

COVID-19 PANDEMIC AND FRAUDULENT ACTIONS IN THE FINANCIAL STATEMENTS: THE CASE OF HOTEL COMPANIES IN THE REPUBLIC OF SERBIA

1 Marko Milašinović, Faculty of Hotel Management and Tourism,
University of Kragujevac, Vrnjačka Banja*, Serbia

2 Biljana Jovković, Faculty of Economics, University of Kragujevac, Kragujevac, Serbia

3 Predrag Dragičević, State Audit Institution, Belgrade, Serbia

*Corresponding author E-mail: marko.milasinovic@kg.ac.rs

1 ORCID ID: 0000-0002-9346-9283

2 ORCID ID: 0000-0003-2433-0963

3 ORCID ID: 0000-0003-1692-792X

ARTICLE INFO

Review Scientific Paper

Received: 16.02.2022

Revised: 15.04.2022

Accepted: 27.04.2022

doi 10.7251/ACE2236133M

UDC

616.98:578.834]:338.48(497.11)

Keywords: *COVID-19, fraud, financial statements, hotel companies, Beneish M-score model.*

JEL Classification: M42, M49

ABSTRACT

The quality of information presented in the financial statements of companies may be impaired due to fraudulent activities. One of the frequently used instruments that indicates that fraud has been committed in the financial statements is the Beneish M-score model. The purpose of the research is to examine the exposure of hotel companies in the Republic of Serbia to the risk of fraud in financial statements, as well as to determine whether there has been a change in that risk due to the COVID-19 pandemic. The research was conducted on a sample of 100 randomly selected hotel companies, and their financial reports for 2019 and 2020 were observed. There was a high risk of fraud based on the recognition of costs of sales, management and administration, and borrowing in both observed years, as well as a high risk of fraud based on the recognition of income and gross margin index in 2020. Further, it was determined that in the year of the COVID-19 pandemic, there was an increase in the risk of fraud in the financial statements based on the gross margin index and recognition of selling, management and administration costs. Micro-enterprises are exposed to a higher risk of fraud based on the recognition of costs of sales, management and administration compared to medium-sized ones. Limited liability companies are more exposed to risk based on the recognition of sales revenue, accrual item and total risk (measured by the 8-variable model) compared to joint-stock companies. On the other hand, joint-stock companies are more exposed to the risk of fraud based on gross margin and general risk of fraud (measured by the 5-variable model) compared to limited liability companies.

© 2022 ACE. All rights reserved

1. INTRODUCTION

The financial statements of a company, as the end products of the accounting function, are an important and indispensable source of information about the company's operations when making business decisions (Vasilev, Cvetković & Grgur, 2019). In order for financial statements to satisfy the information needs of their users, assuming that they are publicly available (Obradović, Milašinović & Bogičević, 2021), they must be true and objective and must show the real financial position and earning power of the company (Dimitrijević, Jovković & Milutinović, 2021).

In practice, the quality of financial statements is often impaired due to fraudulent actions (Dimitrijević, Jovković & Milutinović, 2021). In this way, users of financial statements acquire a false or distorted picture of the company's operations, which will result in making the wrong business decision (Melville, 2011). It is one of the main culprits for the collapse of a large number of multinational companies (Ogoun & Peralayefa, 2019). However, this will not only affect the users of financial statements, but also companies that belong to the same sector as companies in which the investigation found the existence of fraud in financial statements. This can lead to social stratification of society, increase in the grey economy and decrease in the inflow to the state (Dimitrijević, 2012). In addition, there is a loss of confidence in the financial reporting system, and the accounting and auditing professions are most often blamed for this (Mitrić, Stanković & Lakičević, 2012).

In addition to great efforts to prevent their occurrence, fraud in financial statements occurs from time to time (Jan, 2021), with the risk of their occurrence increased by globalization of business, market growth and rapid technological development (Jan, 2018). Fraud is a global problem, i.e., it is present in all countries of the world (Luković & Stojković, 2020). The same authors state that countries with underdeveloped financial markets, poor institutional framework for supervising the quality of financial reporting and low living standards are a suitable environment for their wider distribution. Further, the occurrence of fraud in financial statements can be linked to the occurrence of economic crises, natural disasters, pandemics and the like (Levi & Smith, 2021).

The emergence of the COVID-19 pandemic, in addition to a large number of infected and deceased persons, also led to rising unemployment, large financial losses and endangered functioning of the capital market (Jan, 2021). The issue of ensuring business stability, sustainability and long-term growth, which has been called into question by the emergence of the COVID-19 pandemic (International Federation of Accountants, 2020), may encourage individuals to

resort to fraudulent financial reporting (Deloitte, 2020). The fact that the morale of employees weakens due to teleworking, dismissals and lack of control also contributes to the increase in the risk of fraud (Luis, 2020).

As companies often cannot prevent fraud in their financial statements (as the best strategies for maintaining their quality and credibility), it is necessary to identify signals that indicate the existence of fraud in them (Rezaee & Riley, 2009). The subject of this paper are indicators of fraud in the financial statements of hotel companies in the Republic of Serbia. As companies in this area are significantly affected by the COVID-19 pandemic (Luković & Stojković, 2020; Milovanović, Paunović & Avramovski, 2021; Wiczorek-Kosmala, 2021), the likelihood of fraud in their financial statements may increase. This is supported by the fact that these companies in the Republic of Serbia, even before the COVID-19 pandemic, had a significant space for improving performance (Mitrović, Knežević & Milašinović, 2021). Therefore, the aim of this paper is to determine whether there has been an increase/decrease in fraud indicators in the financial statements for 2020 compared to 2019, in 100 randomly selected hotel companies in the Republic of Serbia, as well as to determine whether the risk of fraud is due to the size and legal form of hotel companies. The Beneish M-score model with five and eight variables was used to determine the signals that indicate the existence of fraud in the financial statements.

The following hypotheses were tested in this paper:

H1: With the onset of the COVID-19 pandemic, there was an increase in the risk of fraud in the financial statements of hotel companies in the Republic of Serbia.

H2: The size of the hotel company has a statistically significant effect on the level of risk of fraud in the financial statements.

H3: The legal form of a hotel company has a statistically significant impact on the level of risk of fraud in the financial statements.

After the introductory considerations, there is a review of the literature in which the very notion of fraudulent financial reporting is pointed out. In addition, within the literature review, the tools and techniques for detecting fraud in financial statements were emphasised with the greatest attention paid to Beneish M-score model. After that, the research methodology is described. This is followed by a presentation of the results of empirical research. In the last part of the paper, the concluding considerations and contribution of the research are presented, as well as the limitations in the research.

2. LITERATURE REVIEW

There are a number of terms in the literature and practice that are used to denote fraudulent financial reporting. Thus, it can be found under the name of manipulative, false, falsified, styled or biased financial reporting. Further, the terms intentional error and irregularity have been long used in order to denote the same term (Rezaee & Riley, 2009). Apart from the fact that both creative accounting and fraudulent financial reporting will result in the creation of a “distorted image” of the company’s business, there is no sign of equality between these two concepts. Namely, cosmetic creative accounting, as a form of creative accounting, is conducted without violating rules and norms, i.e. it is conducted within the regulatory framework (Jones, 2011). There are also numerous definitions of fraudulent financial reporting. Among the most commonly used are those provided by International Standards on Auditing, the Association of Certified Fraud Examiners (ACFE) and the American Institute of Certified Public Accountants (AICPA).

According to International Standards on Auditing, fraudulent financial reporting is the intentional misrepresentation or omission of certain information or disclosures in financial statements with the aim of misleading users of financial statements (Petković, 2010). ACFE defines it as intentional misstatement or omission of material facts or accounting data, which, when all available information is taken into account, will mislead users and result in wrong business decisions (Rezaee & Riley, 2009). According to the AICPA definition, false financial reporting is intentional inaccuracies or omission of amounts or disclosures in the financial statements in order to deceive their users. Common to all above definitions is that it is a deliberate activity and will result in making the wrong business decision.

It is often identified with fraud committed by management, and the reasons for this are the facts that: 1) company management is responsible for compiling reliable financial statements and 2) fair presentation, integrity and quality of the financial reporting process is the responsibility of management (Rezaee & Riley, 2009). When it comes to fraud committed by managers, it is most often committed in collusion with accountants and other employees, and includes: a) manipulation, falsification, concealment or alteration of accounting records or supporting documents on the basis of which financial statements are prepared; b) misrepresentation or intentional omission of significant business transactions, events and information from the financial statements; c) incorrect application of accounting principles and e) inadequate classification or disclosure (Ljubisavljević & Jovković, 2016, p. 487). They can be made by top-level managers as well as lower-level managers. Wells (2017) states that top-level

managers commit fraud in order to: 1) cover up real business successes; 2) preserve their job or status and 3) maintain income/wealth (p. 300). The same author states that lower-level managers cheat in the financial statements assigned to their centers of responsibility (divisions or organizational units) in order to hide bad performance or achieve higher bonuses. Frauds in financial reports can also be committed by employees, and they usually involve falsification of some types of documents, which, unlike fraud committed by management, are relatively easier to detect (Ljubisavljević & Jovković, 2016). Further, members of organized criminal groups resort to false financial reporting in order to unjustifiably obtain loans from financial institutions, or to manipulate stock market values (Petković, 2010).

There are numerous methods and techniques for detecting fraudulent transactions in financial statements, each of which has certain advantages and disadvantages (Mitrović & Knežević, 2020). In order to detect the existence of fraudulent actions in financial reports, it is necessary to analyse the accounting policies of companies, the quality of corporate governance and check whether there are deviations in the reports that would indicate manipulative actions (Milojičić & Živković, 2021). In order to determine the existence of certain deviations in financial statements, the techniques of financial statement analysis are most often used, such as horizontal, vertical and ratio analysis (Vasilev, Cvetković & Grgur, 2019). By comparing the results of the analysis of financial statements in the observed year with data from previous years, it is possible to detect certain deviations, which can direct the investigation in a certain direction (Golden et al., 2011). In addition to the previously mentioned traditional financial analysis techniques, the application of specific techniques, such as Benford's law, Beneish model, Computer-assisted auditing tools and Data mining techniques (Cvetković et al., 2021, pp. 41-42), is increasingly common.

The Beneish M-Score model is a quantitative model based on financial indicators and eight or five variables to identify manipulative actions in financial statements. The eight-variable model can be represented as follows (Beneish, 1999):

$$\text{Beneish M-Score (8)} = -4.84 + 0.92 \times \text{DSRI} + 0.528 \times \text{GMI} + 0.404 \times \text{AQI} + 0.892 \times \text{SGI} + 0.115 \times \text{DEPI} - 0.172 \times \text{SGAI} + 4.679 \times \text{TATA} - 0.327 \times \text{LVGI}$$

While the model with five variables is as follows:

$$\text{Beneish M-Score (5)} = -6.065 + 0.823 \times \text{DSRI} + 0.906 \times \text{GMI} + 0.593 \times \text{AQI} + 0.717 \times \text{SGI} + 0.107 \times \text{DEPI}$$

Table 1 shows how to determine these 8 variables, as well as the reference values for companies that have not manipulated financial statements, as well as for those that manipulate. In a situation where the value of this model is greater than -2.22, there are indications that the company committed a fraudulent act in its financial statements.

Table 1: Variables and their threshold values

Variables	Calculation method	Average for non-manipulators	Average for manipulators
DSRI (Days' Sales in Receivables Index)	$(\text{receivables}_t / \text{sales}_t) / (\text{receivables}_{t-1} / \text{sales}_{t-1})$	1.031	1.465
GMI (Gross Margin Index)	$((\text{sales}_{t-1} - \text{cost of good sold}_{t-1}) / \text{sales}_{t-1}) / ((\text{sales}_t - \text{cost of good sold}_t) / \text{sales}_t)$	1.014	1.193
AQI (Asset Quality Index)	$(1 - (\text{current assets}_t + \text{net PP\&E}_t) / \text{total assets}_t) / (1 - (\text{current assets}_{t-1} + \text{net PP\&E}_{t-1}) / \text{total assets}_{t-1})$	1.039	1.254
SGI (Sales Growth Index)	$\text{sales}_t / \text{sales}_{t-1}$	1.134	1.607
DEPI (Depreciation Index)	$(\text{depreciation}_{t-1} / (\text{depreciation}_{t-1} + \text{net PP\&E}_{t-1})) / (\text{depreciation}_t / (\text{depreciation}_t + \text{net PP\&E}_t))$	1.001	1.077
SGAI (Sales, General and Administrative expenses Index)	$(\text{sales, general and administrative expense}_t / \text{sales}_t) / (\text{sales, general and administrative expense}_{t-1} / \text{sales}_{t-1})$	1.054	1.041
TATA (Total Accruals to Total Assets)	$(\Delta \text{current assets}_t - \Delta \text{cash}_t - \Delta \text{current liabilities}_t - \Delta \text{current maturities of long debts}_t - \text{depreciation}_t) / \text{total assets}_t$	0.018	0,031
LVGI (Leverage Index)	$((\text{long-term debts}_t + \text{current liabilities}_t) / \text{total assets}_t) / ((\text{long-term debts}_{t-1} + \text{current liabilities}_{t-1}) / \text{total assets}_{t-1})$	1.037	1,111

Source: Beneish, 1999, p. 27

Notes: t – current year, t-1 previous year, PP&E – property, plant and equipment

Dimitrijević, Obradović & Milutinović (2018) list the following three limitations of the Beneish M-score model:

- The model is created on the basis of financial statements prepared in accordance with the Generally Accepted Accounting Principles - GAAP;
- The reliability of the model decreases in a situation where the company for a number of consecutive years compiles false financial statements; and

- The model only recognises the changes, but cannot fully discover the causes of those changes.

How companies in the Republic of Serbia, when preparing their financial statements, adhere to regulations that differ from GAAP (apply the full version of IFRS, IFRS for small and medium entities and Ordinance of the Minister of Finance), also due to the fact that financial statements differ in its form, has the consequence that certain adjustments must be made when determining the value of the Beneish M-score model. This has the consequence that the results of this model may have the character of indications that fraud has been committed (Dimitrijević, Obradović & Milutinović, 2018). In addition to these limitations, many researchers have used this model, primarily because of its simplicity. Franceschetti & Koschtial (2013) observed 60 Italian small and medium-sized enterprises (30 of which went bankrupt, while 30 did not go bankrupt) and found that there are significantly more “red flags” among bankrupt companies, with their number decreasing as they approach years when the bankruptcy occurred. Looking at 1,809 joint-stock companies from five leading industries in Italy between 2005 and 2012, Paolone & Magazzino (2014) found that more than half of them were more likely to have committed fraud in their financial statements. Repousis (2016) examined the effectiveness of the Beneish M-score model in predicting fraud in the financial statements of Greek companies. The survey was conducted on a sample of 25,468 companies (banks were excluded from the survey), and their reports for 2011 and 2012 were observed. The results of the research indicate that in the case of 33% of companies that make up the sample, there is a probability that they committed fraud. The author also states that the use of this model is an easy and inexpensive way to investigate fraudulent activities in financial statements. Ramírez-Orellana, Martínez-Romero, & Marino-Garrido (2017) conducted research on the example of the Spanish international family company Pescanova, which went bankrupt in 2013, and observed its business in the period from 2008 to 2011 (in 2012 it was announced that the company manages earnings). The results of the research indicate that in the years before the bankruptcy, Pescanova conducted an aggressive accounting practice. According to the authors, the application of this model could detect and prevent fraudulent work in the financial statements in the years before the onset. Hořda (2020) conducted a study on the example of 8 joint-stock companies from the Warsaw Stock Exchange and found that Beneish model with 8 variables identified manipulators with 100% accuracy, while the model with 5 variables showed a slightly lower degree of accuracy. Of the 68 companies that manipulated financial statements, the Beneish M-score model confirmed the existence of fraud in 54 companies (Halilbegović et al., 2020). Based on that, the same authors point out

that the Beneish M-score model is an effective tool for detecting fraud in the financial statements of companies in Bosnia and Herzegovina.

[Dimitrijević & Danilović \(2017\)](#) proved with their research that the application of the Beneish model as a method for detecting fraud can greatly help control the quality of financial statements of companies in the Republic of Serbia. They conducted research on the example of 5 companies where tax evasion was proven or a report was filed due to tax evasion, and the research covered the year before the fraud was committed, as well as the year when it occurred. The results of the research indicate that in the case of 2 companies the threshold value was exceeded in 4 indices, while in the case of 3 companies the exceedance was observed in as many as 5 indices. In addition, the research found that in 4 observed companies the threshold value for the model with 8 variables was exceeded, while in the case of one company the value of individual indices and the model itself could not be determined (the value of sales revenue was 0). [Kokić, Gligorić & Knežević \(2018\)](#) applied the Beneish M-score model with 5 variables to determine whether Super League football clubs manipulate earnings in their financial statements. The research included 13 football clubs, and their reports in the period from 2009 to 2016 were observed. The research found that in the case of 4 clubs, the median value of the model is above the limit of -2.2, i.e. 31% of clubs manipulate earnings in their financial statements. Conducting research on the example of 42 business entities from the Republic of Serbia of different sizes and activities, [Dimitrijević, Obradović & Milutinović \(2018\)](#) found a number of warning signs in the financial statements for 2013 and 2014, that is, there is a moderate general risk of fraud. According to the authors, a significant source of this risk is corporate borrowing. Further, the research revealed a general risk of manipulation with the recognition of income, a high risk of manipulation of accounting items in general and in particular depreciation and an increase in administrative costs. When it comes to the activities which the observed companies belong to, the risk of fraud is higher in manufacturing companies and financial institutions than in trade and service companies. The mentioned research also found that the risk of fraud related to capitalization of costs and growth of sales revenue is higher in large companies and SMEs, while in joint-stock companies the risk of fraud with capitalisation of costs is higher in relation to limited liability companies. Observing the companies listed on the Belgrade Stock Exchange within Sector A-Agriculture, Forestry and Fisheries in the period from 2016 to 2019, [Srebro et al. \(2021\)](#) found that in a number of companies there are indications that fraudulent actions were performed in the financial statements. [Kušter \(2021\)](#) found a high risk of manipulation in the financial statements of 3 out of 73 observed SMEs in the manufacturing industry.

3. MATERIALS AND METHODS

The research was conducted on a sample of 100 randomly selected hotel companies in the Republic of Serbia, and their financial reports for 2019 and 2020 were observed. These are companies whose activity code is: 5510—hotels and similar accommodation. According to the data of the [Serbian Business Registers Agency \(2022\)](#), there were 855 such companies operating in Serbia in 2019 and 704 in 2020. The share of total operating assets of the observed companies in the total operating assets of the entire population companies whose activity code is 5510 in the Republic of Serbia in 2019 was 56.12% and 56.05% in 2020. The share of equity of the observed companies in the equity of the entire population companies whose activity code is 5510 in the Republic of Serbia in 2019 was 71.35% and 72.64% in 2020. Based on that, it can be concluded that the sample is representative. As can be seen from Figure 1 and Figure 2, the sample is dominated by small enterprises, as well as those registered as limited liability companies.

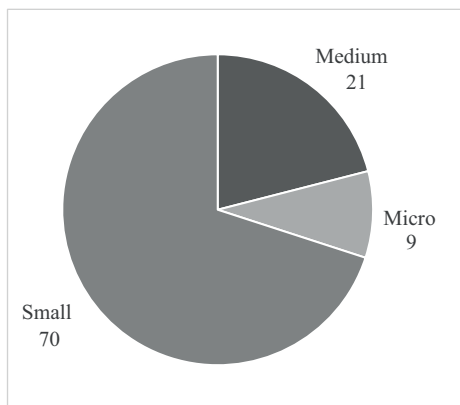


Figure 1: Hotel companies according to their size*

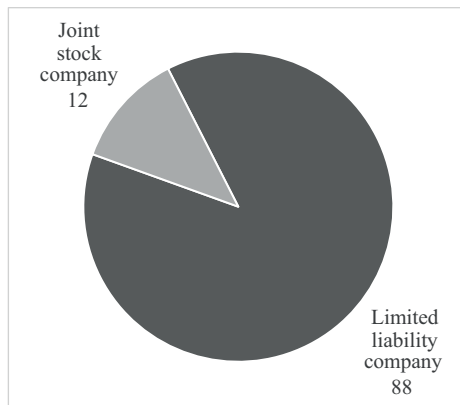


Figure 2: Hotel companies according to their legal forms

Source: Authors' creation based on the data from the official internet presentation of The Business Registers Agency of the Republic of Serbia

Note: * In 2020 the classification was performed according to the Accounting Act from 2019

As the distribution of data deviates from normality, the testing of the set research hypotheses was performed as follows:

- The first hypothesis - by comparing the values of individual variables, as well as the values of the models themselves with 5 and 8 variables in 2020 compared to 2019 using the Wilcoxon rank test;

- The second hypothesis - by comparing the values of individual variables, as well as the values of the models themselves with 5 and 8 variables between micro, small and medium hotel companies using the Kruskal-Wallis H test. In the situation when the mentioned test determines the existence of a statistically significant difference in the risk of fraud between hotel companies of different sizes, the Mann-Whitney U test will be applied to determine between which groups of companies this difference exists. As the Mann-Whitney U test will be conducted between micro and small, micro and medium and small and medium enterprises, it will result in the implementation of Bonferroni correction of alpha values ($\alpha=0.05/3=0.017$) (Pallant, 2009); and
- Third hypothesis - by comparing the values of individual variables, as well as the values of the models themselves with 5 and 8 variables between hotel companies organized as limited liability companies and joint-stock companies using the Mann-Whitney U test.

The second and third research hypotheses were tested at the level of individual observed years. The IBM SPSS Version 23 statistical package was used for statistical data processing.

4. RESULTS AND DISCUSSIONS

Table 2 shows the descriptive statistics of the observed variables for 2019 and 2020.

Table 2: Descriptive statistics

Variables	Year	n	Mean	Median	Std. Dev.	Min.	Max.	Low risk	Moderate risk	High risk
DSRI	2019	100	1.591	1.135	1.821	0.037	13.394	39	32	29
	2020	100	2.522	1.311	4.482	0.000	32.455	39	14	47
GMI	2019	100	0.962	1.000	0.284	-1.486	1.399	58	36	6
	2020	100	0.972	1.115	1.663	-14.428	3.961	30	41	29
AQI	2019	80	1.115	0.965	1.031	-0.134	6.574	54	18	8
	2020	80	2.814	0.995	11.471	-7.705	97.837	55	16	9
SGI	2019	100	1.034	1.014	0.279	0.324	2.103	77	19	4
	2020	100	0.507	0.414	0.310	0.044	1.753	96	3	1
DEPI	2019	100	1.165	0.977	1.420	0.028	14.654	61	14	25
	2020	100	1.096	0.972	1.139	0.039	11.975	65	14	21
SGAI	2019	100	1.114	1.050	0.337	0.509	2.551	49	0	51
	2020	100	2.017	1.759	1.319	0.000	7.899	12	0	88

Variables	Year	n	Mean	Median	Std. Dev.	Min.	Max.	Low risk	Moderate risk	High risk
TATA	2019	100	-0.005	0.003	0.101	-0.514	0.220	63	8	29
	2020	100	0.043	0.001	0.032	-0.292	3.172	70	7	23
LVGI	2019	100	1.106	0.981	0.593	0.029	5.024	63	7	30
	2020	100	1.113	1.062	0.384	0.212	3.374	44	12	44
M5	2019	100	-2.496	-2.836	1.454	-4.204	6.433			
	2020	100	-1.297	-2.845	7.151	-15.611	55.038			
M8	2019	100	-2.032	-2.361	1.718	-5.761	8.168			
	2020	100	-1.031	-2.555	6.035	-10.964	38.203			

Source: Authors' calculation

The average values of DSRI at the sample level (in both observed years) indicate a high level of risk of fraud related to the recognition of income in the observed hotel companies in the Republic of Serbia. However, this fact should be taken with reserve due to the presence of extreme values in both observed years. Observed individually, in the first year, the largest number of hotel companies is in the zone of low risk of income fraud, while in 2020, the largest number of companies is in the high-risk zone. The explanation for this can be found in the fact that the emergence of the COVID-19 pandemic affected the reduction of sales revenues in the observed companies, as well as maintaining the level of receivables from the end of the previous year. In 2019 and 2020, the average value of GMI at the sample level is lower than 1.031, which indicates a low level of fraud based on the gross margin index. In 2019, the largest number of companies were in the zone of low risk of fraud based on the gross margin index. However, in the year of the COVID-19 pandemic, there was a significant increase in the number of companies with a high level of risk of fraud based on the gross margin index (to the detriment of the number of companies in the low-risk zone). Observed at the sample level, in 2019 the average value of AQI indicates a moderate exposure of the observed hotel companies to the risk of fraud based on cost capitalisation, while in 2020 this exposure is high. The maximum value of this indicator of 97.84 in 2020 significantly contributed to that. When it comes to individual companies, more than 65% of companies in both observed years were in a zone of low risk of fraud based on cost capitalization. On the other hand, less than 14% of the observed companies in both observed years were in a zone of high risk of fraud on the same basis.

As the average values of SGI at the sample level in both observed years are below the average value for non-manipulators (1.039), it can be concluded that the observed hotel companies are in a zone of low risk of fraud related to sales growth. This is confirmed by the fact that 4 hotel companies in the first

year, and one company in the second observed year had a high level of risk of fraud related to sales growth. The average value of DEPI at the sample level in 2019 and 2020 is above the average value for manipulators, which indicates a high exposure to the risk of fraud based on depreciation calculations. As in the case of the previous indicator (SGI), the high average value of this indicator was contributed by the extreme values recorded in some companies. Observed individually, in more than 60% of the observed companies in 2019 and 2020, there was a low exposure to the risk of fraud based on depreciation calculations. All 14 companies, with which a moderate risk of fraud was identified based on the calculation of depreciation in 2019, were in the moderate risk zone in 2020 as well. The average value of SGAI at the sample level in both observed years indicates a high risk of fraud in the financial statements based on the recognition of costs of sales, management and administration. The existence of a high risk of fraud based on the recognition of these costs in the financial statements for 2019 was identified in 51 companies, while in 2020 that number increased by 37.

The average value of TATA at the sample level in 2019 is below the average value for non-manipulators, while in 2020 it is above the average value for manipulators. The largest number of companies in both observed years is in the zone of low risk of fraud based on the accounting item (63 companies in 2019 and 70 companies in 2020). The average value of LVGI at the sample level in 2019 indicates a moderate risk exposure based on borrowing, while the average value in 2020 indicates a high risk exposure. In 2019, the largest number of companies (63 of them) were in the zone of low risk of fraud based on borrowing, while in 2020 the same number of companies were in the zone of low and high risk zones (44 companies each).

The average value of the Beneish M-score model with 5 variables at the sample level indicates a low level of fraud risk in the financial statements for 2019, while the 8-variable model indicates the existence of a high risk of fraud. Looking at the level of individual companies, the model with 5 variables identified the existence of a probability of fraud in the financial statements for 2019 in 23 companies, while the model with 8 variables determined the same in 39 companies. The average value of both Beneish M-score models at the sample level in 2020 is higher than -2.22, which indicates a high risk of fraud. The model with 5 variables determined that 35 companies are likely to have committed fraud in the financial statements for 2020. On the other hand, the 8-variable model identified the existence of a probability that fraud was committed in the financial statements for 2020 in 40 companies. For companies that were identified as likely to have committed fraud in the financial statements for 2019, it was determined that they were likely to have committed fraud in the financial statements for 2020.

Higher number of companies in both observed years in which the probability of committing fraud was identified using the 8-variable model, compared to the 5-variable model, can be explained as a result of the increased risk of fraud on the basis of, primarily, the recognition of costs of sales, management and administration (SGAI). It is one of three variables (besides TATA and LVGI) that is not contained in the model with 5 variables.

As stated in the third part, in order to determine whether there is a statistically significant difference in the values of individual indicators, as well as the values of the models themselves between two observed years, Wilcoxon's rank test will be applied. The results of this test are shown in Table 3.

Table 3: Wilcoxon's rank test

Variables	Wilcoxon's rank test	Median	
		2019	2020
DSRI	$z=-1.699$; $p=0.089$; $r=0.12$	1.135	1.311
GMI	$z=-4.941$; $p=0.000$; $r=0.35$	1.000	1.115
AQI	$z=-0.396$; $p=0.692$; $r=0.03$	0.965	0.995
SGI	$z=-7.798$; $p=0.000$; $r=0.55$	1.014	0.414
DEPI	$z=-0.516$; $p=0.606$; $r=0.04$	0.977	0.972
SGAI	$z=-6.670$; $p=0.000$; $r=0.47$	1.050	1.759
TATA	$z=-0.265$; $p=0.791$; $r=0.02$	0.003	0.043
LVGI	$z=-1.943$; $p=0.052$; $r=0.02$	0.981	1.062
M5	$z=-0.457$; $p=0.647$; $r=0.03$	-2.836	-2.845
M8	$z=-0.083$; $p=0.934$; $r=0.00$	-2.361	-2.555

Source: Authors' calculation

As can be seen from Table 3, Wilcoxon's rank test revealed that in the case of GMI, SGI and SGAI there is a statistically significant difference in value between the observed years. The mentioned test determined that in 2020 there was a statistically significant increase in the risk of fraud based on the gross margin with a medium effect. In 2020, there was a statistically significant reduction in the risk of fraud based on sales growth compared to 2019, with a strong effect. The risk of fraud based on the recognition of costs of sales, management and administration increased statistically significantly in 2020 compared to 2019, with the effect of this increase being medium. The above results in partial acceptance of the first research hypothesis.

The results of the Kruskal-Wallis test (which tested the second research hypothesis) are presented in Table 4.

Table 4: Results of Kruskal-Wallis test

Variables	Year	Chi-Square	df	Sig.	Median for micro enterprises	Median for small enterprises	Median for medium enterprises
DSRI	2019	3.392	2	0.183	1.697	1.088	1.219
	2020	0.533	2	0.766	1.942	1.375	1.187
GMI	2019	0.253	2	0.881	1.008	0.998	1.004
	2020	2.749	2	0.253	1.066	1.114	1.117
AQI	2019	1.547	2	0.461	1.034	0.952	0.923
	2020	1.104	2	0.576	1.002	1.005	0.956
SGI	2019	0.774	2	0.679	0.984	1.026	1.013
	2020	4.703	2	0.095	0.572	0.410	0.357
DEPI	2019	1.069	2	0.586	0.934	0.981	0.976
	2020	0.988	2	0.610	0.998	0.967	0.973
SGAI	2019	3.909	2	0.142	0.989	1.079	1.009
	2020	6.597	2	0.037	1.562	1.747	1.949
TATA	2019	0.686	2	0.710	0.004	0.005	-0.002
	2020	0.528	2	0.768	0.000	0.003	0.003
LVGI	2019	1.991	2	0.370	1.077	0.972	0.988
	2020	0.241	2	0.886	1.043	1.072	1.056
M5	2019	0.364	2	0.834	-2.447	-2.829	-2.843
	2020	1.861	2	0.394	-2.907	-2.736	-3.079
M8	2019	1.435	2	0.488	-1.932	-2.374	-2.475
	2020	1.349	2	0.509	-2.688	-2.396	-3.062

Source: Authors' calculation

The results of the Kruskal-Wallis H test indicate that there is a statistically significant difference in the risk of fraud between hotel companies of different sizes based on the recognition of costs of sales, management and administration in 2020 (Sig.<0.05), with the growth of the size of the company there is an increase in the value of the median (Table 4). Mann-Whitney's U test revealed a statistically significant difference in the risk of fraud based on the recognition of costs of sales and administration in 2020 between micro (Md=1.562, n=9) and medium-sized hotel companies (Md=1.949, n=21) where the difference is between medium and strong intensity (U=40.000, z=-2.467, p=0.014, r=0.45). Based on that, it can be concluded that the risk of fraud based on the recognition of costs of sales, management and administration in micro enterprises is higher than in medium enterprises. Thus, the second research hypothesis was partially confirmed.

The results of the Mann-Whitney U test (which tested the third research hypothesis) are shown in Table 5.

Table 5: Results of Mann-Whitney U test

Variable	Year	Mann-Whitney U	Z	Sig.	r	Median for limited liability company	Median for joint-stock companies
DSRI	2019	341.000	-1.984	0.047	0.198	1.183	1.013
	2020	376.000	-1.612	0.107	0.161	1.286	2.285
GMI	2019	507.500	-0.217	0.828	0.022	1.002	0.983
	2020	294.000	-2.482	0.013	0.248	1.086	1.165
AQI	2019	327.000	-0.734	0.463	0.073	0.957	0.982
	2020	270.000	-1.530	0.126	0.153	0.965	1.033
SGI	2019	510.000	-0.191	0.849	0.019	1.014	1.012
	2020	430.500	-1.034	0.301	0.103	0.431	0.382
DEPI	2019	507.500	-0.217	0.828	0.022	0.970	0.988
	2020	441.000	-0.923	0.356	0.092	0.969	1.012
SGAI	2019	419.000	-1.156	0.248	0.116	1.057	1.004
	2020	349.000	-1.899	0.058	0.190	1.706	2.229
TATA	2019	336.500	-2.032	0.042	0.203	0.006	-0.023
	2020	427.500	-1.074	0.283	0.107	0.000	0.015
LVGI	2019	389.500	-1.469	0.142	0.147	0.971	1.051
	2020	412.500	-1.225	0.221	0.123	1.052	1.145
M5	2019	401.000	-1.347	0.178	0.135	-2.828	-3.048
	2020	339.000	-2.005	0.045	0.201	-2.912	-1.978
M8	2019	254.000	-2.906	0.004	0.291	-2.306	-2.896
	2020	352.000	-1.867	0.062	0.187	-2.662	-1.575

Source: Authors' calculation

Mann-Whitney U test found the existence of statistically significant differences in the risk of fraud between hotels registered as limited liability companies and joint-stock companies based on the recognition of sales revenue in 2019, with this difference between low and medium intensity ($U=341.000$, $z=-1.984$, $p=0.047$, $r=0.198$). As the value of the median DSRI for limited liability companies in 2019 was 1.183, and for joint-stock companies 1.013, it can be concluded that the risk of fraud based on the recognition of sales revenue is higher in limited liability companies compared to joint-stock companies. In addition, in 2019, there is a higher risk of fraud on the basis of the accrual item in limited liability companies ($Md=0.006$) compared to joint-stock companies ($Md=-0.023$), with the difference between low and medium intensity ($U=336.600$, $z=-2.032$, $p=0.042$, $r=0.203$). For the same year, limited liability companies ($Md=-2.306$) were exposed to

a higher risk of fraud in financial statements (measured by the eight-variable model) compared to joint-stock companies ($Md=-2.896$), with the difference between small and medium intensity ($U=254.000$, $z=-2.906$, $p=0.004$, $r=0.291$). Joint-stock companies ($Md=1.165$) are exposed to a higher risk of fraud based on gross margin in 2020 compared to limited liability companies ($Md=1.086$), with the difference between low and medium intensity ($U=294.000$, $z=-2.482$, $p=0.013$, $r=0.248$). Further, the research found that joint-stock companies ($Md=-1.978$) are more exposed to a higher risk of fraud in the financial statements for 2020 (measured model with five variables) compared to limited liability companies ($Md=-2.912$), with the difference between low and medium intensity ($U=339.000$, $z=-2.005$, $p=0.045$, $r=0.201$).

5. CONCLUSIONS

Financial statements as the main products of the company's accounting information system are the main means of communication between companies and external persons. Based on the information contained in them, users make certain business decisions. In order for these decisions to be adequate, it is necessary that the information contained in the financial statements be true and objective. However, in practice, this often does not happen due to manipulative (fraudulent) actions. The financial statements show the business of the company that differs from the real thing. This can result in business decisions being made by their users, with negative consequences for non-fraudsters as well as the community as a whole. No country is immune to fraudulent financial reporting, and the risk of fraud can be increased by economic crises, pandemics (such as the COVID-19 pandemic), natural disasters and the like. As fraudulent financial reporting can cause great losses at the local and global level, it is necessary to pay special attention to preventing its occurrence, as well as its detection.

The Beneish M-score model, which uses five and eight factors, is one of the most widely used strategies for detecting fraud in financial statement. Because organisations in the hotel and tourism industries are particularly vulnerable to the COVID-19 epidemic, their risk of financial statement fraud may rise. As a result, the goal of this study is to assess the risk of fraud in the financial statements of 100 randomly selected hotel enterprises in the Republic of Serbia in the year leading up to the COVID-19 pandemic (2019) and in the year following the pandemic (2020).

Of the 100 hotel companies observed, Beneish's five-variable model identified an increased risk of fraud in 23 of them in 2019 and 35 in 2020. On the other hand,

the eight-variable model identified an increased risk of fraud in the financial statements of 39 companies in 2019 and 40 companies in 2020. When it comes to individual variables of these two models, in the largest number of companies in both observed years, an increased risk of fraud was noted when recognising the costs of sales, management and administration. Further, there was a high risk of fraud based on borrowing in 2019 and 2020, as well as a high risk based on revenue recognition and gross margin index in 2020. The research established that in the year of the COVID-19 pandemic, there was a statistically significant increase in the risk of fraud based on the gross margin index, sales growth and recognition of sales, administration and administration costs compared to the year before the pandemic. In other words, with the onset of the COVID-19 pandemic, there has been an increase in exposure to the risk of fraud in financial statements based on certain aspects. Therefore, it is necessary to improve the existing system of financial reporting in hotel companies in the Republic of Serbia during the pandemic, as well as to make greater efforts to control their quality. The research established that in 2020, micro companies are exposed to a higher risk of fraud based on the recognition of costs of sales, management and administration compared to medium-sized companies. In addition, it was determined that limited liability companies in 2019 are more exposed to the risk of fraud based on the recognition of sales revenue, accounting items and general risk of fraud in the financial statements (measured by the eight-variable model) compared to joint-stock companies. When it comes to 2020, it was determined that joint-stock companies are exposed to a higher risk of fraud based on gross margin and general risk of fraud in the financial statements (measured by the five-variable model) compared to limited liability companies. This indicates that, despite the fact that the financial statements of joint stock companies are subject to mandatory audit, there is a possibility to improve their quality. In other words, the auditor, due to the inherent limitations of the audit, cannot detect the existence of all fraudulent actions in the financial statements and thus affect the quality of the information contained in them.

The research offers several theoretical contributions to the existing literature in this field. According to the authors' knowledge, this is the first research conducted in the Republic of Serbia, which examines the existence of warning signs of financial fraud in the financial reports of hotel companies. The research also enables the perception of warning signs of financial fraud in hotel companies in the year before the outbreak of the COVID-19 pandemic, as well as in the year of its occurrence. In addition, the results of the research may be important for researchers of fraud in financial statements, government agencies, regulators of financial reporting, but also the compilers and users of financial statements.

There are several limitations. The key limitation of the conducted research is reflected in the lack of empirical evidence of how much the mentioned model is really used in practice. Therefore, in the following study, a research should be conducted in which fraud investigators would be examined, and in which the real application of this model, as well as other techniques, would be considered. One of the limitations is related to the Beneish M-score model itself, primarily to the fact that it was developed on the basis of reports prepared in accordance with GAAP and that it is necessary to make certain adjustments to determine the value of the model. This can significantly affect the value of the results obtained. Therefore, in future research, other techniques should be applied that indicate the existence of fraudulent actions in the financial statements. Because the current study only includes hotel companies in the Republic of Serbia, the next study should include hotel companies from other countries in the region.

Conflict of interests

The authors declare there is no conflict of interest.

REFERENCES

- Beneish, M. D. (1999). The Detection of Earnings Manipulation, *Financial Analysts Journal*, 55(5), 24–36. DOI: [10.2469/faj.v55.n5.2296](https://doi.org/10.2469/faj.v55.n5.2296)
- Cvetković, D., Trivunović Sajić, Đ., Milojević, S., Dmitrović, V., Cvetković, B., & Grgur, A. (2021). Osnove forenzičkog računovodstva. U Knežević, S. (Ured.), *Forenzičko računovodstvo, istražne radnje, ljudski faktor i primenjeni alati* (str. 21-50). Beograd, Srbija: Fakultet organizacionih nauka.
- Đekić, M., Čukanović-Karavidić, M., & Filipović, P. (2018). Korupcija kao oblik finansijske prevare i njena zastupljenost u Srbiji. *Revizor*, 21(81), 101-113. Retrieved from: <https://scindeks-clanci.ceon.rs/data/pdf/1450-7005/2018/1450-70051881101Q.pdf>
- Deloitte (2020). *Forensic Focus on COVID-19: Financial statement fraud*. Retrieved from: <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/finance/us-forensic-focus-on-covid-19.pdf>
- Dimitrijević, D. (2012). Metode i instrumenti forenzičkog računovodstva za otkrivanje prevara u finansijskim izveštajima. *Računovodstvo*, 56(3-4), 14-24.
- Dimitrijević, D., & Danilović, M. (2017). Detection of Fraud in Companies in the Republic of Serbia Using the Beneish Model. *Anali Ekonomskog fakultet u Subotici*, 53(37), 311-325. Retrieved from: <https://scindeks-clanci.ceon.rs/data/pdf/0350-2120/2017/0350-21201737311D.pdf>
- Dimitrijević, D., Jovković, B., & Milutinović, S. (2021). The scope and limitations of external audit in detecting frauds in company's operations. *Journal of Financial Crime*, 28(3), 632-646. DOI: [10.1108/JFC-11-2019-0155](https://doi.org/10.1108/JFC-11-2019-0155)

- Dimitrijević, D., Obradović, V., & Milutinović, S. (2018). Indicators of fraud in financial reporting in the Republic of Serbia. *Teme*, 42(4), 1319-1338. DOI: [10.22190/TEME1804319D](https://doi.org/10.22190/TEME1804319D)
- Franceschetti, B.M., & Koschtial, C. (2013). Do bankrupt companies manipulate earnings more than the nonbankrupt ones?. *Journal of Finance and Accountancy*, 12, 1-22. Retrieved from: <http://www.aabri.com/manuscripts/121426.pdf>
- Golden, T.W., Skalak, S.I., Clayton, M.M., & Pill, J.S. (2011). *A Guide to Forensic Accounting Investigation*. 2nd edition. New Jersey, USA: John Wiley & Sons, Inc.
- Halilbegović, S., Celebic, N., Cero, E., Buljubasic, E., & Mekić, A. (2020). Application of Beneish M-score model on small and medium enterprises in Federation of Bosnia and Herzegovina. *Eastern Journal of European Studies*, 11(1), 146-163. Retrieved from: https://ejes.uaic.ro/articles/EJES2020_1101_HAL.pdf
- Hołda, A. (2020). Using the Beneish M-score model: Evidence from non-financial companies listed on the Warsaw Stock Exchange. *Investment Management and Financial Innovations*, 17(4), 389-401. DOI: [10.21511/imfi.17\(4\).2020.33](https://doi.org/10.21511/imfi.17(4).2020.33)
- International Federation of Accountants. (2020). *Navigating the Heightened Risks of Fraud and Other Illicit Activities During the COVID-19 Pandemic, Including Considerations for Auditing Financial Statements*. New York, USA. Retrieved from: https://www.ifac.org/system/files/publications/files/Staff-Alert-Navigating-the-Heightened-Risks-of-Fraud-and-Other-Illicit-Activities-During-the-COVID-19-Pandemic_0.pdf
- Jan, C.L. (2018). An Effective Financial Statements Fraud Detection Model for the Sustainable Development of Financial Markets: Evidence from Taiwan. *Sustainability*, 10(2), 513. DOI: [10.3390/su10020513](https://doi.org/10.3390/su10020513)
- Jan, C.L. (2021). Detection of Financial Statement Fraud Using Deep Learning for Sustainable Development of Capital Markets under Information Asymmetry. *Sustainability*, 13(17), 9879. DOI: [10.3390/su13179879](https://doi.org/10.3390/su13179879)
- Jones, M. (2011). Methods of Creative Accounting and Fraud. In Jones, M. (Ed.), *Creative Accounting, Fraud and International Accounting Scandals* (pp. 43-68), Chichester, UK: John Wiley & Sons, Inc.
- Kokić, T., Gligorić, M., & Knežević, G. (2018). Use of Beneish Model on Serbian Super League Football Clubs. *FINIZ 2018 - The Role of Financial and Non-Financial Reporting in Responsible Business Operation*, 118-122. DOI: [10.15308/finiz-2018-118-122](https://doi.org/10.15308/finiz-2018-118-122)
- Kušter, D. (2021). Detekcija prevara u finansijskom izveštavanju kod malih i srednjih entiteta iz oblasti prerađivačke industrije. *Ekonomija – teorija i praksa*, 14(2), 17-37. DOI: [10.5937/etp2102017K](https://doi.org/10.5937/etp2102017K)
- Levi, M., & Smith, R.G. (2021). *Fraud and its relationship to pandemics and economic crises: From Spanish flu to COVID-19*. Canberra, Australia: Australian Institute of Criminology.
- Ljubisavljević, S., & Jovković, B. (2016). *Revizija finansijskih izveštaja*. Kragujevac, Srbija: Ekonomski fakultet.
- Luis, N. (2020). *A blueprint to managing corporate fraud risk during a pandemic*. The Institute of Internal Auditors, Internal Audit Foundation & Fundación

- Latinoamericana de Auditores Internos. Retrieved from: <https://iiabelgium.org/fraud/a-blueprint-to-managing-corporate-fraud-risk-during-a-pandemic/>
- Luković, S., & Stojković, D. (2020). Covid-19 pandemic and global tourism. *Hotel and Tourism Management*, 8(2), 79-88. DOI: [10.5937/menhottur2002079L](https://doi.org/10.5937/menhottur2002079L)
- Melville, A. (2011). *International Financial Reporting: A Practical Guide*. Harlow, UK: Pearson Education Limited.
- Milojičić, M., & Živković, A. (2021). Upravljanje zaradom kao oblikom kreativnog računovodstva i osvrt na specifičnost upravljanja rizikom od pranja novca i finansiranja terorizma u poslovnim bankama. U Knežević, S. (Ured.), *Forenzičko računovodstvo, istražne radnje, ljudski faktor i primenjeni alati* (str. 177-198). Beograd, Srbija: Fakultet organizacionih nauka.
- Milovanović, V., Paunović, M., & Avramovski, S. (2021). The impact of COVID-19 on the hotel supply chain management. *Hotel and Tourism Management*, 9(2), 63-78. DOI: [10.5937/menhottur2102063M](https://doi.org/10.5937/menhottur2102063M)
- Mitrić, M., Stanković, A., & Lakićević, A. (2012). Forensic Accounting: The Missing Link in Education and Practice. *Management*, 65, 41–50. DOI: [10.7595/management.fon.2012.0032](https://doi.org/10.7595/management.fon.2012.0032)
- Mitrović, A., & Knežević, S. (2020). Fraud and forensic accounting in the digital environment of accounting information systems: focus on the hotel industry. *Tourism International Scientific Conference Vrnjačka Banja - TISC*, 5(1), 281-295. Retrieved from: <http://www.tisc.rs/proceedings/index.php/hitmc/article/view/342/337>
- Mitrović, A., Knežević, S., & Milašinović, M. (2021). Profitability analysis of hotel companies in the Republic of Serbia. *Hotel and Tourism Management*, 9(1), 121-134. DOI: [10.5937/menhottur2101121M](https://doi.org/10.5937/menhottur2101121M)
- Obradović, V., Milašinović, M., & Bogičević, J. (2021). Obelodanjivanja o segmentima u finansijskim izveštajima akcionarskih društava u Republici Srbiji i Republici Hrvatskoj. *Ekonomski horizonti*, 23(1), 55-70, DOI: [10.5937/ekonhor2101055O](https://doi.org/10.5937/ekonhor2101055O)
- Ogoun, S., & Perelayefa (2019). Corporate Governance and Fraudulent Financial Reporting: The Audit Committee Characteristics' Paradigm. *The International Journal of Business & Management*, 7(12), 105-113. DOI: [10.24940/theijbm/2019/v7/i12/BM1912-048](https://doi.org/10.24940/theijbm/2019/v7/i12/BM1912-048)
- Pallant, J. (2009). *SPSS - Priručnik za preživljavanje*. Beograd, Srbija: Mikro knjiga.
- Paolone, F. & Magazzino, C. (2014). Earnings Manipulation Among the Main Industrial Sectors: Evidence from Italy. *Economia Aziendale Online*, 5(4), 253-261. DOI: [10.4485/ea203-5498.005.0022](https://doi.org/10.4485/ea203-5498.005.0022)
- Petković, A. (2010). *Forenzička revizija: Kriminalne radnje u finansijskim izveštajima*. Bečej, Srbija: Proleter.
- Ramírez-Orellana, A., Martínez-Romero, M., & Marino-Garrido, T. (2017). Measuring fraud and earnings management by a case of study: Evidence from an international family business. *European Journal of Family Business*, 7, 41-53. DOI: [10.1016/j.ejfb.2017.10.001](https://doi.org/10.1016/j.ejfb.2017.10.001)

- Repousis, S. (2016). Using Beneish model to detect corporate financial statement fraud in Greece. *Journal of Financial Crime*, 23(4), 1063-1073. DOI: [10.1108/JFC-11-2014-0055](https://doi.org/10.1108/JFC-11-2014-0055)
- Rezaee, Z., & Riley, R. (2009). *Financial statement fraud: prevention and detection*. New Jersey, US: John Wiley & Sons, Inc.
- Srebro, B., Mavrenski, B., Bogojević Arsić, V., Knežević, S., Milašinović, M., & Travica, J. (2021). Bankruptcy Risk Prediction in Ensuring the Sustainable Operation of Agriculture Companies. *Sustainability*, 13(14), 7712. DOI: [10.3390/su13147712](https://doi.org/10.3390/su13147712)
- The Serbian Business Registers Agency (2022). *Special Arrangements Services*. Belgrade, Serbia. Retrieved from: <https://www.apr.gov.rs/home.1435.html>
- Vasilev, D., Cvetković, D., & Grgur, A. (2019). Detection of fraudulent actions in the financial statements with particular emphasis on hotel companies. *Hotel and Tourism Management*, 7(1), 115-125. DOI: [10.5937/menhottur1901115V](https://doi.org/10.5937/menhottur1901115V)
- Wells, J. (2017). *Corporate Fraud Handbook: Prevention and Detection*. 5th ed. New Jersey, US: John Wiley & Sons, Inc.
- Wieczorek-Kosmala, M. (2021). COVID-19 impact on the hospitality industry: Exploratory study of financial-slack-driven risk preparedness. *International Journal of Hospitality Management*, 94, 102799, DOI: [10.1016/j.ijhm.2020.102799](https://doi.org/10.1016/j.ijhm.2020.102799)

ПАНДЕМИЈА КОВИД 19 И ПРЕВАРНЕ РАДЊЕ У ФИНАНСИЈСКИМ ИЗВЈЕШТАЈИМА: СЛУЧАЈ ХОТЕЛИЈЕРСКИХ ПРЕДУЗЕЋА У РЕПУБЛИЦИ СРБИЈИ

1 Марко Милашиновић, Факултет за хотелијерство и туризам,
Универзитет у Крагујевцу, Врњачка Бања*, Србија

2 Биљана Јовковић, Економски факултет, Универзитет у Крагујевцу, Србија

3 Предраг Драгичевић, Државна ревизорска институција, Београд, Србија

САЖЕТАК:

Квалитет информација презентованих у финансијским извјештајима предузећа може бити нарушен услјед преварних радњи. Један од често коришћених инструмената који указује на индиције да је у финансијским извјештајима извршена превара је Бениш М-скор модел. Сврха истраживања је да се испита изложеност хотелијерских предузећа у Републици Србији ризику од превара у финансијским извјештајима, као и да се утврди да ли је дошло до промјене тог ризика услјед настанка пандемије изазване ковидом 19. Истраживање је спроведено на узорку од 100 случајно одабраних хотелијерских предузећа, при чему су посматрани њихови финансијски извјештаји за 2019. и 2020. годину. Утврђен је висок ризик од превара по основу признавања трошкова продаје, управе и администрације и задуживања у обје посматране године, као и висок

ризик од превара по основу признавања прихода и индекса бруто марже у 2020. години. Примјеном Вилкоксоновог теста ранга, утврђено је да је у години настанка пандемије ковида 19 дошло до раста изложености ризику од превара у финансијским извјештајима по основу индекса бруто марже и признавања трошкова продаје, управе и администрације. Ман-Витни У тест је утврдио да су већем ризику од превара по основу признавања трошкова продаје, управе и администрације изложена микро предузећа у односу на средња. Такође, Ман-Витнијев У тест је утврдио да су друштва са ограниченом одговорношћу изложенија ризику по основу признавања прихода од продаје, обрачунске ставке и укупног ризика (мјереног моделом са осам варијабли) у односу на акционарска друштва. Са друге стране, акционарска друштва су изложенија ризику од превара по основу бруто марже и општем ризику од превара (мјереног моделом са пет варијабли) у односу на друштва са ограниченом одговорношћу.

Кључне ријечи: *ковид 19, преваре, финансијски извјештаји, хотелијерска предузећа, Бениш М-скор модел.*