

COVID-19 and profitability of hotel companies in the Republic of Serbia

COVID-19 i profitabilnost hotelijerskih preduzeća u Republici Srbiji

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Abstract

Besides obvious negative consequences for people's health, the COVID-19 pandemic placed significant negative consequences on the economy as well. Since pandemic made tourism and travel almost impossible, these industries of tourism and hospitality suffered the most. The aim of this paper is to assess whether the onset of the COVID-19 pandemic has caused a change in the level of profitability of companies from hotel industry in the Republic of Serbia. The research sample consisted of 100 companies from hotel industry in the Republic of Serbia, where their operations in 2019 and 2020 were observed. The Operating Profit Margin, Net Profit Margin, Return on Assets and Return on Equity were used for the purposes of measuring profitability. The research determined that in the largest number of observed hotel companies in 2020, there was a decrease in profitability considering all four used indicators. By applying the Wilcoxon rank test and the t-test of paired samples, it was determined that the mentioned reductions in the used profitability indicators are statistically significant.

Keywords: profitability, hotel companies, COVID-19, ratio analysis, Republic of Serbia

Sažetak

Pojava pandemije COVID-19 pored negativnih posledica na zdravlje ljudi, ostavila je značajne negativne posledice i na ekonomiju. Jedna od grana najviše pogođena pojavom pandemije je turizam i ugostiteljstvo. Cilj ovog rada je da se sagleda da li je sa nastankom pandemije COVID-19 došlo do promene nivoa profitabilnosti hotelijerskih preduzeća u Republici Srbiji. Uzorak istraživanja činilo je 100 hotelijerskih preduzeća iz Republike Srbije, pri čemu je posmatrano njihovo poslovanje u 2019. i 2020. godini. Za potrebe merenja profitabilnosti korišćena je stopa poslovnog dobitka, stopa neto dobitka, stopa prinosa na poslovnu imovinu i stopa prinosa na kapital. Istraživanje je pokazalo da je kod najvećeg broja posmatranih hotelijerskih preduzeća u 2020. godini došlo do smanjenja vrednosti kod sva četiri korišćena pokazatelja profitabilnosti. Primenom Vilkoksonovog testa ranga i t-testa uparenih uzoraka utvrđeno je da su navedena smanjenja korišćenih pokazatelja profitabilnosti statistički značajna.

Ključne reči: profitabilnost, hotelijerske kompanije, COVID-19, racio analiza, Republika Srbija

1. Introduction

Originated in Wuhan, the COVID-19 pandemic, quickly spread all over the world leaving no country intact, affecting not only human health, but also economy and overall development of most countries (Surya et al., 2022). In addition to having the impacts on social

functioning and the economy, this emergency situation also affected physical health, and has a significant impact on people's mental health (Marković et al., 2020). The governments of many countries have introduced restrictive measures, such as social distancing, banning mass gatherings, restricting movement and closing borders, all with the aim of preventing or at least slowing

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down the spread of the virus. By these measures, the tourism and hospitality sector are the most affected (Dašić et al., 2020; Dramićanin & Perić, 2021; Lai & Wong, 2021; Perčić & Spasić, 2021). Namely, there are cancellations of domestic and international travels, shortening of trips, changes in guest habits, etc. (Shapoval et al., 2021; Nica & Lăceanu, 2021; Pappas & Glyptou, 2021). Further, hotel owner was expected and willing to contribute in dealing with health obstacles that were the most significant effort of the entire society, especially at the beginning of pandemic. They offered their facilities to medical staff fighting the virus, but also to people who were infected and therefore had to be isolated (Kaushal & Srivastava, 2021; Shin et al., 2021). All this was reflected in the income and expenditure of hotel companies, and therefore in their results. Due to the decrease in demand and/or reduced capacity (in order to respect social distance), hotel companies achieved significantly lower sales revenues (Wieczorek-Kosmala, 2021), which also affected significantly less available cash. As the same author states, hotel companies must cover their fixed costs (which are usually relatively high), as well as variable costs that may be higher than expected, because of strict measures they were applying regarding hygiene and virus spreading prevention. (Wieczorek-Kosmala, 2021, p. 3). The fact should be added to the aforementioned that hotel companies are characterized by a high share of fixed assets (which are less liquid) and a high value of leverage. All of the above has influenced the appearance of insolvency in hotel companies, a high degree of indebtedness, operations with a significantly lower profit or loss, and numerous layoffs.

In order for hotel companies to "survive" the catastrophic effects of the COVID-19 pandemic, they must adopt new business strategies, whereby Atasoy et al. (2022) point out that they can turn a crisis into an opportunity and gain a greater reputation and better positioning in the market. Therefore, when defining strategies, hotel companies should do the SWOT analysis, meaning assess their strengths and weaknesses, as well as threats that are coming from outside the company (Kahveci, 2022). In other words, they need to reappraise current business practices, act quickly, and most probably develop new and innovative strategies, that will be adequate for the new business conditions. The new business practice must encompass strategies including health and virus spreading prevention mechanisms in order to make hotel business safe both for employers, and clients, competing for guest's confidence (Sharma et al., 2021), and thereby improve their profitability and ensure their long-term survival. Performance management has the crucial role in company's long-term survival, because performances is what determine present and future existence and growth (Anderson et al., 2000). Financial analysis (analysis based on financial statements) is one of the most commonly used ways to measure the performance of a company from a financial perspective. It is an assessment of past financial performance and its prospects for the future, and as such helps to make better business decisions (Knežević et al., 2019; Milojević et al., 2021a), as well as monitor the performance of managers (Milojević et al., 2021b).

The hotel and tourism sector in the Republic of Serbia did not remain immune to the onset of the COVID-19 pandemic. The main effect pandemic made to hotel industry was the decrease in number of foreign guests and in overnight stays. The data provided by the Ministry of Trade, Tourism and Telecommunications (2021), there were about 75% fewer foreign tourists in 2020 compared to 2019, while overnight stays number decreased by about 69%. As Čelić et al. (2021) point out, all tourist destinations in Serbia recorded a significant drop in the number of tourists overnight stays in comparison with the previous period (p. 52), with Belgrade and Novi Sad being the most impacted (Gajić et al., 2022).

The subject of the paper is the profitability of companies from hotel industry in the Republic of Serbia in 2019 and 2020, i.e. Those years were selected as the year before the onset of the COVID-19 pandemic and the year of its occurrence. The aim of the work is assess the level of impact of COVID-19 on profitability in hotel industry in Serbia, as the industry that was greatly damaged by the consequences of the measures that were set as a tool in fighting the pandemic. The profitability of the observed companies from hotel industry was measured by four profitability indicators: Operating Profit Margin, Net Profit Margin, Return on Assets and Return on Equity.

The paper is organized in the following way. The first chapter refers to the literature review, on the basis of which the research hypothesis was defined. In the following chapter, the research methodology is presented and explained. The third chapter covers the results of the research and discussion. The fourth chapter provides concluding remarks.

2. Literature review and hypothesis definition

There are numerous studies that examined the challenges faced by hotel companies caused by the pandemic, such as changes in guest habits, social responsibility, etc. However, there is little academic research that has aimed to examine the change in financial performance due to impact of the COVID-19 pandemic in hotel industry. Below are the results of some available research.

Zhang et al. (2022) analyzed the impact of financial flexibility on the financial performance of 20 hotel companies listed on the Taiwan Stock Exchange in the period from the first quarter of 2020 to the second quarter of 2021. The research found that an increase in financial flexibility has a positive effect on financial performance up to a certain point, after which there is a decrease in the marginal returns to financial flexibility. This indicates that during the COVID-19 pandemic, financial flexibility is very important in the decision-making process of Thai listed hotel companies.

The crisis that the COVID-19 pandemic caused has far stronger consequences for the US hotel industry compared to the 2001 recession and the 2007 World Financial Crisis (Bradić-Martinović & Kovačević, 2020). As the same authors state, in addition to job losses, the pandemic also affected the decline in occupancy of hotel capacities,

which will result in a lower-than-expected profit, i.e., operating at a loss. Temelkov (2022), conducting research on the example of 34 international hotel chains and resorts, on the basis of financial reports for 2019 and 2020, determined that the onset of the COVID-19 pandemic in most hotels influenced the decline in income and the increase in the ratio of costs and income.

Matejić et al. (2022) confirmed with their research that the COVID-19 pandemic had negative consequences on the operations of companies from hotel industry in the Republic of Serbia. Conducting research on the example of 100 randomly selected hotel companies in the Republic of Serbia, using neural networks, it has been determined that an improvement in their financial position can be expected not before 2024, and even in 2026. They also found that the bankruptcy risk will be higher than it was before the onset of the pandemic. To that should be added the fact that numerous studies have established that even before the onset of the COVID-19 pandemic, there was substantial room for improving the financial performance of hotel companies in the Republic of Serbia (Mitrović et al., 2021). Based on the literature review, the paper starts from the following research hypothesis:

H: The onset of the COVID-19 pandemic had a negative impact on the profitability of hotel companies in the Republic of Serbia.

3. Research methodology

The hundred random companies from hotel industry in the Republic of Serbia were chosen to be included in the research. The research examined years 2019, and 2020, as those years are relevant to the pandemic, considering those are the years that pandemic started, followed by the year of its appearance in the Republic of Serbia. The observed companies are registered in the Agency for Business Registers of the Republic of Serbia under activity code 5510 - Hotels and similar accommodation. Data from the publicly available financial reports (balance sheet and income statement) of the observed hotel companies from the Agency for Business Registers website were used as inputs for research purposes. In the Republic of Serbia, at the end of 2019, there were 855 companies operating with the specified activity code, while at the end of 2020 there were 704 of them (Agencija za privredne registre, 2021). The percentage of total business assets of the analyzed companies in the same measurement of entire population of companies with the same activity code, 5510 was 61.27% in 2019, and 60.68% in 2020. On the other hand, considering the total population of companies with the activity code 5510, the share of the total capital of the analyzed companies was 73.87% in 2019, and 74.15% in 2020. Out of 100 observed companies, 70 of them belong to the category of small companies, 22 to the category of medium and 8 to the category of micro companies. Eighty-eight of them are registered as limited liability companies, and the remaining 12 as joint stock companies.

Profitability ratio analysis was applied as a frequently used method of financial analysis (Srebro et al., 2021).

The following financial statements were tested for the selected sample: Operating Profit Margin, Net Profit Margin, Return on Assets and Return on Equity. The method of calculating the above ratio indicators is given in the formulas below (Knežević et al, 2019).

$$\text{Operating Profit Margin} = \frac{\text{Operating result}}{\text{Sales revenue}} \times 100[\%]$$

$$\text{Net Profit Margin} = \frac{\text{Net result}}{\text{Sales revenue}} \times 100[\%]$$

$$\text{Return on Assets} = \frac{\text{Operating result}}{\text{Average operating assets}} \times 100[\%]$$

$$\text{Return on Equity} = \frac{\text{Net result}}{\text{Average capital}} \times 100[\%]$$

To determine whether in 2020 there was a change in the level of profitability that would be statistically significant for the observed hotel companies compared to 2019, the Wilcoxon rank test and t-test of paired samples were applied. The first test was applied because the values of the profitability indicators deviate from the normal distribution. The second test was applied because, according to the central limit theorem, any sample with more than 30 observations tends to normality. In addition to the results of these two tests, the results of descriptive statistical analysis will be presented below. For the statistical data processing, the IBM SPSS Version 23 was applied.

4. Research results and discussions

The results of descriptive statistics of the Operating Profit Margin of observed hotel companies in 2019 and 2020 is shown on the Table 2.

Table 2. The Operating Profit Margin Descriptive statistics in years 2019 and 2020

| | Operating Profit Margin | |
|---|-------------------------|----------|
| | 2019 | 2020 |
| Average value | 3.82% | -33.84% |
| Median | 3.97% | -21.60% |
| Standard Deviation | 17.93% | 56.06% |
| Minimum value | -78.93% | -383.92% |
| Maximum value | 44.89% | 40.62% |
| Number of companies with a negative Operating Profit Margin | 24 | 67 |
| Number of companies with a positive Operating Profit Margin | 76 | 33 |

Source: Authors', created on financial reports data of observed hotel companies

As can be seen from Table 1, in 2019, the 76, which is the majority observed hotel companies, achieved a positive Operating Profit Margin, which also affected the positive average value of this indicator at the sample level. In 2020, the observed hotel companies achieved significantly lower sales revenue, as the most significant form of business revenue, compared to 2019. Thus, in the case of certain hotel companies, the decrease in revenue was up to 70%. However, the largest number of hotel companies

maintained the same level of operating expenses in 2020 as at the end of 2019, or their slight decrease was recorded. Such changes resulted in the largest number of observed hotel companies achieving a negative result based on operating activities at the end of 2020, and thus a negative Operating Profit Margin. Thus, at the end of 2020, a positive Operating Profit Margin was observed only in 33 hotel companies. In 2020, 81 hotel companies recorded a decrease in the Operating Profit Margin compared to 2019, while 19 of them recorded a growth in the Operating Profit Margin.

The results of the descriptive statistics of the Net Profit Margin of the observed hotel companies in 2019 and 2020 are shown in Table 3.

Table 3. The Net Profit Margin Descriptive statistics in 2019 and 2020

| | Net Profit Margin | |
|---|-------------------|----------|
| | 2019 | 2020 |
| Average value | -1.07% | -44.62% |
| Median | 3.12% | -21.12% |
| Standard Deviation | 35.73% | 79.81% |
| Minimum value | -287.98% | -402.06% |
| Maximum value | 51.98% | 146.00% |
| Number of companies with a negative Net Profit Margin | 20 | 64 |
| Number of companies with a positive Net Profit Margin | 80 | 36 |

Source: Authors', created on financial reports data of observed hotel companies

Similarly, to the results gained regarding the Operating Profit Margin, the largest number of observed hotel companies accomplished a positive Net Profit Margin in 2019, 80 of them. However, the average Net Profit Margin at the sample level recorded a negative value. This occurs as a result of high negative values of the Net Profit Margin certain companies. In 2020, only 36 hotel companies reported a positive net result in their income statement. Therefore, 64 hotel companies made a net loss. In the case of 64 hotel companies that recorded a net loss in 2020, an operating loss was also recorded in the same year, whereby only 15 of them managed to reduce the net loss in relation to the operating profit. In other words, only 15 of them (out of 64) recorded positive results based on financial and/or other activities in 2020. Eighty hotel companies recorded a lower Net Profit Margin at the end of 2020 compared to the end of 2019, while in 20 of them there was an increase in the Net Profit Margin in the mentioned period.

Table 4 shows the results of descriptive statistics of Return on Assets in 2019 and 2020.

As can be seen from Table 4, in 2019, the majority of hotel companies, 76 out of 100, achieved a positive return on assets. This resulted in a positive average value of the Return on Assets at the sample level. However, since in 2020 the largest number of observed hotel companies made an operating loss, this led to the fact that in that year the largest number of them also made a negative Return

on Assets. It should be noted that there for the majority of hotel companies there was no considerable change in the value of operating assets in 2020 compared to 2019. In 2020, 84 hotel companies recorded a lower Return on Assets compared to 2019, i.e., 16 hotel companies increased their Return on Assets in 2020.

Table 4. Return on Assets Descriptive statistics in 2019 and 2020

| | ROA | |
|--|---------|---------|
| | 2019 | 2020 |
| Average value | 4.29% | -4.45% |
| Median | 2.44% | -2.97% |
| Standard Deviation | 11.28% | 10.87% |
| Minimum value | -12.73% | -65.77% |
| Maximum value | 87.93% | 25.55% |
| Number of companies with a negative Return on Assets | 24 | 67 |
| Number of companies with a positive Return on Assets | 76 | 33 |

Source: Authors', created on financial reports data of observed hotel companies

The analysis shown that the biggest number of examined hotel companies had a positive Return on Equity in 2019 (Table 5). Thus, 80 of them recorded a positive Return on Equity in 2019. Thanks to the extremely high maximum value of 316.84%, the average value of the Return on Equity at the sample level has a positive value. In a situation where that value would be abstracted, the average value would be -13.58%. However, in 2020, the total of hotel companies that recorded a positive Return on Equity decreased by 44. Thus, at the end of 2020, only 36 of them achieved a positive Return on Equity. This resulted in a drop in the average values of Return on Equity in that year. This is supported by the fact that the hotel company that achieved the lowest Return on Equity in 2019 (-216.32%), achieved an even lower in 2020 (-357.46%). Observed individually, 86 hotel companies recorded a declined in the Return on Equity in 2020 when comparing to 2019.

Table 5. Descriptive statistics of Return on Equity in 2019 and 2020

| | ROE | |
|--|----------|----------|
| | 2019 | 2020 |
| Average value | 10.16% | -17.01% |
| Median | 2.40% | -3.99% |
| Standard Deviation | 52.29% | 52.68% |
| Minimum value | -216.32% | -357.46% |
| Maximum value | 316.84% | 78.04% |
| Number of companies with a negative Return on Equity | 20 | 64 |
| Number of companies with a positive Return on Equity | 80 | 36 |

Source: Authors', created on financial reports data of observed hotel companies

As it can be seen from the above, in the largest number of observed companies from hotel industry in 2020, which is the year when COVID 19 break out in the Republic of Serbia, there was a decrease in the value of the used

profitability indicators compared to 2019. Even though it is still important to make sure that there is statistical significance in these findings. Therefore, the Wilcoxon rank test and paired samples t-test were applied, and the results are shown in Table 6. As it can be read from the table ($p < 0.05$), therefore the decline in profitability indicators value from year 2019 to year 2020 is significantly significant (Table 7). Based on this, it can

be concluded that the onset of the COVID-19 pandemic negatively influenced the profitability of hotel companies in the Republic of Serbia, as measured by Operating Profit Margin, Net Profit Margin, Return on Assets and Return on Equity. This results in the acceptance of the proposed research hypothesis.

Table 6. Wilcoxon rank test results

| Profitability indicator | Median | | z | p | r |
|-------------------------|--------|---------|--------|-------|------|
| | 2019 | 2020 | | | |
| Operating Profit Margin | 3.97% | -21.60% | -7.080 | 0.000 | 0.50 |
| Net Profit Margin | 3.12% | -21.12% | -6.767 | 0.000 | 0.48 |
| Return on Assets | 2.44% | -2.97% | -7.372 | 0.000 | 0.52 |
| Return on Equity | 2.40% | -3.99% | -7.100 | 0.000 | 0.50 |

Source: Authors' calculation based on SPSS 23.0

Table 7. Paired samples t-test results

| Profitability indicator | Average value | | t | df | p | r |
|-------------------------|---------------|---------|-------|----|-------|------|
| | 2019 | 2020 | | | | |
| Operating Profit Margin | 3.82% | -33.84% | 6.982 | 99 | 0.000 | 0.32 |
| Net Profit Margin | -1.07% | -44.62% | 6.133 | 99 | 0.000 | 0.27 |
| Return on Assets | 4.29% | -4.45% | 5.226 | 99 | 0.000 | 0.22 |
| Return on Equity | 10.14% | -17.01% | 4.540 | 99 | 0.000 | 0.17 |

Source: Authors' calculation based on SPSS 23.0

5. Conclusions

The onset of the COVID-19 pandemic has only confirmed the vulnerability of the tourism and hospitality industry to (health, economic and security) crises. The measures taken to suppress the virus spread had the effect of reducing the demand for hotel services, and thus led to a decrease in sales revenue. Furthermore, it also had an effect on hotel companies making lower profits. The paper aimed to examine the dynamics of profitability indicators (Operating Profit Margin, Net Profit Margin, Return on Assets and Return on Equity) in 2020, the year of the onset of the pandemic, compared to 2019. The research covered a hundred companies from hotel industry in the Republic of Serbia, randomly chosen.

The research determined that the largest number of observed companies from the sample suffered a statistically significant decline of productivity through the year 2020, as the year in which the COVID-19 pandemic appeared. In the year of 2020, more than 60% of the observed hotel companies realized an operating loss and a net loss. The reason for a significant decrease in the value of profitability indicators in the year when COVID-19 pandemic emerged in Serbia, i.e., operating at a loss, can primarily be found in the decline in the value of sales revenue due to the insufficient occupancy of available accommodation capacities due to prescribed measures for prevention of corona virus further spreading. Therefore, managers of hotel companies in the coming period should make decisions that will increase capacity occupancy while maintaining/reducing existing expenses, which will result in increased sales revenue and increased profitability.

The theoretical contribution of the paper is given in the addition of the current literature that deals with the

operations of hotel companies in the period of the COVID-19 pandemic. As far as the authors know, this paper describes results of the first research that analyses the trend of profitability indicators of hotel companies in the Republic of Serbia in the year 2020 when the pandemic outbreak. The results of the research can be of importance to managers of hotel companies in order to make certain business decisions that will have the effect of improving the profitability of the company by using the resources entrusted to their management. Further, the results of the research can be of importance to the creators of economic policy in order to look at the operations of hotel companies and, based on that, adopt certain incentive measures.

Several limitations appear in the paper, from which guidelines for future research arise. A certain number of measures related to the prevention of the spread of the virus were also in force during 2021, so future research should include the operations of hotel companies in that year as well. In subsequent research, the emergence of the COVID-19 pandemic impact on the liquidity, solvency and efficiency of hotel companies should be examined. As the research included only hotel companies from the Republic of Serbia, hotel companies from countries in the region should also be included in future research to gain insight into the broader picture of the observed problem.

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