entire hotel industry, identify any recent trends, and examine the sector's relative financial strengths and weaknesses in the context of risk management. The biggest contribution of this study lies in the fact that no similar investigation has been conducted in Croatia or any of the surrounding countries before. This approach will therefore break new ground with respect to empirical analysis of the hotel sector as a whole.

The study is divided into several parts. After the introductory part, Section 2 provides a comprehensive literature review on two areas of research interest: ratio analysis and Croatian hotel industry. Section 3 is devoted to the methodology used to analyze the available data. Section 4 presents the results and discussions on the topic. Finally, Section 5 concludes and presents some future research suggestions. In addition, it should be noted that this article was financially supported as part of the research project ZP UNIRI 2/17 for which full acknowledgement goes to the University of Rijeka.

## 2. Literature Review

As already stated, the two most common sources for extracting data when calculating ratios are derived from the balance sheet and income statement [1]. Therefore, a financial ratio is nothing more than a value indicating the relationship of one accounting position relative to another. While theoretically it is possible to calculate an infinite number of ratios, fundamental analysis puts more emphasis on their interpretation

rather than proliferation. Nevertheless, interpreting financial ratios without considering their proper context may deliver misleading results, ultimately causing more harm than good [2].

Ever since Graham and Dodd [3] laid the intellectual foundation for *intrinsic valuation* with their insistence on in-depth financial statement research, fundamental financial analysis has been used as a complex set of analytical tools and techniques for determining the underlying value of an asset, a company or an entire industry. In effect, ratios were used to assess the financial health of companies even before that [4], but the systematic approach on which Graham and Dodd insisted was further pursued and developed by a number of authors, most notable among them being Altman [5], Lawder [6], while simultaneously widely popularized in practice by the Oracle of Omaha – Buffett [7].

According to Kristy, about 200 ratios are currently in use by finance professionals [8]. In order to streamline the large number of ratios available for analysis, Andrew & Schmidgall [9] identified five main categories of ratios based on the type of information they provide – liquidity, solvency, profitability, activity and operating ratios. While there is no standard number of ratios comprising each category, it is worthwhile to note that each category evaluates a very specific aspect of the business [10].

Despite the universal appeal of fundamental financial analysis, a surprisingly small number of studies have been conducted with the aim of using this technique on a specific segment of the economy. Those investigations have mainly focused on certain geographical areas like Europe [11–13] USA and Japan [14], China [15], New Zealand [16], South Africa [17] and so on. Others have targeted specific industries, such as finance and banking [18], automotive [19], health [20], and electronics [14]. Tourism, or certain aspects of it, have also been examined, namely casinos [21], lodging [22, 23], and clubs [24]. Hotels and restaurants have also been examined, either as separate sectors [25], compared to one another [26], or in combination with other tourism segments, such as leisure [27] or amusement and airline transport [28].

Finally, even though tourism as a sector features prominently in the Croatian GDP with a total share of 18.1% as of 2015, while regularly being targeted by foreign portfolio investors [29] hotel industry as its driving force has not received nearly enough attention from the scientific community. A recent study by the European Commission remarks on the defining characteristics of the Croatian hotel industry; namely, being “dominated by large establishments in the low-mid price range” in combination with “high seasonality of arrivals...limits its spill-over effects to other sectors” [29]. Furthermore, certain financial aspects have been more thoroughly examined than others,

such as the impact of capital investments on the hotel sector [31], the performance of small and family-run hotels [32], the financial risk management challenges present in the hospitality industry [33], and more recently, e-tourism demand modelling [34].

### 3. Data and Methodology

This study used secondary data drawn from the Croatian Financial Agency (FINA) database for the period 2007-2017. The data is delivered in the form of cumulative annual financial statements for all companies in Croatia which have classified their operations as hotel accommodation (NKD code 55.10). In effect, the available data is therefore presented as annual aggregated balance sheets and income statements for the entire hotel industry in Croatia. It is important to note that due to the data collection methodology net income and net losses appear twice, once as part of the balance sheet and the other time as part of the income statement. Moreover, in order to correctly calculate those financial ratios where net income appears, the values have been adjusted by subtracting the correspondent net losses first.

Ten ratios and one financial metric are used to assess the various financial characteristics of the hotel industry and use them as a measure of financial risk management, presented in Table 1. It should be mentioned, however, that different naming conventions exist for different ratios across countries, which is why, for the purposes of this study and in order to reduce any possible confusion, their most generic, formula-derived names have been used whenever possible throughout the text.

Four different types of analyses were used in this study. First, the authors present a descriptive statistical analysis of select key positions in the aggregate financial statements with both central tendency and dispersion measures calculated to better capture the nature of each item. Second, horizontal and vertical analysis was performed as a preparatory step towards ratio analysis. Third, the above-mentioned financial ratios were computed for each year under observation. After calculating the financial ratios, the authors proceed with a descriptive statistical analysis of each ratio for the time period under observation. Finally, the authors perform univariate time series analysis on each ratio. The main limitations of this approach can be found in the relatively short time horizon, the low frequency of observations and the unavailability of data for similar industries as part of the wider tourism sector – such as restaurants, gambling, or amusement, for instance – that would serve as benchmark for comparing the ratios across the board and a catalyst for a more holistic financial risk management approach.

TABLE 1: Short overview of metrics used for fundamental analysis of the hotel industry in Croatia, 2007-2017.

Item	Measurement	Definition: The ratio measures...
Net Working Capital	Current Assets-Current Liabilities	Operational efficiency and short-term financial health
Current ratio	Current Assets/Current Liabilities	Ability to pay back current liabilities with current assets
Financial stability ratio	LT Assets/(Total Equity + LT Liabilities)	Portion of current assets which is financed by long term sources
Debt ratio	Total Liabilities/Total Assets	Extent of financial leverage employed by the company
Equity ratio	Total Equity/Total Assets	Relative proportion of equity used to finance the company's assets
Financial leverage ratio	Total Liabilities/Shareholders equity	Levels of debt used to finance assets relative to the value of shareholders' equity
Total Asset turnover ratio	Total Revenues/Total Assets	Company's ability to generate revenues in terms of the value of the assets
Activity ratio	Total Revenues/Total Expenses	Company's ability to generate revenues relative to incurred expenses
Operating activity ratio	Operating Revenues/Operating Expenses	Company's ability to generate sales from operating expenses
Net profit margin	Net Income/Total Revenues	Percentage of revenue left after all expenses have been deducted
Return on assets (ROA)	Net Income/Total Assets	Company's profitability relative to its assets
Return on equity (ROE)	Net Income/Total Equity	Company's profitability relative to shareholders' equity

## 4. Fundamental Analysis Results and Discussion

### 4.1. Descriptive statistics

The first part of the analysis presents the descriptive statistics for select positions in the aggregate balance sheet and income statement. Table 2 presents the mean and the median as the two most descriptive central tendency measures as well as the standard deviation and minimum and maximum values as the two most applicable dispersion measures, for select items presented in the aggregated financial statements, all in HRK. The last column includes the compound annual growth rate (CAGR) calculated as the geometric mean.

Although the data on variability of the financial positions provides a wealth of information, the compound annual growth rate proves the most revealing. It is evident that while the entire sector has been buoyed with strong growth, the bottom line in

TABLE 2: Descriptive statistics for select positions in the aggregate balance sheet and income statement, 2007-2017, in HRK.

Item	Mean	Median	Std. dev.	Min	Max	CAGR
Long term assets	44.459.819.972,55	43.442.108.685	4.686.882.976,50	36.386.170.318	36.386.170.318	3,93%
Intangible assets	439.309.966,36	437.374.025	113.426.128,69	291.538.743	650.859.277	3,10%
Tangible assets	38.357.453.268,91	38.368.001.688	3.384.074.195,68	31.389.612.674	44.621.755.016	3,58%
Land	9.343.476.686,09	9.492.666.674	996.564.791,50	6.879.626.191	10.367.818.152	4,09%
Buildings	23.791.952.237,91	24.079.499.889	2.113.389.612,40	19.791.697.807	27.461.844.282	3,33%
Real estate investments	789.980.115,73	744.601.862	316.087.427,12	372.516.652	1.421.112.808	14,33%
Long term financial assets	5.465.740.255,82	4.637.002.796	1.403.702.652,81	4.324.443.068	7.919.314.656	5,96%
Long term A/R	96.685.898,36	52.268.774	88.233.133,10	26.464.096	293.682.569	2,22%
Short term assets	4.723.835.473,82	4.614.786.88	794.491.696,35	3.397.764.264	6.326.185.108	6,41%
Inventory	657.931.322,91	714.462.426	149.857.239,14	350.696.292	794.228.238	7,15%
Short term A/R	1.489.119.988,82	1.543.911.161	194.154.471,44	1.228.160.304	1.730.792.185	0,22%
Short term financial assets	1.415.359.499,45	1.385.158.669	266.652.250,47	1.095.099.325	1.778.996.305	4,69%
Cash and cash equivalents	1.161.424.662,73	984.697.698	600.287.182,30	618.034.791	2.592.185.464	14,08%
Total assets	49.591.156.315,55	48.547.444.376	5.329.054.312,82	40.216.622.149	59.957.480.611	4,07%
Off-balance sheet items	2.156.977.728,18	2.098.871.582	809.613.383,53	1.225.242.283	3.654.027.363	10,89%
SE and reserves	22.244.259.092,18	21.733.991.419	2.647.323.095,59	19.275.661.008	27.723.314.786	2,46%
Stockholders' equity	20.270.825.726,55	19.735.252.953	1.386.494.916,99	18.821.445.792	22.726.302.682	1,90%
Capital reserves	1.612.692.634,55	1.241.900.978	1.527.461.394,85	177.929.664	4.960.979.942	39,49%
Earnings reserves	1.629.509.067,00	1.696.402.381	330.225.296,40	1.117.802.142	2.190.251.590	3,41%
Revalorization reserves	4.703.612.981,00	4.807.925.457	559.031.759,72	3.156.832.960	5.239.351.733	4,35%
Retained earnings	1.722.315.242,36	1.533.236.653	624.911.095,09	1.014.111.413	3.017.008.515	11,52%
Transferred losses	7.456.074.099,64	8.740.965.120	3.134.038.064,53	2.535.541.254	10.758.242.503	15,40%

Net earnings (BS)	905.604.018,91	789.830.427	563.680.053,51	310.206.719	1.842.929.768	13,19%
Net losses (BS)	1.143.928.487,18	1.172.906.447	321.942.710,67	646.448.039	1.611.317.747	0,68%
Reservations	326.569.521,91	321.278.749	134.326.629,16	145.474.767	567.142.843	13,87%
Long term liabilities	16.464.270.986,64	16.998.635.939	2.351.790.736,44	11.847.927.439	20.322.127.388	5,54%
Short term liabilities	10.199.425.036,27	11.070.769.725	1.888.153.637,19	6.264.199.070	11.714.761.729	5,64%
Total Liabilities and SE	49.591.156.317,00	48.547.444.374	5.329.054.313,30	40.216.622.150	59.957.480.610	4,07%
Revenues from operations	9.937.880.447,09	9.606.492.653	2.077.101.973,39	7.833.103.527	13.849.234.336	5,82%
Expenses from operations	9.328.919.970,09	9.043.063.998	1.466.330.133,50	7.528.336.466	12.015.139.368	4,79%
Salaries	2.577.394.538,73	2.445.117.758	360.896.548,80	2.169.064.177	3.386.367.993	4,56%
Total revenues	10.432.271.729,73	10.008.635.469	2.085.697.560,52	8.388.896.795	14.374.182.456	5,44%
Total expenses	10.654.350.565,91	10.465.410.013	1.393.723.768,48	8.645.232.692	13.100.581.537	4,24%
Earnings before taxes	980.693.728,45	843.428.290	583.039.335,56	370.153.131	1.973.264.744	12,80%
Losses before taxes	1.202.772.564,36	1.252.095.708	297.068.547,22	699.663.825	1.620.557.438	-0,96%
Taxes	69.244.797,09	65.559.396	44.692.738,69	-3.565.351	177.325.035	9,34%
Net earnings (IS)	905.395.645,45	787.538.273	563.727.553,83	310.206.733	1.842.929.769	13,19%
Net losses (IS)	1.196.719.278,73	1.243.149.207	299.105.304,62	691.615.640	1.611.317.746	-1,06%

absolute terms is that the entire industry, on average, was reporting negative results for the period.

## 4.2. Horizontal and vertical analysis

The second part of this section presents the results from the vertical and horizontal analysis performed on the cumulative financial statements over the observed period. While presented in a separate subsection as part of this article, both horizontal and vertical analysis are considered an integral part of fundamental financial analysis and are often conducted as preparatory steps prior to performing ratio analysis. In effect, certain values obtained through these calculations are nothing more than the ratios in question.

Horizontal analysis is mainly used for investigating the appearance of trends within individual positions in the balance sheet and income statement over time. Table 3 displays a comparative study of the historical data during the observed period for select line items expressed through annual percentage change. A strong upward trend in most of the items shows the expansion of the hotel industry in Croatia in terms of both total assets and total revenues. A couple of consecutive financial periods with negative results may signal higher risks which is why horizontal analysis provides a time-series pattern upon which more complex financial risk management measures can be undertaken, regardless of the size of the object being analyzed – be it a company or an entire sector. For instance, the period 2010-2013 shows a downward pressure on a number of key positions such as short term financial assets, accounts receivable, and retained earnings, as the aftershocks of the Global Financial crisis from 2007-2008 spilled over in the tourism sector.

In stark contrast to horizontal analysis, vertical, or common-size analysis examines each line item in relation to a baseline figure. For the balance sheet, total assets were taken as the baseline figure, whereas for the income statement, total revenues were used as the reference in terms of which all the other expense items were presented. As evident in Table 4, tangible assets comprise the bulk of long-term assets with proportions ranging from 78.05% in 2007 and steadily falling to 74.42% in 2017. Nevertheless, these percentages correctly depict the fact that in a hotel industry most hotels need land and buildings on prime locations in order to attract tourists. This claim is further corroborated by the growing proportions of real estate investment which reach 2.37% of total assets by 2017, pointedly as another risk measure to counteract the deteriorating proportion of buildings which fall to 45.8% by 2017 as well. Perhaps



TABLE 3: Horizontal analysis showing the annual % change for select positions in the aggregate balance sheet and income statement, 2007-2017.

Item	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Long term assets	11,05	3,78	2,32	4,20	-2,83	-1,27	6,58	1,81	8,87	5,54
Intangible assets	7,42	6,50	-20,26	-15,37	-21,24	12,75	5,91	-2,85	55,08	24,09
Tangible assets	13,01	4,26	1,93	5,04	-3,10	-1,39	2,39	1,21	7,17	6,19
Land	24,57	3,97	2,16	8,56	-5,16	1,30	4,07	1,72	3,17	-0,89
Buildings	6,34	8,56	1,28	5,07	-0,97	-1,31	3,10	1,70	3,73	6,25
Real estate investments	27,89	12,33	39,14	7,77	-2,32	4,47	-10,85	-2,19	80,77	10,10
Long term financial assets	-2,56	0,23	7,62	-0,72	0,13	-1,89	36,88	6,87	16,35	2,28
Long term A/R	7,03	-41,06	76,54	-16,98	52,27	26,96	291,67	-29,59	-13,95	-70,63
Short term assets	19,37	5,55	2,57	1,11	3,94	3,69	0,32	8,13	9,43	11,38
Inventory	7,72	89,12	-5,52	12,43	-2,17	6,98	-16,42	10,99	-1,77	-3,33
Short term A/R	26,23	11,64	-1,90	-0,17	-1,72	-7,31	-16,01	6,15	-2,65	-6,31
Short term financial assets	1,64	6,54	13,73	-20,94	17,32	10,00	22,17	-3,48	3,97	2,67
Cash and cash equivalents	41,85	-37,24	2,44	40,72	3,48	12,12	7,68	26,75	33,50	37,64
Total assets	12,04	4,27	1,62	3,84	-2,07	-0,88	5,95	1,66	9,00	6,13
Off-balance sheet items	4,31	24,02	24,37	3,14	6,65	-8,79	-41,62	93,64	46,98	4,78
SE and reserves	6,34	-1,59	-3,09	-6,71	-5,50	-0,81	7,29	2,42	23,69	5,82
Stockholders' equity	1,96	0,95	3,97	-2,02	-1,87	-2,49	10,99	2,42	3,93	1,86
Capital reserves	48,89	24,98	59,16	91,68	22,95	58,35	-17,90	14,88	104,31	30,91
Earnings reserves	38,07	9,91	1,93	-9,52	-5,91	-30,87	5,69	43,59	29,11	-21,59
Revalorization reserves	42,63	4,15	6,15	5,25	-6,35	-2,01	-0,58	-2,88	12,13	-7,21
Retained earnings	16,51	6,12	11,54	-12,24	24,92	12,66	14,68	6,16	19,30	20,26

Transferred losses	18,31	39,46	33,91	30,26	19,78	4,16	3,64	14,01	-0,21	-1,06
Net earnings (BS)	-30,16	8,33	-20,82	50,85	68,79	36,84	-1,58	26,65	36,80	-2,99
Net losses (BS)	67,80	-10,07	65,17	-4,57	-16,69	-6,02	21,64	-19,91	-22,11	-24,29
Reservations	18,80	9,23	57,76	2,83	7,00	14,27	-14,18	11,37	58,51	-6,03
Long term liabilities	18,88	4,81	2,98	14,19	-2,08	-3,72	12,35	-1,39	-2,69	15,18
Short term liabilities	18,48	18,83	13,56	10,54	4,09	1,66	-4,56	4,77	-0,76	-6,70
Total Liabilities and SE	12,04	4,27	1,62	3,84	-2,07	-0,88	5,95	1,66	9,00	6,13
Revenues from operations	2,62	-2,94	4,01	9,34	7,84	4,01	6,98	8,66	9,72	8,68
Expenses from operations	4,29	1,60	2,44	7,86	2,59	5,78	6,43	0,02	10,84	6,45
Salaries	6,83	0,63	0,89	4,17	-0,73	0,50	8,25	5,80	7,75	12,22
Total revenues	0,40	-1,31	1,90	9,49	6,93	7,03	3,25	8,66	10,82	7,93
Total expenses	8,05	-1,79	6,80	5,71	1,04	3,57	4,92	3,31	5,14	6,05
Earnings before taxes	-28,19	9,73	-20,62	46,25	55,80	27,73	6,99	25,14	32,02	3,63
Losses before taxes	64,32	-1,09	29,43	-5,01	-15,53	-7,40	21,65	-19,85	-19,96	-25,54
Taxes	-19,15	11,65	-22,66	41,48	-29,30	-107,03	-2586,99	6,14	-62,72	405,48
Net earnings (IS)	-30,16	8,33	-20,82	50,85	68,30	37,23	-1,58	26,65	36,80	-2,99
Net losses (IS)	64,00	-1,44	29,62	-4,57	-15,78	-7,03	21,64	-19,91	-22,11	-24,29

surprisingly, off-balance sheet items become a prominent feature of the balance sheet as time progresses, starting at 3.23% in 2007 and finishing at 6.09% in 2017.

In effect, most worrisome is the fact that from 2007 until 2015 total expenses outstrip total revenues even though the operating margin remains positive for the entire period. One of the reasons for this is that a number of hotel companies have not yet finished the transition process and are still under the auspices of the state, which is why they are operating at a loss, yet still remain in business. However, even though still greater than net income in absolute terms, net losses are decreasing, a sign that even those companies lagging behind in transformation are adopting well to a market-oriented economy.

### 4.3. Ratio analysis

The second part of fundamental financial analysis involves the process of comparing key financial positions from the balance sheet and income statement relative to another. For each ratio, correspondent values were computed for the entire observation period, while Table 5 presents only their descriptive statistics as well as the compound annual growth rate (CAGR). In order to make the analysis as precise as possible, the amounts for net income and net losses were collapsed into one by adding them together. The ratio analysis discovers certain financial aspects of the hotel industry which run contrary to the popular belief.

First, Net working capital, a telltale measure of short-term liquidity, is negative during the entire time horizon of the analysis, a fact corroborated by both the mean and the median. Moreover, a strong 4.66% compound annual growth rate may significantly widen this gap if such trend continues. The current ratio is below 1 and in line with the above claim that the Croatian hotel industry overall does not have enough resources to service its current obligations. The financial stability ratio is in turn relatively high with a mean of 1.15, indicating that the contribution of working capital is low, threatening the financial stability of the entire sector.

Second, from a solvency perspective, the debt ratio with a mean value of 0.54 indicates that a little bit over half of the sector's assets are financed by debt. This is confirmed by the mirroring equity ratio with a mean value of 0.45. The financial leverage, or debt-to-equity ratio, measures the level of debt used to finance the industry assets relative to the value of shareholder's equity and represents one of the most important financial metrics as it indicates potential risk. In this case, a value of 1.21 signals a relatively high risk of bankruptcy if tourism demand declines.

TABLE 4: Vertical analysis showing % values for select positions in the aggregate balance sheet and income statement, 2007-2017.

Item	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Long term assets	90,48	89,68	89,25	89,87	90,18	89,48	89,13	89,66	89,79	89,68	89,19
Intangible assets	1,19	1,14	1,17	0,92	0,75	0,60	0,68	0,68	0,65	0,93	1,09
Tangible assets	78,05	78,73	78,72	78,96	79,87	79,03	78,63	75,98	75,64	74,38	74,42
Land	17,11	19,02	18,96	19,07	19,93	19,30	19,73	19,38	19,39	18,35	17,14
Buildings	49,21	46,71	48,63	48,47	49,05	49,60	49,39	48,06	48,07	45,75	45,80
Real estate investments	0,93	1,06	1,14	1,56	1,62	1,61	1,70	1,43	1,38	2,28	2,37
Long term financial assets	11,03	9,60	9,23	9,77	9,34	9,55	9,45	12,21	12,84	13,71	13,21
Long term A/R	0,10	0,10	0,06	0,10	0,08	0,12	0,16	0,58	0,40	0,31	0,09
Short term assets	8,45	9,00	9,11	9,20	8,96	9,51	9,94	9,41	10,01	10,05	10,55
Inventory	0,87	0,84	1,52	1,41	1,53	1,53	1,65	1,30	1,42	1,28	1,17
Short term A/R	3,05	3,44	3,68	3,56	3,42	3,43	3,21	2,54	2,66	2,37	2,0
Short term financial assets	2,80	2,5	2,59	2,90	2,21	2,65	2,94	3,39	3,22	3,07	2,97
Cash and cash equivalents	1,73	2,19	1,32	1,33	1,80	1,90	2,15	2,18	2,72	3,33	4,32
Total assets	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,0	100,00
Off-balance sheet items	3,23	3,01	3,58	4,38	4,35	4,74	4,36	2,40	4,58	6,1	6,09
SE and reserves	54,04	51,29	48,41	46,17	41,48	40,03	40,06	40,56	40,87	46,37	46,24
Stockholders' equity	46,80	42,59	41,24	42,19	39,81	39,89	39,24	41,11	41,42	39,49	37,90
Capital reserves	0,44	0,59	0,70	1,10	2,04	2,56	4,09	3,17	3,58	6,71	8,27
Earnings reserves	3,05	3,76	3,97	3,98	3,47	3,33	2,32	2,32	3,27	3,88	2,86
Revalorization reserves	7,85	9,99	9,98	10,43	10,57	10,11	9,99	9,38	8,9	9,21	8,06

Retained earnings	2,52	2,62	2,67	2,93	2,48	3,16	3,59	3,89	4,06	4,44	5,03
Transferred losses	6,30	6,66	8,90	11,73	14,72	18,00	18,92	18,51	20,76	19,0	17,72
Net earnings (BS)	1,29	0,80	0,83	0,65	0,94	1,63	2,25	2,09	2,60	3,26	2,98
Net losses (BS)	1,61	2,41	2,08	3,38	3,10	2,64	2,50	2,87	2,26	1,62	1,15
Reservations	0,36	0,3	0,40	0,6	0,62	0,67	0,78	0,63	0,69	1,00	0,89
Long term liabilities	29,46	31,26	31,42	31,84	35,02	35,01	34,01	36,06	34,98	31,23	33,89
Short term liabilities	15,58	16,47	18,77	20,98	22,33	23,74	24,35	21,93	22,60	20,58	18,09
Total Liabilities and SE	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,0	100,00
Revenues from operations	92,88	94,94	93,37	95,31	95,17	95,98	93,27	96,64	96,65	95,69	96,35
Expenses from operations	88,92	92,36	95,09	95,60	94,17	90,35	89,30	92,05	84,73	84,75	83,59
Salaries	25,62	27,26	27,80	27,52	26,19	24,31	22,82	23,93	23,30	22,66	23,56
Total revenues	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,0
Total expenses	102,11	109,89	109,37	114,63	110,66	104,56	101,18	102,82	97,77	92,76	91,14
Earnings before taxes	6,99	5,00	5,56	4,33	5,78	8,43	10,06	10,42	12,00	14,30	13,73
Losses before taxes	9,10	14,89	14,93	18,96	16,45	12,99	11,24	13,24	9,77	7,06	4,87
Taxes	0,86	0,69	0,78	0,59	0,77	0,51	-0,03	0,80	0,78	0,26	1,23
Net earnings (IS)	6,12	4,25	4,67	3,63	5,00	7,87	10,09	9,62	11,21	13,84	12,44
Net losses (IS)	9,08	14,84	14,82	18,85	16,43	12,94	11,24	13,24	9,76	6,86	4,81

TABLE 5: Descriptive statistics of financial metrics, 2007-2017.

Item	Mean	Median	Std. dev.	Min	Max	CAGR
Net Working Capital	-5475589562	-5944626744	1439173824	-6929726107	-2866434806	4,66%
Current ratio	0,469735552	0,443099891	0,064234533	0,400477685	0,583293766	0,73%
Financial stability ratio	1,148812018	1,155613138	0,042337335	1,083504801	1,203343563	0,27%
Debt ratio	0,540581472	0,533177301	0,047136492	0,455262324	0,593501549	1,36%
Equity ratio	0,454440194	0,463590442	0,049833131	0,404321607	0,546300703	-1,63%
Financial leverage	1,212014124	1,144064458	0,226991694	0,83335482	1,467734666	3,04%
Total Asset turnover ratio	0,210699065	0,212814973	0,021956097	0,180733225	0,240365687	1,22%
Activity ratio	0,972278288	0,972552681	0,072002321	0,872389269	1,097217129	1,14%
Operating activity ratio	1,058271229	1,044591474	0,058243841	0,981977535	1,152648664	0,99%
Net profit margin	-0,040125021	-0,036238971	0,074707718	-0,152209154	0,076267008	-
Return on assets (ROA)	-0,007011753	-0,007934972	0,015096302	-0,027509251	0,018331972	-
Return on equity (ROE)	-0,015236773	-0,019381605	0,032672242	-0,059027944	0,039543463	-

Third, activity ratios measure the overall efficiency in terms of assets used for generating revenues. The Total asset turnover ratio's mean value is 0,21, indicating that for 100 HRK in assets only 21 HRK are generated in sales. The efficiency ratio, being below 1, confirms that the entire sector operates at a loss. The operating activity ratio, with a mean value of 1.06, indicates that the hotel business, net of all other burdens is in fact profitable, but not by much.

Finally, the profitability ratios show that at the industry level, the hotel business has a negative net profit margin of 5%. Both ROA and ROE are negative as well with -0,01 and -0,02, respectively, indicating poor use of assets and stockholder's equity.

#### 4.4. Trend analysis

In order to better understand the characteristics and behavior of each ratio subsample, a univariate time-series analysis was performed. The univariate tests show that the Total asset turnover ratio, activity ratio, net profit margin, ROA and ROE are all significant at  $p < 0.01$ , while the equity ratio is significant at  $p < 0.05$ . Both Net working

capital and financial leverage are significant at  $p < 0.1$ . The coefficient of determination is the highest for the activity ratios, closely followed by the profitability metrics. While univariate time series analysis is an appropriate statistical technique, it must be noted that the time period under observation is relatively short which may affect the underlying statistical assumptions.

TABLE 6: Univariate time series analysis of financial metrics, 2007-2017.

Item	Time	SE Time	Constant	SE Constant	R Squared
Net Working Capital	-2.395e+08*	(1.206e+08)	-4.039e+09***	(8.180e+08)	0.305
Current ratio	-0.00150	(0.00644)	0.479***	(0.0437)	0.006
Financial stability ratio	0.00621	(0.00372)	1.112***	(0.0252)	0.237
Debt ratio	0.00716	(0.00409)	0.498***	(0.0278)	0.254
Equity ratio	-0.00917**	(0.00397)	0.509***	(0.0269)	0.372
Financial leverage	0.0360*	(0.0194)	0.996***	(0.132)	0.277
Total Asset turnover ratio	0.00529***	(0.00133)	0.179***	(0.00901)	0.638
Activity ratio	0.0170***	(0.00449)	0.870***	(0.0305)	0.615
Operating activity ratio	0.0142***	(0.00345)	0.973***	(0.0234)	0.652
Net profit margin	0.0174***	(0.00477)	-0.145***	(0.0323)	0.597
Return on assets (ROA)	0.00358***	(0.000937)	-0.0285***	(0.00635)	0.619
Return on equity (ROE)	0.00741***	(0.00216)	-0.0597***	(0.0147)	0.566

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## 5. Concluding Remarks

Various types of fundamental analyses have long been used by investors and financial institutions to assess companies' health and performance based on the data contained in their financial statements. Using cumulative financial statements data for the entire hotel industry in Croatia from 2007 to 2017, this study employed four different types of analyses – descriptive statistics, horizontal and vertical, ratio, and trend – in order to better assess the potential for any financial risks occurring based on the information embedded in the balance sheet and income statement.

In general, this paper reveals a number of findings that run contrary to popular belief. While tourism as an overarching sector has experienced spectacular growth

in Croatia for the period under observation, the hotel industry has struggled to keep pace. This is especially obvious with regards to the industry's Net working capital which has been negative during the entire time, signaling an overall inability to use assets in an efficient manner. Poor liquidity appears to be a sector-wide problem and may indicate a general need for additional capitalization, a problem which may be solved by privatizing the remaining hotels under full or partial state ownership.

Another warning sign is the fact that from 2007 until 2013 total expenses were higher than total revenues. Given that this trend was reversed in the subsequent period, the negative results can be attributed to the aftershocks felt following the Great Financial Crisis. Nevertheless, poor utilization of available assets signals problems with operating efficiency and poses a constant risk to the sector. This, in turn, affects the overall profitability of the hotel companies and makes them an unattractive investment proposal for potential suitors. In terms of indebtedness, the sector is highly leveraged when compared to its peers, again signaling a potential source of risk if debt accumulation continues with the same pace as before.

From all of the above it can be concluded that fundamental financial analysis, combined with descriptive statistical analysis, can provide a holistic financial risk management approach for industries as above. Its biggest advantage is that the study can be replicated on other sectors and industries within the economy, pending available data.

Nevertheless, while revealing a number of specific patterns, this study is not without its limitations, especially in terms of the short time series horizon, the low frequency of data as well as the lack of available information on similar industries which can serve as a benchmark for comparative analysis.

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## References

- [1] Damitio, J., Dennington, L. & Schmidgall, R., 1995. Financial Statement Analysis. *The Bottom Line*, 10(6), pp. 10-23.
- [2] Gardiner, M., 1997. Financial ratios: Can you trust them?. *Management Accounting*, 75(8), p. 30.
- [3] Graham, B. & Dodd, D. L., 1934. *Security Analysis*. 1st ed. New York: Whittlesey House.



- [4] Horrigan, J. O., 1978. *Financial ratio analysis: An historical perspective*. 1st ed. New York: Arno Press.
- [5] Altman, E. I., 1968. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of Finance*, XXIII(4), pp. 589-609.
- [6] Lawder, K., 1989. Ratio 101: Back to the basics of financial analysis. *Business Credit*, 91(6), pp. 28-30.
- [7] Buffett, W., 1984. The Superinvestors of Graham-and-Doddsville. *Hermes: the Columbia Business School Magazine*, Issue Fall, pp. 4-15.
- [8] Kristy, J. E., 1994. Conquering Financial Ratios: The Good, the Bad, and the Who Cares?. *Business Credit*, February, 96(2), pp. 14-17.
- [9] Andrew, W. P. & Schmidgall, R. S., 1993. *Financial management for the hospitality industry*. 1st ed. MI: Educational Institute of the American Hotel.
- [10] Gardiner, M., 1995. Financial ratio definitions reviewed. *Management Accounting*, 73(8), pp. 32-33.
- [11] Meric, I., Prober, L. M., Eichhorn, B. H. & Meric, G., 2004. Integration and the financial characteristics of manufacturing firms in the European Union. *American Business Review*, 22(2), pp. 88-97.
- [12] Gunduz, L. & Tatoglu, E., 2003. A comparison of the financial characteristics of group affiliated and independent firms in Turkey.. *European Business Review*, 15(1), pp. 48-54.
- [13] Voulgaris, F., Doumpos, M. & Zopounidis, C., 2000. On the evaluation of Greek industrial SME's performance via multicriteria analysis of financial ratios. *Small Business Economics*, Volume 15, pp. 127-136.
- [14] Meric, I., Welsh, C. N., Pritchard, R. E. & Meric, G., 2000. A comparison of the financial characteristics of U.S. and Japanese electronics firms. *Asia Pacific Journal of Management*, 17(1), pp. 175-185.
- [15] Li, S., Liu, F., Liu, S. & Whitmore, G. A., 2001. Comparative performance of Chinese commercial banks: Analysis, finding and policy implications. *Review of Qualitative Finance and Accounting*, 16(2), pp. 149-170.
- [16] Locke, S. & Scrimgeour, F., 2003. Testing the consistency of New Zealand SME financial ratios across industry groups. *Journal of American Academy of Business*, 3(1/2), pp. 166-173.
- [17] Smith, M. B., 1997. Significance testing for cross-sectional influences in working capital in industrial firms listed on Johannesburg Stock Exchange. *Journal of Financial Management & Analysis*, 10(2), pp. 33-36.

- [18] Yallapragada, R. & Breaux, A., 1989. Financial statement analysis: Its use in lending institutions. *The National Public Accountant*, 34(1), pp. 32-37.
- [19] Zaman, M. R. & Unsal, F., 2000. Comparative performance of American, European and Japanese Automobile Companies in the 1990s. *American Business Review*, 18(1), pp. 115-122.
- [20] Zeller, T. L., Stanko, B. B. & Cleverley, W. O., 1997. A new perspective on hospital financial ratio analysis.. *Healthcare Financial Management*, 51(11), pp. 62-66.
- [21] Upneja, A., Kim, H. & Singh, A., 2000. Differences in financial characteristics between small and large firms: An empirical examination of the casino industry. *The Journal of Hospitality Financial Management*, 8(1), pp. 23-35.
- [22] Schmidgall, R. S., 1989. Financial ratios: Perceptions of lodging industry general managers and financial executives.. *FIU Hospitality Review*, 7(2), pp. 1-9.
- [23] Singh, A. & Schmidgall, R. S., 2001. Use of ratios by financial executives in the U.S. lodging industry. *Journal of Hospitality Financial Management*, 9(1), pp. 27-44.
- [24] Schmidgall, R. S. & DeFranco, A. L., 2004. Ratio analysis: Financial benchmarks for the club industry. *The Journal of Hospitality Financial Management*, 12(1), pp. 1-14.
- [25] Nunes, C. R. & Vieira Machado, M. J. C., 2012. Financial Assessment of Performance in Hotel Industry. *European Journal of Tourism, Hospitality, and Recreation*, 3(Special Issue ITC'11), pp. 97-109.
- [26] Kim, D. J., 2015. A Comparative Study of Financial Ratios between Hotels and Restaurants. *International Journal of Tourism Sciences*, 6(1), pp. 95-106.
- [27] Droj, L., 2015. Study Regarding The Profitability Indicators For the Romanian Companies Operating In The Tourism and Leisure Services Sector In The Period 2010-2013. *Analele Universității din Oradea*, Volume XXIV, pp. 817-824.
- [28] Kim, W. G. & Ayoun, B., 2006. Ratio Analysis for the Hospitality Industry: A cross Sector Comparison of Financial Trends in the Lodging, Restaurant, Airline and Amusement Sectors. *Journal of Hospitality Financial Management*, 13(1), pp. 1-33.
- [29] Prohaska, Z. & Olgić Draženović, B., 2003. *Foreign Portfolio Investments in the Republic of Croatia*. Ljubljana, Faculty of Economics.
- [30] Orsini, K. & Ostojić, V., 2018. Croatia's Tourism Industry: Beyond the Sun and the Sea. *Economic Brief 036*, March, pp. 1-13.
- [31] Karanović, G. & Karanović, B., 2015. *Impact of Capital Investments in the Hotel Industry: A Survey of Croatia*. Opatija, Business School PAR.
- [32] Vlahov, A. & Ferjanić Hodak, D., 2013. *Can small and family hotels outperform the total hotel industry in Croatia?*. Zadar, University of Zadar.

- [33] Karanović, G. & Gorić, D., 2017. Financial Risk Management Challenges in Croatia's Hospitality Industry. *Journal of Business PARadigms*, 2(2), pp. 88-99.
- [34] Baldigara, T., Štambuk, A. & Mamula, M., 2013. A Contribution to E-Tourism Demand Modelling. *Informatologia*, 46(4), pp. 343-352.