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THE EFFECT OF COVID-19 ON THE FINANCIAL PERFORMANCE OF THE HOSPITALITY INDUSTRY: THE CASE OF CROATIA

ABSTRACT

Although tourism has faced numerous crises through history, the Covid-19 pandemic caused unprecedented consequences on a global scale. Governments across the world introduced protective measures such as community lockdowns, social distancing, stay-at-home orders, travel and mobility restrictions. Introduced measures led to a collapse in international and domestic travel, caused an unprecedented fall in tourism demand and a temporary closure of the hospitality businesses worldwide. Consequently, the hospitality industry faced massive financial losses and went into crisis mode which confronted this industry with tremendous challenges. This research is focused on the hospitality industry in Croatia where tourism has a significant direct impact on GDP growth and a significant contribution to national exports. Prior to the pandemic, tourism in Croatia had been steadily rising. The number of tourist arrivals and overnight stays reached the highest levels in 2019, followed by a steep decline in 2020 due to the pandemic. The main goal of this study is to analyse the effect of the Covid-19 pandemic on the hospitality industry in Croatia where we focus on the analysis of financial indicators. Financial indicators selected for the analysis cover several categories: current liquidity ratio, solvency ratios, activity ratio – total turnover ratio, and profitability ratios – return on assets and profit margin i.e. return on sales. Moreover, return on assets will be measured by the Du Pont system of indicators in order to gain a clearer insight into the business performance. Selected financial indicators related to the hospitality industry in Croatia are evaluated for the 2019-2021 period, before and during the Covid-19 pandemic. The analysis encompasses hotel companies that are categorized into "Accommodation and food service activities", class I 55.10 – "Hotels and similar accommodation" by the National Classification of Activities.

Key words: Financial performance, Tourism, Hospitality industry, Hotel companies, Covid-19

1. Introduction

COVID-19 was designated a pandemic by the World Health Organization (WHO) on March 11, 2020 and has turned the world upside down. Governments around the globe implemented COVID-19 protocols and restrictions on business and community activities in order to avoid the transmission of the virus. The world was in a lockdown. The pandemic hit all industries and the hospitality industry is one of the most affected due to work performance related constraints, resulting in temporarily closed hotels and mass unemployment in the sector (Sakurai &

Chughtai, 2020, Gossling, 2021, in Hogberg, 2021). Consequently, these restrictions had negative impact on the economy (Hubert et al., 2022, Tuma et al., 2021, in Malikah, 2021). In Croatia, after five years of positive economic growth, the national economic growth rate in 2020 experienced negative growth (-8,6%). The growth rate in 2021 compared to 2020 was 13,1%, followed by a lower growth rate in 2022 (6,3%) due to increased global geopolitical uncertainty accompanied by high prices of raw materials and energy products. Consequently, consumer price inflation in the first ten months of 2022 noticeably accelerated, and accordingly the estimated rate of inflation in the 2022 was significantly increased, to 10.6% (from 2.7% in 2021, measured by the harmonized index of consumer prices) (HNB Makroekonomska kretanja i prognoze, 12/2022).

The global economic contribution of tourism (measured in tourism direct gross domestic product - GDP) in pre-pandemic year reached US$ 3.5 trillion, while in 2020 it almost halved (US$1.6 trillion). Year 2021 announced the recovery of the global tourism industry since the global economic contribution of tourism in 2021 grew to US$1.9 trillion. Moreover, global tourism experienced a decrease of 73% in tourist arrivals in the first pandemic year and 69% in the second pandemic year, compared to 2019. Although 2021 recorded a 4% upturn compared to 2020 (415 million versus 400 million), the number of tourist arrivals remains far below the pre-pandemic level and the majority of experts (64%) expect international arrivals to return to 2019 level in 2024 or even later (Unwto Tourism News - Fitur 2022 Edition).

Republic of Croatia (Croatia) has a long tradition of tourism lasting from 19th century. Tourism represents the dominant economic activity in Croatia, and together with hospitality and service activities represents a significant share of Croatian GDP (NN 13/2021). According to the UNWTO (2021), Croatia is among the ten most vulnerable countries according to the criteria of the direct impact of tourism on the share of GDP (Bogdan et al., 2021). Travel restrictions, border closures, quarantine regulations and the implementation of epidemiological measures in Croatia as well as around the world, in order to prevent the spread of the virus, had a direct impact on the decrease in tourist arrivals and overnights (DZS, 2021). In the first pandemic year, the number of tourist nights in Croatia dropped to the lowest level in 20 years. Accordingly, in 2020, Croatian tourism indicators dropped sharply reaching 36.8% of tourist arrivals and 44.7% of overnight stays compared to 2019 (HGK, Hrvatsko gospodarstvo 2020. godine, 2021). Also, hospitality industry indicators declined where, compared to year 2019, hotels and similar accommodation experienced decline in terms of the number of permanent beds (-10,38% in 2020, and -3,45% in 2021) and in number of total tourist arrivals (-75,70% in 2020, and -48,43% in 2021). Occupancy rate of permanent beds in hotels in 2019 was 48,2%, dropping to 18% in 2020, and to 32,3% in 2021. Although the number of tourist nights in 2020 decreased in all groups in commercial accommodation compared to 2019, group Hotels and similar accommodation experienced the largest decline (73,0%). The Croatian government has adopted several measures in order to support the travel and tourism sector and to provide the companies with more liquidity and easier access to funding under favourable conditions, helping them to survive, preserve employees, mitigate business challenges and recover. Those measures can be classified into eight areas: fiscal policy, monetary policy, jobs & skills, market intelligence, public-private partnerships, restarting tourism, health and safety protocols, domestic tourism (UNWTO March, 2021 COVID-19: Measures to support the travel and tourism sector, Country: Croatia).

According to Achim et al. (2021), numerous studies have been published about the COVID-19 pandemic and business. However, they found that only few studies analyse the level of business performance as a response to the COVID-19 pandemic. Considering that the Covid-19 pandemic particularly impacted the tourism and hospitality industries, with widespread closures as well as later re-opening times than in other industries (Ntounis et al., 2022), an analyse of the business performance of hospitality industry in pandemic period is preferable.

This study aims to compare the financial performance of hospitality industry in Croatia before and during the COVID-19 period. We focus on the effect of the Covid-19 pandemic on the business performance, where business performance is measured by several financial indicators (current liquidity ratio, solvency ratios, activity ratio – total turnover ratio, and profitability ratios – return on assets and profit margin, i.e. return on sales).

2. Overview: methodologies and previous research

The financial ratio analysis is a fundamental analysis when analysing financial performance. When calculating ratios, the two most important and most commonly used financial statements are the balance sheet and the income statement (Kim & Ayoun, 2005). A financial ratio shows the relationship between two amounts and allows for the assessment of a relationship and enables to quantify the degree of change within the relationship (Asdullah & Rehman, 2015; Lawder, 1989 in Kim & Ayoun, 2005). Therefore, ratio analysis is a fundamental tool for evaluating the financial health of a company and the effectiveness of the company's decisions to run its business (Kim & Ayoun, 2005; Guridno & Guridno, 2020 in Malikah, 2021). For that purpose, many financial ratios have been developed and are used by practitioners and academicians (Kim & Ayoun, 2005; Pavone et al., 2021). For the hospitality industry financial ratios can be categorized in four categories (Sing et al., 2015 in Arif et al., 2016; Andrew and Schmidgall, 1993 in Asdullah & Rehman, 2015; Malikah, 2021) as presented in Table 1.

Table 1. Financial ratios description

1) Liquidity Ratios	Measures a company's ability to meet its short-term obligations as they fall due	A liquidity ratio analysis can be calculated using the: Current Ratio, Quick Ratio, Cash Ratio and Cash Turnover Ratio
2) Solvency Ratio	Indicates company's ability to meet all of its obligations	Solvency ratio analysis can be calculated by: Debt to Assets Ratio, Debt to Equity Ratio, Long Term Debt to Equity Ratio, and Time Interest Earned Ratio.
3) Activity Ratio	Measures company's efficiency to use its assets	Activity ratio can be calculated with: accounts receivable, inventory, working capital, fixed assets, and total turnover ratio
4) Profitability Ratio	Assess the company's ability to generate profits.	A profitability ratio analysis can be calculated by: Net Profit Margin, Return on Investment, Return on Equity, and Basic Earning Power

Source: authors according to Sing et al., 2015 in Arif et al., 2016; Andrew and Schmidgall, 1993 in Asdullah & Rehman, 2015; Malikah, 2021

The liquidity ratio
The current ratio (CR) is one of the commonly used ratios to measure liquidity. It represents the relationship between current assets to current debt. The desirable value of this indicator is above 1 because the current assets' value must be higher than the value of the current debt (Fraser & Ormiston, 2016 in Devi et al. 2020). A lower ratio value indicates a problem in liquidity while a high ratio value indicates that funds are not used optimally, thus reducing the ability of company to generate profit (Subramanyam, 2014 in Devi et al. 2020; Malikah, 2021). Moreover, the liquidity ratio can affect the investors' assessment of investment in the company (Malikah, 2021). An economic crisis has negative influence on company liquidity (Devi et al. 2020). Amnim et al. (2021) show that COVID-19 pandemic has negatively affected the company's liquidity as well as profitability. Guerini et al. (2020) also found unprecedented increase in the share of illiquid and insolvent firms in the first pandemic year in France. Furthermore, they reveal that the crisis has a heterogeneous effect among different sectors, firm

size, and region. The most vulnerable sectors are hotels and restaurants, household services, and construction while micro-firms and large businesses are more likely to face solvency issues considering small and medium firms.

The Solvency/Leverage Ratio
The solvency ratio indicates a company's ability to pay off all of its obligations (short-term and long-term obligations). The use of short-term debt affect liquidity, and the use of long term debt affect solvency. If the company's total debt is greater than the total assets, a company is considered to be unsolvable (Malikah, 2021). Debt to Asset Ratio (DAR) is one of the solvency ratios used to measure the extent to which the company's assets are financed with debt or, in other words, the effect of company's debt on asset management (Kasmir, 2016 in Siagian et al., 2021; Baraja and Yosya, 2019 in Syarifah, 2021). This ratio is also important to creditors, especially to long-term creditors (Abbas, 2018 in Devi et al. 2020).

Activity Ratio
The activity ratio determines a company's efficiency in using its assets to generate sales. Therefore, this ratio indicates whether a company uses its asset optimally. A higher activity ratio is preferred (Malikah, 2021). The total turnover ratio, as one of the measures of company activity, is calculated as a ratio of total revenues and total assets, and it reveals the total business activities of the company (Ježovita, 2016). Respectively, it measures the overall ability of a company to generate income for a given level of assets (Robinson, Van Greuning, Henry, & Broihahn, 2009, p. 283. in Ježovita 2016).

Profitability Ratio
The profitability ratio analysis measures a company's ability to generate profits, but it also measures the effectiveness of a company's management (Devi et al. 2020; Malikah, 2021). This analysis can be conducted by different financial ratios such as total asset growth, loan growth rate, and earnings growth rate (Obim, Takon & Mgbado, 2020 in Amnim et al., 2021). Return on assets (ROA) is the most commonly used measure of profitability, calculated as a ratio between net income after tax and total assets. Therefore, it shows the asset productivity in generating profit (Handayani & Zulyanti, 2018; Syafirah, 2019; Subramanyam, 2014 in Devi et al. 2020). However, in order to analyse the success of a company's operations, various complex indicators are used, and the Du Pont system of indicators is the most commonly used. Du Pont analysis is a common form of financial statement analysis that disaggregates ROA into two multiplicative components: profit margin (net profit + interest/business income) and asset turnover (business income / total assets). Disaggregating ROA into these components allows managers, market participants, and other stakeholders to understand sources of superior (or inferior) returns within the industry and across industries. Profit margin or Return on Sales (ROS) is a measure of a company's efficiency to retain realized total income in the form of profit increased by interest expenses. Therefore, it is related to the business performance of a company. The schematic system is most often shown in a pyramid form, where the profitability of the total assets is shown at the top of the pyramid (Subramanyam, 2014 in Devi et al. 2020; Ježovita, 2016). The importance of profitability analysis is evident because the economic crisis harms a company's ability to generate profits due to a decline in people's purchasing power, and this is particularly prominent in the short term (Devi et al. 2020).

Recent studies related to the effect of COVID-19 to business performance reveal different impact of the pandemic on various financial ratios depending the sectors and countries. Malikah (2021) found that the liquidity ratio of hospitality companies is significantly different in pre-pandemic and pandemic period. The analysis conducted by Bogdan et al. (2021) revealed the

significant negative effect of the COVID-19 pandemic on the returns of stocks in tourist as well as other sectors on the Zagreb Stock Exchange. Findings from Atayah et al. (2021) revealed different impact of COVID-19 on the financial performance (measured by ROA, ROE and EPS) of logistic firms in different countries. Overall, the COVID-19 has negatively affected the financial performance of logistics firms in six G-20 countries. Achim et al. (2021) reveal that equity financing, proper liquidity management, and an increased company size consolidate the economic performance of entities regarding return on equity and return on assets. Furthermore, the total net profits of the market decreased by 37.43% during the analysed period June 30, 2019–June 30, 2020, and all service sectors (hotel and restaurants, pharmaceuticals, and real estate registered) significantly decreased. However, they found significant improvement in net profits of small companies engaged in agriculture, commerce, construction, IT R&D, transport and storage, in the first pandemic year compared to the previous period. In a study that analysed the impact of the COVID-19 pandemic on the financial performance of companies listed on the Indonesia Stock Exchange, Devi et al. (2020) found differences in financial ratios among different sectors. Therefore, the consumer goods sector experienced a decrease in the leverage ratio and an increase in the liquidity ratio, profitability ratio, and short-term activity ratio. While property, real estate, building construction, finance, trade, services, and investment sectors experienced a decrease in the liquidity and profitability ratios. Sraka & Kozjak (2022) found that the COVID-19 pandemic had a positive impact on revenues, assets, capital and profitability of companies from the promotional sector in Croatia, but have negatively affected the number of active companies. Bloom et al. (2020) analysed the impact of Covid-19 on productivity using the total factor productivity (TFP) indicator. They revealed that TFP decreased up to 5% during 2020-2021 and found significant heterogeneity over firms and sectors, where the largest impact was detected in extensive in-person activity. Ntounis et al. (2022) found that tourism dependent businesses are more vulnerable to the pandemic compared to some other sectors such as professional services. Furthermore, some other sectors, such as retail, were actually more vulnerable compared to tourism sector. Roška (2021) conducted a research on the business performance of the listed hotel companies in 2020 on the Zagreb Stock Exchange (Croatia). She concluded that companies achieved only 37 percent of total revenue in 2020 compared to 2019. Furthermore, based on the PROF ratio, she concluded that hotels companies need to improve their financial strength, ROE, and total assets turnover in order to be more resilient to this crisis. Mikulić et al. (2021) concluded that introduced epidemiological measures to prevent the transmission of COVID-19 have influenced the majority of economic activities in 2020, but tourism has been most affected and, besides hotels and restaurants, the most affected economic sectors were transport, trade, food industry, sports, entertainment, recreational and personal services.

3. Tourism and hospitality industry in Croatia before and during the COVID-19 pandemic

The tourism metrics for the period 2019 to 2021, collected from The UNWTO Tourism Data Dashboard presented in Table 2., reveal the impact of the pandemic on tourism in Croatia. During the pandemic years, there was a huge decline in the number of arrivals (68% in 2020, 39% in 2021), realized receipts (53% in 2020, 8% in 2021), international tourism expenditure (56% in 2020, 39% in 2021) and in the share of tourism in total export (41% in 2020, 21% in 2021). However, tourism metrics in 2021 compared to 2020 indicate a slight recovery of tourism (table 2).

Table 2: Tourism data for Croatia, comparison of pandemic years and pre-pandemic year

Indicator	Details	2020/2019	2021/2019
Arrivals	International Tourist Arrivals (in million)	-68%	-39%
Receipts	International Tourism Receipts (in USD billion)	-53%	-8%
Expenditure	International Tourism Expenditure (in USD billion)	-56%	-39%
Tourism as Exports	Tourism as share of total Exports (in %)	-41%	-21%

Source: authors by The UNWTO Tourism Data Dashboard https://www.unwto.org/tourism-data/unwto-tourism-dashboard (08.01.2023)

Table 3 presents the comparison of the number of permanent beds, tourist arrivals and nights, and occupancy rate of permanent beds in the pandemic years and pre-pandemic year by types of tourist accommodation establishments according to division 55 of NKD 2007.[1] Compared to other accommodation groups, Hotels and similar accommodation (hotel companies) faced the largest decline in tourist arrivals, both domestic and foreign, in overnight stays for foreign tourists, and in an occupancy rate of permanent beds. The largest decline was experienced in the first pandemic year, followed by a moderate decline in the second pandemic year.

Table 3: Comparison of number of permanent beds, tourist arrivals and nights, in pandemic years and pre-pandemic year, according to division 55 of NKD 2007.

| DIVISION 55 OF NKD 2007.		55.1 Hotels and similar accommodation	55.2 Holiday and short-stay accommodation	55.3 Camping sites grounds	55.9 Other accommodation	Total
Number of permanent beds	2020/2019	-10,38%	-10,14%	-7,43%	-43,57%	-9,56%
	2021/2019	-3,45%	-7,58%	-4,78%	-30,78%	-6,33%
Arrivals - total	2020/2019	-75,70%	-56,64%	-55,80%	-46,97%	-64,22%
	2021/2019	-48,43%	-30,01%	-11,69%	-28,65%	-34,70%
Arrivals - domestic	2020/2019	-46,10%	-23,17%	9,16%	-43,28%	-34,20%
	2021/2019	-6,48%	-4,93%	51,27%	-25,31%	-3,51%
Arrivals - foreign	2020/2019	-80,92%	-60,64%	-57,86%	-62,84%	-68,05%
	2021/2019	-55,83%	-33,01%	-13,69%	-43,02%	-38,68%
Nights - total	2020/2019	-72,98%	-46,59%	-52,34%	-48,03%	-55,29%
	2021/2019	-39,37%	-19,85%	-8,73%	-31,92%	-23,06%
Nights - domestic	2020/2019	-39,73%	-15,13%	0,74%	-45,12%	-23,68%
	2021/2019	2,02%	1,45%	31,54%	-28,87%	3,65%
Nights - foreign	2020/2019	-76,92%	-49,42%	-53,77%	-63,47%	-57,96%
	2021/2019	-44,28%	-21,77%	-9,81%	-48,09%	-25,31%
Occupancy rate of permanent beds	2020/2019	-69,85%	-40,57%	-48,51%	-7,91%	-50,63%
	2021/2019	-37,21%	-13,28%	-4,14%	-1,65%	-17,72%

Source: authors according to data from DZS

When comparing hotel companies according to their size during the observed period 2019-2021 (Graph 1) it is evident that analysing micro, small, medium and large companies as a single unit could be misleading, not only due to differences in their fundamental characteristics, but also due to the dominance of large companies in the number of employees and profit share. Namely,

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[1] According to DZS (TOURIST ARRIVALS AND NIGHTS IN 2019, available at; https://mint.gov.hr/UserDocsImages/AAA_2020_ABC/c_dokumenti/200228_DZS_turizam2019.pdf) „Division 55 of the NKD 2007. includes short-stay accommodation service activities to tourists. Particular units may only provide accommodation services, while others may combine the services of accommodation, catering and/or recreation equipment. Tourist accommodation establishments listed in this division are broken down into four groups:
- Group 55.1 Hotels and similar accommodation includes the following types of accommodation establishments: hotels, heritage hotels, all-suite hotels, integral hotels, diffuse hotels, spa-type accommodation, special standard hotels, tourist resorts, tourist apartments, boarding houses and guest houses.
- Group 55.2 Holiday and other short-stay accommodation includes rooms, apartments, studio-type suites, summer houses, rural summer houses, hostels, spas, overnight accommodation, vacation establishments for children, inns offering accommodation services, mountain lodges, hunting lodges and pupils' homes or students' homes.
- Group 55.3 Camping sites and camping grounds include camping sites, small camps, quick stop camping, Robinson-type quick stop camping and organised off-site camping sites.
- Group 55.9 Other accommodation includes Robinson-type accommodation establishments and uncategorised establishments".

large companies employ almost half of all employees and have the largest share of profit in all three observed years, while in 2019 and 2021 they have the largest share of profit in total revenue. In 2020, large companies have the largest share in revenue per employee, while in 2019 and 2021 they share this position with micro companies.
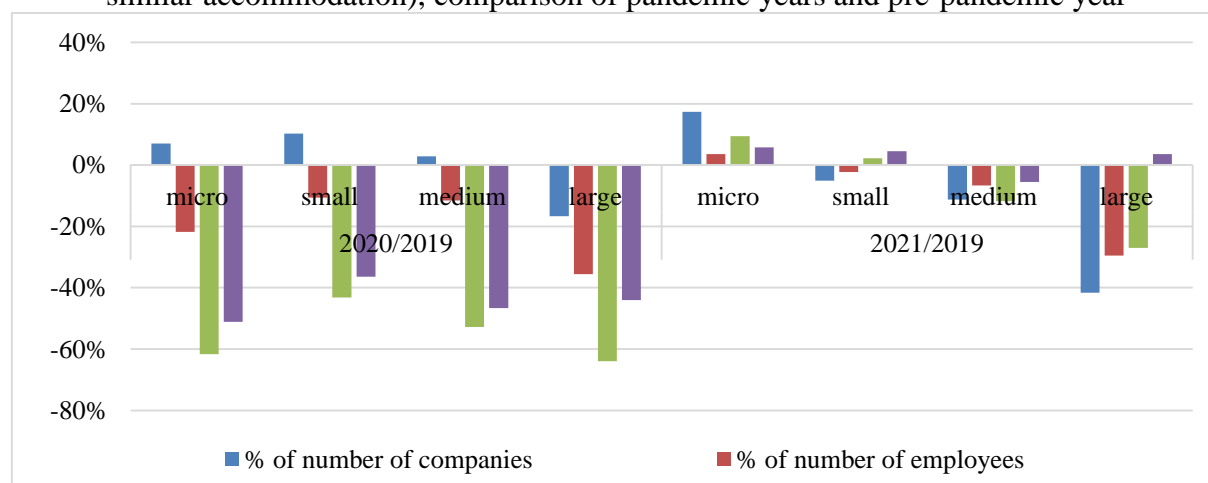
Graph 1: The data summary of micro, small, medium and large hotel companies (I5510-Hotels and similar accommodation) before and during COVID-19 pandemic period
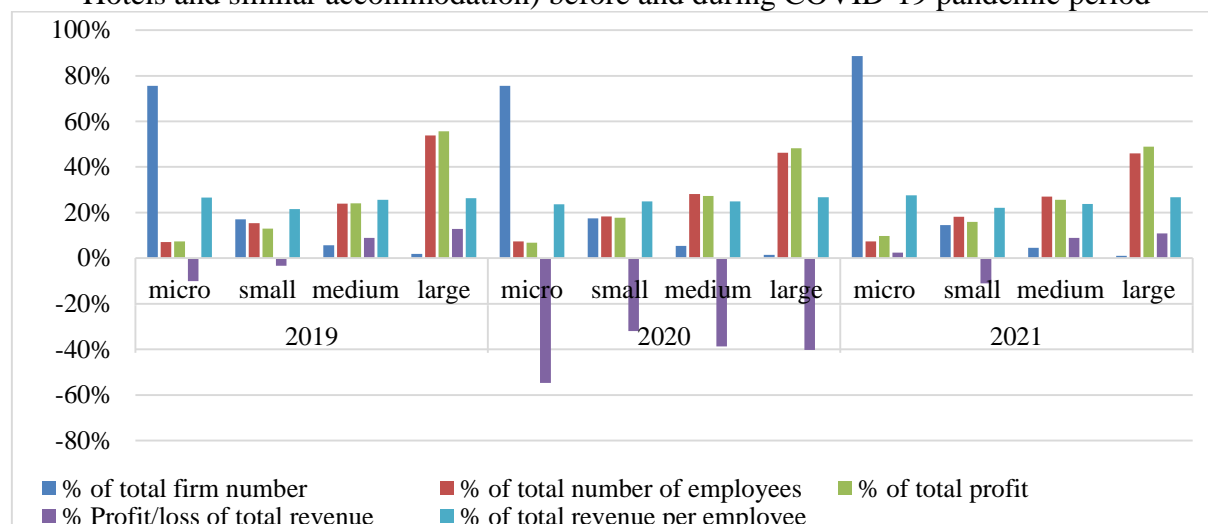
Source: authors according to data from HGK, digital chamber

According to the data summary for micro, small, medium and large companies presented in Graph 2, the largest decline in analysed indicators in pandemic years can be observed among large companies. Respectively, large companies recorded the largest decline in terms of the number of companies, number of employees and total revenue, while medium companies faced the largest decline in term of total revenue per employee.

Graph 2: The data summary of micro, small, medium and large companies (I5510-Hotels and similar accommodation), comparison of pandemic years and pre-pandemic year

Source: authors according to data from HGK, digital chamber

Moreover, according to realized profit/loss of micro, small, medium and large companies presented in graph 3, large companies suffered the largest decline in profit in the first pandemic year. However, in the pre-pandemic year and in the second pandemic year, along with medium size companies, they realized profit, while micro and small companies realized a loss.

Graph 3: Realized profit/loss of micro, small, medium and large companies (I5510-Hotels and similar accommodation) before and during COVID-19 pandemic period
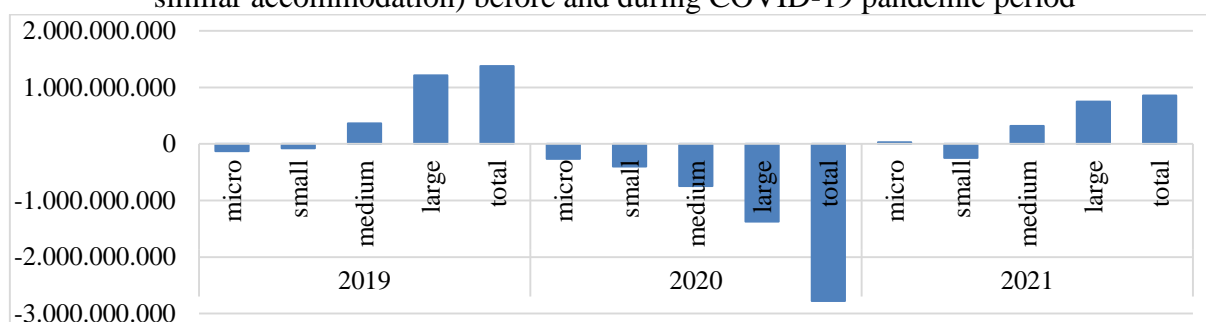
Source: authors according to data from HGK, digital chamber

4. Research Methodology

In this study we focus on large companies engaged in the activity of providing accommodation services, due to their contribution to the number of employees and the total revenue in this industry. Considering the fact that financial ratios are calculated for the period from 2019 to 2021, the condition for selecting companies referred to the inclusion of companies that operated in all three observed years. Therefore, 14 companies are included in the sample. Financial statements of hotel companies are collected from HGK-Digital Chamber. The data are collected for companies engaged in the activity of providing accommodation services (NACE 5510: Hotels and similar accommodation) in Croatia for the period 2019-2021, where the year 2019 represents the pre-pandemic year, while 2020 and 2021 represent pandemic years. Similar as in the research conducted by (Malikah, 2021) and (Amnim et al., 2021), we analyse the financial performance of selected companies before and during the pandemic by comparing financial indicator values in the pre-pandemic year and the first year of the pandemic. Moreover, we compare the financial indicator values in the pre-pandemic year and the second year of the pandemic. The magnitude of these differences is then compared by examining associated p-values and effect sizes. The existence of significant differences in the financial performance of large hotel companies before and during the COVID-19 pandemic is examined by applying the Wilcoxon signed rank test. Also, this research examines the relationship between selected financial indicators before and during the COVID-19 pandemic. The correlation between indicators is examined by applying the Spearman correlation coefficient. The key variables of interest comprise liquidity, solvency, activity, and profitability, and they were operationalized following the principles of Herciu et al., (2011), Ježovita, (2013) and Ježovita, (2016) as shown in table 4.

Table 4: Variable Measurements

Variables	Formula	Desirable value
Dependent variable:		
CL: Current Liquidity ratio	Current assets to Current debt	>1
DAR: Solvency ratios	Total debt to Total assets	< 0,50
TOT: Total Turnover ratio	Net sales to Total assets	A higher activity ratio is preferred
ROS: Return on Sales	Net profit + Interest expenses to Net sales	A higher return rate is preferred
ROA: *Return on Assets*	ROS x TOT	A higher return rate is preferred
Independent variable:		
COVID-19 Pandemic	*Measured by comparing the above listed variables prior to and during COVID-19 pandemic period*	

Source: authors according to Herciu et al., (2011), Ježovita, (2013) and Ježovita, (2016)

5. Results and Discussion

The existence of significant difference in financial performance of large hotel companies before and during the COVID-19 pandemic is analysed by comparing selected financial ratios before and during the COVID-19 pandemic. Selected indicators and the corresponding data summary are presented in Table 5 and visualized in Figure 1.

Table 5: The data summary of 14 hotel companies in Croatia for period 2019-2021

Indicator/ year	Mean	Standard Error	Standard Deviation	Sample Variance	Median	Q1	Q3	Kurtosis	Skewness	Range	Count
CR_2019	2,80	1,14	4,25	18,10	1,03	0,49	3,07	7,10	2,57	15,57	14
CR_2020	2,25	1,08	4,04	16,29	0,69	0,41	2,31	11,10	3,23	15,50	14
CR_2021	2,97	1,09	4,09	16,73	1,58	0,87	3,27	8,18	2,75	15,41	14
DAR_2019	0,33	0,04	0,13	0,02	0,30	0,24	0,43	-0,30	-0,15	0,46	14
DAR_2020	0,39	0,04	0,15	0,02	0,38	0,27	0,47	-0,44	0,58	0,49	14
DAR_2021	0,38	0,04	0,15	0,02	0,36	0,27	0,52	-0,95	0,32	0,48	14
TOT_2019	0,37	0,05	0,18	0,03	0,36	0,24	0,44	5,67	1,96	0,72	14
TOT_2020	0,14	0,01	0,05	0,00	0,14	0,09	0,18	-0,83	0,27	0,16	14
TOT_2021	0,25	0,02	0,08	0,01	0,27	0,19	0,32	-1,13	-0,34	0,23	14
ROS_2019	0,12	0,04	0,13	0,02	0,17	0,04	0,22	0,85	-1,17	0,45	14
ROS_2020	-0,38	0,13	0,49	0,24	-0,24	-0,56	-0,03	0,38	-1,18	1,56	14
ROS_2021	0,11	0,04	0,16	0,02	0,15	0,07	0,18	5,26	-1,89	0,67	14
ROA_2019	0,03	0,02	0,07	0,004	0,05	0,01	0,08	6,93	-2,39	0,26	14
ROA_2020	-0,04	0,02	0,06	0,004	-0,02	-0,06	0,00	1,48	-1,34	0,21	14
ROA_2021	0,03	0,01	0,05	0,002	0,04	0,01	0,05	3,55	-1,13	0,20	14

Source: Compiled by the financial statements of selected hotel companies for the period from 2019 to 2021. according to the data from the HGK-digital chamber

Figure 1: Financial performance comparison
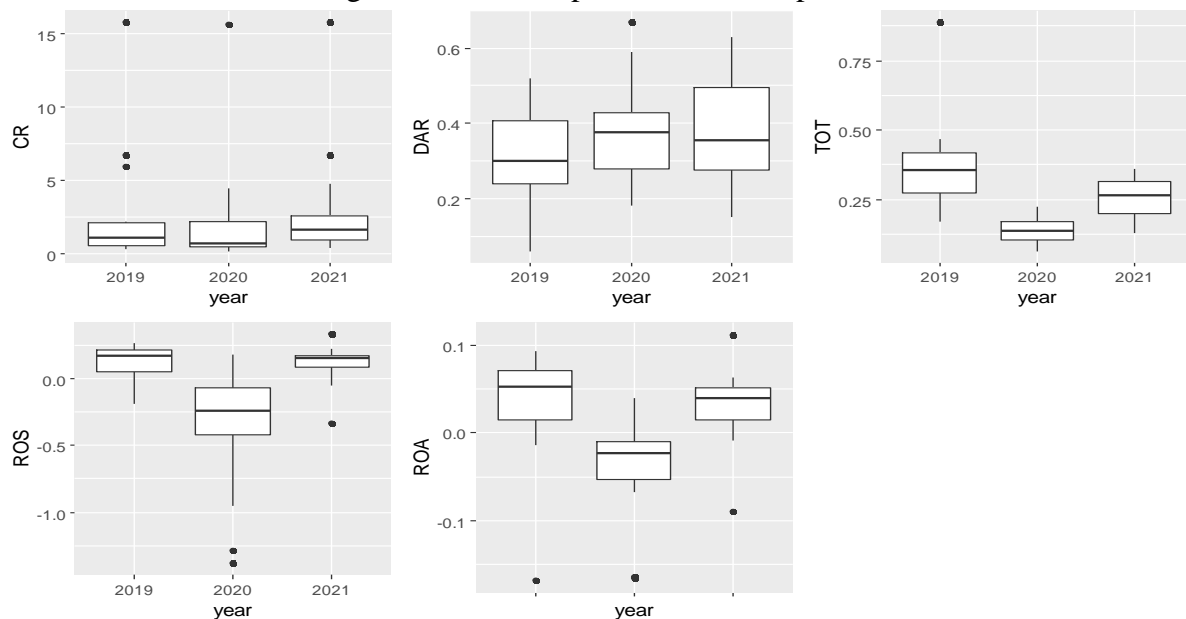
Source: authors

As expected, all observed financial ratios indicate deterioration in financial performance for the first pandemic year compared to the pre-pandemic year. Also, all observed financial ratios except Current Liquidity Ratio indicate worse financial performance in the second pandemic year compared to the pre-pandemic year. Still, some differences are not statistically significant. We compare the magnitude of these differences in Table 6 which summarizes the results of conducted tests end presents the estimated effect sizes and magnitude of these differences.

Table 6: Result of the effect of the COVID-19 on the financial performance of hotel companies in Croatia

Financial indicators	Median	W stat	p – value	Effect size (magnitude)
CR: Current Liquidity Ratio				
2019	1,03	78.5	0,1093	0.436 (moderate)
2020	0,69			
2019	1,03	35	0,2958	0.294 (small)
2021	1,58			
DAR: Solvency Ratios				
2019	0,3	11,5	**0.0108**	0.69 (large)
2020	0,38			
2019	0,3	22	0.108	0.42 (moderate)
2021	0,36			
TOT: Total Turnover Ratio				
2019	0,36	105	**0,0001**	0.881 (large)
2020	0,14			
2019	0,36	102	**0,0006**	0.83 (large)
2021	0,27			
ROS: Return on Sales				
2019	17%	102	**0,0006**	0.83 (large)
2020	-24%			
2019	17%	59	0,715	0.126 (small)
2021	15%			
ROA: Return on Assets				
2019	5%	92	**0,01**	0.663 (large)
2020	-2%			
2019	5%	68	0,358	0.260 (small)
2021	4%			

Source: authors

When comparing the pre-pandemic year and the first pandemic year, all financial ratios indicate a moderate or large differences in the financial performance of companies. Significant differences and large effects in the financial performance are recorded for DAR, TOT, ROS and ROA, where the largest effect size is found for ROS. This shows that the COVID-19 pandemic highly affected the company's efficiency to retain the realized total income in the form of profit increased by interest expenses. The only significant difference in the financial performance with the large effect size for both analysed periods is found when comparing TOT. The median TOT value significantly decreased in both pandemic years compared to the pre-pandemic year. The decrease of this indicator in the pandemic years can be explained due to

decline in the number of tourist arrivals and net sales which resulted in a decrease in occupancy rate, as well as in asset engagement. Moreover, considering the first pandemic year, the results indicate that pandemic had a negative effect on solvency (DAR) through a significant growth in the share of debt in total assets. Still, the majority of companies remain solvent in the pandemic years. Although there is no significant difference in the median value of the CLR before the COVID-19 pandemic period and in the pandemic years, it is important to observe that more than half of companies were illiquid in the first pandemic year. However, the median value of CRL in the second pandemic year increased compared to the pre-pandemic year, indicating the fast recovery of the company's liquidity. When comparing the pre-pandemic year and the second pandemic year, CRL, ROS and ROA indicate a small, non-significant difference, while DAR shows moderate but non-significant difference in the financial performance of companies. The significant decline in the median value of ROA was detected only for the first pandemic year. Therefore, it can be concluded that the COVID-19 pandemic affected the company's ability to generate profits in the first pandemic year, and also indicate that the pandemic influence on profitability was beyond the effectiveness of a company's management.

Considering the fact that the ROS and TOT have a significant impact on the overall profitability of the company, it was of interest to examine the relationship of these indicators with ROA. The correlation coefficients with corresponding p-values are presented in Table 7. The relationship between ROA and ROS, and between ROA and TOT through the evaluated period is presented in Figure 2. The results confirm the strong positive relationship between ROA and ROS. The interesting result is related to the relationship between ROA and TOT. These indicators show no significant relationship for the pre-pandemic year, but exhibit positive significant relationship in the both pandemic years. Therefore, although there was a significant decline in the TOT ratio in the pandemic years compared to the pre-pandemic year, this was not recorded for ROA in the second pandemic year due to its stronger relation with ROS. This is in agreement with the findings of Herciu et al. (2011) who detected a strong correlation between ROA and ROS.

Figure 2: The relationship between financial indicators during the pre-pandemic/pandemic period

Source: authors

Table 7: Correlation between financial indicators

Correlation	2019 r (p)	2020 r (p)	2021 r (p)
ROA to ROS	0,686 (0,007)	0,965 (0)	0,943 (0)
ROA to TOT	0,257 (0,374)	0,613 (0.022)	0,697 (0,007)

Source: authors

6. Conclusion

The pandemic affected tourism in Croatia as well as around the globe causing an unprecedented disruption. This study confirms that COVID-19 pandemic had a negative effect on all observed financial ratios of large hotel companies, particularly in the first pandemic year.

During pandemic years, companies Total turnover ratio significantly declined which indicates that the majority of companies were ineffective in using assets to generate income. Although low Total turnover ratio is common in this industry, the pandemic had a devastating effect on the occupancy rate, therefore the assets engagement was suboptimal.

However, despite pandemic, majority of companies remain solvent in both pandemic years while in second pandemic year, majority of companies were liquid and solvent. Return on sale and Return on assets significantly declined in first pandemic year while in the second pandemic year no significant differences were recorded compared to the pre-pandemic year. The effect cannot be measured by solely analysing different indicator values, but analysing indicators can help us to understand the magnitude of this effect and to recognize signs of recovery. Through the analysis of financial indicators before and during the pandemic, this study determined that the COVID-19 pandemic had a significant impact on the assets activity and profitability performance of hotel companies in Croatia, particularly in the first pandemic year. Also, a slow recovery is evident in the second pandemic year, indicating the resilience of tourism and the hotel industry to such crises. We believe that adopted government measures along with the slight recovery in tourism arrivals and overnight stays in the second pandemic year were crucial for companies to survive the first year of the crisis and begin the recovery in the second year. Moreover, we believe that the management efficiency had a tremendous contribution for businesses and consequently to the recovery of the industry. As the pandemic still affects different industries and new crises are emerging, understanding the crisis effect is crucial for successful managing such crises. This cannot be achieved without monitoring and understanding the dynamics of financial indicators. Financial metrics can help stakeholders to create and adopt efficient measures, manage business operations, survive crises, and to achieve success and thus contribute to the economy of their country. The focus of this study is put on large hotel companies due to their contribution to number of employees and to the total revenue in this industry, but also due to the difference in the business operations and characteristics of companies with regard to their size. This limitation, as well as the time coverage of the research and the number of companies covered by this research, open new research challenges. Considering differences among companies due to their size and location, recommendations for future research refer to the determination of financial performance between hotel companies considering their size, and also considering the region.

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