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Corporate Financial Policy as a Factor of Corporate Sustainability and Health during COVID-19 Pandemic Period

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Abstract:

Research Question: This paper analyses whether a relationship exists between the financial policy of the companies, embodied in the structure of assets and liabilities, and their financial health during the COVID-19 pandemic. **Motivation**: The paper aims to consider the impact of changes in the value of individual items of the balance sheet of selected companies on the movement of profitability, liquidity, and market value of companies, as measures of the companies' financial health. **Idea:** The core idea of this paper was to empirically evaluate the financial health of domestic companies, where the financial policy that the selected companies implemented was taken as a factor of financial health. The financial policy was viewed through the structure of assets and financing of the chosen companies, while financial resilience observation was based on indicators of profitability, liquidity, and market value of the companies. **Data:** Secondary data from the reference database (Index of the Belgrade Stock Exchange) during the period 2016-2020, which includes 30 companies from the real sector, serve as the relevant basis for the realization of the research within the adequately set area of the research. **Tools** will be used to study the relationship, i.e. connectivity of selected research variables based on regression analysis in the frame of parametric quantitative procedures. The financial policy was viewed through the structure of assets and financing of the chosen companies, based on their balance sheets, while financial resilience observation was based on indicators of profitability, liquidity, and market value of the companies, which were used as dependent variables in the research. **Findings:** The point that changes in a relatively small number of the balance sheet items of selected companies influenced the movement of the mentioned financial health indicators during the COVID-19 pandemic. **Contribution**: Presented research results are significant and representative for future corporate practice. The key contribution of this research is the identification of assets' elements with a critical impact on companies' financial health.

Keywords: corporate financial policy, corporate financial health, COVID-19, Belgrade Stock Exchange

JEL Classification: G31, G32

1. Introduction

In 2020, the world was faced with the biggest pandemic in this century. In the short time since the Wuhan epidemic, COVID-19 has become a global pandemic and a key obstacle to the normal functioning of society and the economy (He et al., 2020). In terms of scope and intensity of action, only the medieval plague pandemic and the Spanish flu pandemic, which occurred a century ago, are comparable to the current COVID-19 pandemic (Ceylan et al., 2020). Since such pandemics rarely happen, they are not considered significant threats to the global economy (Rizvi et al., 2020). This is supported by the fact that the World Economic Forum, in its Global Risk Report published in early 2020, listed environmental problems as critical risks to the world economy, while, according to the assessed impact and dangers, "infectious diseases"

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were ranked only on the tenth place (Ramelli & Wagner, 2020, 623). Therefore, it is not surprising that the pandemic found the world unprepared, without defined rules and standards that should be followed in such situations (Phan & Narayan, 2020) to preserve overall social stability. The political, business, professional, and scientific public have faced hopelessness (Chevallier, 2020).

To stop the pandemic, governments introduced several restrictive measures that restricted movement and travel and hence the pursuit of daily economic and social activities (Cheema-Fox et al., 2020; Hasan et al., 2020). The imposed restrictions negatively affected both supplies, where there was a slowdown and sometimes complete cessation of business activities, and demand, which dropped significantly in conditions of uncertainty and crisis (Randelovic, 2021). The results are substantial economic losses, closures of numerous companies around the world (Rababah et al., 2020), and a decline in economic activity equal to those achieved during the global economic crises and world wars (Arif et al., 2021; Savic et al., 2021).

Governments have used various fiscal and monetary policy instruments to provide the economy with the necessary infusion of financial resources and to prevent economic collapse (Jiang et al., 2021). Governments that have implemented on-time economic measures to save the economy have faced a smaller decline in the volume of economic activity (Randelovic, 2021). However, the implementation of these measures is mainly accompanied by long-term unsustainable expansionary fiscal policy, which creates a growing budget deficit, which must be covered by either additional borrowing or increasing tax burden on households and the economy (Labus, 2021).

The COVID-19 pandemic has triggered a radical change in the economy and society's environment (Koutoupis et al., 2021). It is unreasonable to expect that everything will return to normal even when the pandemic ends. The political, economic, and academic elite must devise a new concept of the world, in which economic and financial flows will be managed by the principles of sustainable development (Arif et al., 2021; Quatrini, 2021) and with the increasing digitalization of business processes (Bai et al., 2021; Paunovic & Anicic, 2021; Savic et al., 2021).

However, the pandemic was not equally detrimental to all sectors. Moreover, certain categories of companies have successfully passed through the vortex of the pandemic crisis (according to Jedynak and Bak (2021)). In the first place, these are pharmaceutical companies and medical equipment producers. The second category includes companies that have used the gap created by imposing social distance, such as delivery companies, e-commerce platforms and online grocery sales. The third category consists of companies from the IT sector, consulting, media, and entertainment. Finally, there are companies whose sectors have been hit by a crisis of significant intensity, such as insurance and catering, but some of them, with their creativity and innovation of their services, have managed to beat the competition.

This paper analyses the impact of corporate investment and financing policies on the ability of companies to preserve and strengthen their financial health in a situation where a global pandemic undermines the foundations of the world economy. The paper also aims to consider the impact of changes in the value of individual items of the balance sheet of selected companies on the movement of profitability, liquidity and market value of companies, as measures of financial health of companies. The paper is organized by first reviewing the literature, then presenting the data and applied research methodology, after which the research results are given and the last part brings the discussions and conclusion.

2. Literature Review

For companies to successfully overcome the vortex of the crisis in which they were thrown due to the COVID-19 pandemic, it is necessary to develop and implement an adequate policy to mitigate the negative effects of the pandemic (Rababah et al., 2020). The practice has shown that even during the current crisis, companies with an adequate crisis management policy and teams that properly implement it deal most effectively with its challenges (Lukic et al., 2020). However, the best form of crisis management is stable and responsible business, which primarily protects the economic health of companies from the harmful effects of internally generated crises. In the conditions of dynamic market changes and the emergence of increasingly demanding and less loyal customers (Kaur & Kaur, 2020), only companies that maintain internal stability can hope for business success. The financial policy of the company is an essential factor of business stability. The recession caused by the pandemic has shown that the success of companies in overcoming the current crisis is largely conditioned by the validity of their investment and financing policies.

An adequate financial policy must lead to the preservation of solvency and liquidity and the ability of companies to take advantage of attractive investment opportunities. Mirza et al. (2020) state that the decline in corporate solvency is one of the most significant economic consequences of the COVID-19 epidemic in the European Union. Ding et al. (2021) studied the factors of business resilience to the consequences of a pandemic in 61 selected economies. Their research showed that companies that borrowed less, borrowed in the longer term, and had a more considerable amount of cash than their counterparts showed the most outstanding resilience. Analysing the impact of the pandemic on the investments of Chinese companies present on the stock exchanges, Jiang et al. (2021) conclude that high cash reserves were a powerful instrument for maintaining business stability, which allowed companies to continue with ongoing and preparing development activities. Starting also from the companies listed on the Chinese stock exchanges, Qin et al. (2020) come to the same conclusion about the importance of available cash in protecting companies from the effects of the pandemic crisis. They believe that, according to the conclusion given above, management should support shareholders in maintaining adequate cash reserves. Ramelli and Wagner (2020) confirmed the thesis about the importance of cash reserves in the case of selected American companies, not missing the opportunity to point out the high costs that keeping high cash reserves brings to the company. However, many companies cannot boast of sufficient cash reserves. This is supported by a survey conducted by Vito and Gomez (2020) on a sample of companies listed on stock exchanges in OECD countries and China. Their research showed that there is a danger that 10% of the observed companies will become illiquid in the following six months and that in the current conditions, the average observed company will be left without cash in two years.

An important aspect of the companies' financial policy is the dividend payment policy. Examining the dividend policy of the companies included in the S&P1500 index basket, Mazur et al. (2020) conclude that over 80% of the observed companies maintained or even increased the number of dividends paid, regardless of the deterioration caused by the pandemic. On the other hand, Pettenuzzo et al. (2021) observed a significantly larger sample of American companies[1], and found a significantly larger sample of American companies that withdrew from the payment of dividends and strengthened their cash positions, often seeking external sources of financing. Krieger et al. (2020) state that companies listed on the U. S. stock exchanges reduced dividend payments during the current pandemic crisis to a greater extent than during the 2008 global financial crisis.

An important factor in the financial resilience of a company is the capital structure (Huang & Ye, 2021), which dictates the cost of financing and shows the degree of exposure of the companies to financial risk. During the pandemic crisis, there was a sharp increase in demand for commercial bank loans. However, access to credit was provided primarily to companies that were perceived as low-risk due to efficiency and business stability (Francis et al., 2020). The level of business efficiency of companies can be seen primarily through their balance sheets and income statements. In efficient companies, they show that the optimal investment and financing structure has been achieved, as well as low indebtedness measured by leverage ratios, which Clark et al. (2021) showed on the example of companies in the hospitality sector. Observing selected American companies, Neukirchen et al. (2021) concluded that during the current crisis, efficient companies achieved a total return close to 10% higher than other companies. On the other hand, it is natural that companies that generated low incomes and underinvestment before the crisis feel the severe consequences of the economic impact of the pandemic (Shen et al., 2020). To increase their efficiency and protect themselves from the adverse effects of the pandemic crisis, companies have mainly decided to reduce operating costs as an instrument to achieve these goals (Rababah et al., 2020; Nguyen et al., 2021).

Some authors followed the change in the companies' financial position during the pandemic crisis by observing the movement of the value of selected ratios. Thus, Devi et al. (2020) found that most companies listed on the Indonesian Stock Exchange saw a decline in the value of liquidity and profitability ratios and an increase in the leverage ratio, with only companies in the consumer goods sector recording opposite trends. On the other hand, Bravo and Hernandez (2021) tested the financial resilience of companies, specifically oil companies operating on the American continent, using the Altman's Z-score approach. They conclude that the highest degree of financial resilience was shown by companies whose Z-score in the last three years was equal to or higher than three and by those which did not use external sources of financing.

[1] The sample includes companies listed on the most prominent US stock exchanges.

3. Methodology

This research aims to examine the financial health of domestic companies in the period of the pandemic caused by the COVID-19 virus, where the financial policy that the selected companies implemented in the observed period was taken as a factor of financial health. The financial policy was viewed through the structure of assets and financing of the chosen companies, based on their balance sheets, while financial resilience observation was based on indicators of profitability, liquidity, and market value of the companies which were used as dependent variables in the research. The period 2016-2020 was considered. The sample consists of companies from the real sector[2] in the index basket of belexline, the index of the Belgrade Stock Exchange.

The authors have selected the following dependent variables:

- Return on equity (ROE), expressed as a percentage, represents the ratio between the company's net profit and total capital – y_1;
- Return on assets (ROA), expressed as a percentage, represents the ratio between the company's net profit and total assets – y_2;
- The current liquidity ratio, expressed as a percentage, represents the ratio between total current assets and short-term liabilities – y_3;
- Share price – y_4.

The authors have selected the following independent variables:

- Total current assets, presented in billions of dinars – x_1;
- Short-term financial placements, presented in billions of dinars – x_2[3];
- Cash and cash equivalent, presented in billions of dinars – x_3;
- Value added tax, presented in millions of dinars – x_4[4];
- Subscribed and unpaid capital, presented in millions of dinars – x_5[5];
- Repurchased own shares, presented in millions of dinars – x_6[6];
- Reserves, presented in billions of dinars – x_7[7];
- Deferred tax liabilities, presented in millions of dinars – x_8[8];
- Liabilities for other taxes, benefits, and other duties, presented in billions of dinars – x_9.

Model:

$$y_1 = \beta_0 + \beta_1 x_6 + \beta_2 x_9 + \varepsilon_i; \quad (\varepsilon_i = 0); \tag{1}$$

$$y_2 = \beta_0 + \beta_1 x_8 + \beta_3 x_9 + \varepsilon_i; \quad (\varepsilon_i = 0); \tag{2}$$

$$y_3 = \beta_0 + \beta_1 x_2 + \beta_2 x_4 + \varepsilon_i; \quad (\varepsilon_i = 0); \tag{3}$$

$$y_4 = \beta_0 + \beta_1 x_6 + \varepsilon_i; \quad (\varepsilon_i = 0); \tag{4}$$

4. Data and Analysis

Among the analysed companies, the most affected by the pandemic are companies that depend on human mobility, such as Nikola Tesla Airport, Lasta carrier, Jugoprevoz Krusevac, construction companies and industries whose business is closely related to transport and exports. Other analysed companies managed to cut their business, viewed through ROE and ROA indicators in the same ratio, or even a slight improvement over the previous period. Prior to analysing which independent variables were statistically significantly related to changes in selected dependent variables, to indicate the consequences of the COVID-

[2] The survey covered 30 companies, while the remaining four companies covered by the belexline index basket, which operate in the financial sector, were excluded from the study.
[3] It appears as an item in the assets of the balance sheet in 25 observed companies.
[4] It appears as an item in the assets of the balance sheet in 27 observed companies.
[5] It appears as an item in the balance sheet assets in 2 observed companies, where it represents a statistically significant variable.
[6] It appears as an item in the balance sheet assets in 14 observed companies, where it represents a statistically significant variable.
[7] It appears as an item in the assets of the balance sheet in 21 observed companies.
[8] It appears as an item in the assets of the balance sheet in 22 observed companies.

19 pandemic, we will examine whether there is a statistically significant difference in the values of selected dependent variables for the period before (2016-2019) and during the COVID-19 (2020) pandemic. For the first selected dependent variable ROE, after testing the normality of the schedule, a nonparametric Mann-Whitney U test was applied, and the results showed that there was a statistically significant difference in ROE values before and after the pandemic ($p = 0.048$). Also, a statistically significant difference was confirmed for the second dependent variable ROA ($p = 0.043$). Regarding the current liquidity ratio, no statistically significant difference in values before and after the pandemic was confirmed ($p = 0.684$). A statistically significant difference was not confirmed for the share price either ($p = 0.804$). Graphical representations of the results of nonparametric tests are given below.

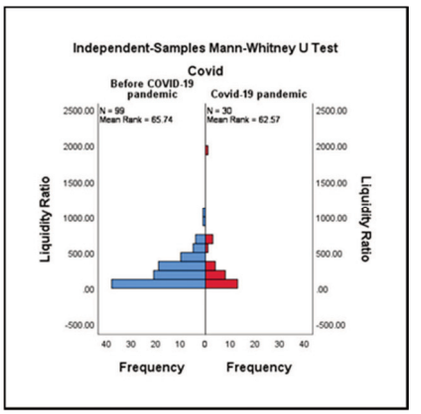

Figure 1: Mann-Whitney U test for LR

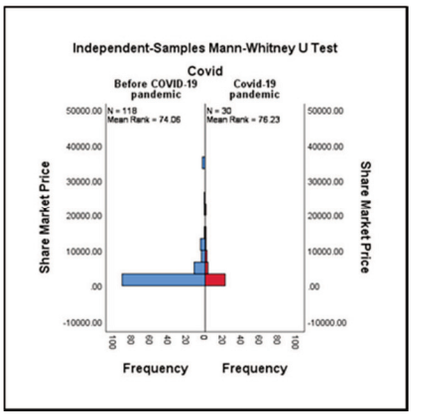

Figure 2: Mann-Whitney U Test for SMP

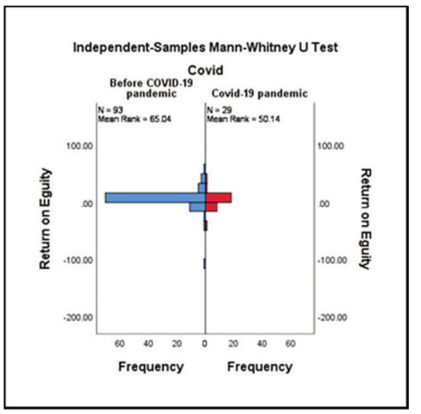

Figure 3: Mann-Whitney U test for ROE

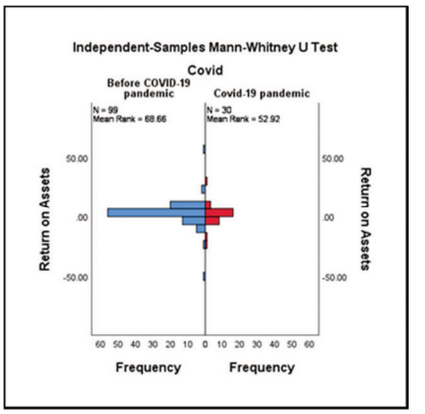

Figure 4: Mann-Whitney U test for ROA

5. Empirical Results

To determine the intensity and direction of the relationship between dependent and independent variables, univariate and multivariate regression analysis was applied. Using regression analysis, it is possible to determine the relationship between dependent and independent variables, as well as to determine how changes in the independent (predictor) variable affect changes in the dependent (categorical) variable. We performed univariate and multivariate regression analysis using the SPSS program (version 26).

Univariate linear regression showed that companies' performance presented through ROE was statistically significantly related to cash and cash equivalents ($p < 0.0005$). The coefficient B is 0.954, which means any increase in cash and cash equivalents by one billion increases ROE by 0.954. As $F = 15.325$ ($p < 0.0005$), this linear model significantly predicts the values of the dependent variable ROE. R^2 is 0.113, which means that the model explains 11.3% of the ROE variance. The model for ROE is:

$$y_1 = 3.236 + 0.954x_3 \quad (5)$$

Similarly, Table 1 interprets the relationship of the variable ROE with subscribed and unpaid capital, repurchased own shares, and liabilities for other taxes, benefits, and other duties.

Table 1: Univariate linear regression for ROE

	R^2	F	p	Const.	B	Model
Cash equivalent and cash	0.113	15.325	< 0.0005	3.236	0.954	$y_1 = 3.236 + 0.954x_3$
Subscribed and unpaid capital	0.576	6.788	0.048	27.745	-3.241	$y_1 = 27.745 - 3.241x_5$
Repurchased own shares	0.187	6.089	0.002	3.747	0.096	$y_1 = 3.747 + 0.096x_6$
Liabilities for other taxes, benefits and other duties	0.049	6.089	0.015	3.358	2.755	$y_1 = 3.358 + 2.755x_9$

Source: Authors' calculation

There was no statistically significant correlation between other assets items and the ROE value. Regarding the results of multivariate linear regression, out of four independent variables that stood out as statistically significant during the implementation of univariate linear regression, only the variable liability for other taxes, benefits, and other duties was retained in the multivariate regression model ($p < 0.0005$).

Univariate linear regression showed that the companies' performance presented through the ROA indicator was statistically significantly related to the total current assets ($p = 0.008$). The coefficient B is 0.150, which means that any increase in total current assets by one billion leads to an increase in ROA by 0.150. As $F = 7.335$, $p = 0.008$, this linear model significantly predicts the values of the dependent variable, i.e. the change in ROA. R^2 is 0.055, which means that the model explains 5.5% of the ROA variance. The model for ROA is:

$$y_2 = 1.625 + 0.150x_1 \quad (6)$$

Similarly, Table 2 interprets the relationship between the variable ROA and short-term financial placements, cash, and cash equivalents, subscribed and unpaid capital, repurchased own shares, reserves, deferred tax liabilities, and liabilities for other taxes, benefits, and other duties.

Table 2: Univariate linear regression for ROA

	R^2	F	p	Const.	B	Model
Short-term financial placements	0.056	6.107	0.015	1.147	1.912	$y_2 = 1.147 + 1.912x_2$
Cash equivalent and cash	0.268	46.456	< 0.0005	1.577	0.859	$y_2 = 1.577 + 0.859x_3$
Subscribed and unpaid capital	0.642	8.951	0.030	17.432	-1.741	$y_2 = 17.432 - 1.741x_5$
Repurchased own shares	0.274	18.466	< 0.0005	1.668	0.096	$y_2 = 1.668 + 0.096x_6$
Reserves	0.103	9.944	0.002	1.665	2.641	$y_2 = 1.665 + 2.641x_7$
Deferred tax liabilities	0.059	4.499	0.037	1.688	0.014	$y_2 = 1.688 + 0.014x_8$
Liabilities for other taxes, benefits, and other duties	0.114	16.178	0.015	3.358	2.459	$y_2 = 1.674 + 2.459x_9$

Source: Authors' calculation

There was no statistically significant correlation between other assets items and the ROA value. Regarding the results of multivariate linear regression, out of eight independent variables that stood out as statistically significant during the implementation of univariate linear regression, only the variable liability for other taxes, benefits, and other duties was retained in the multivariate regression model (p = 0.014).

Univariate linear regression showed that only assets items have a statistically significant impact on the performance of companies presented through the current liquidity ratio, specifically short-term financial placements, and value-added tax. Regarding the value of short-term financial placements, the coefficient B is 62.748, p = 0.003, which means that any increase in short-term financial placements by one billion leads to an increase in liquidity ratios by 62.758. As F = 9.529, p = 0.003, this linear model significantly predicts the values of the dependent variable represented through the current liquidity ratio. R^2 is 0.085, which means that the model explains 8.5% of the liquidity ratio variance. The model for the liquidity ratio is:

$$y_3 = 217.178 + 62.748x_2 \quad (7)$$

Similarly, Table 3 interprets the relationship between the variable current liquidity ratio and value-added tax.

Table 3: Univariate linear regression for current liquidity ratio

	R^2	F	p	Const.	B	Model
Value-added tax	0.074	8.596	0.004	268.967	-1.724	$y_3 = 268.967 - 1.724x_4$

Source: Authors' calculation

Regarding the results of multivariate linear regression analysis, the conclusion of univariate linear regression was confirmed, i.e. after using the Backward method, both variables were retained within the multivariate regression model (p = 0.001).

The analysis of the relationship between all balance sheet items, as independent variables, and stock prices, as a dependent variable, confirmed for only one item, repurchased own shares, a statistically significant relationship. The coefficient B is 62.157, p = 0.010, which means that any increase in the value of repurchased treasury shares by one million increases share prices by 62.157. The stock price model is:

$$y_4 = 3257.794 + 62.157x_6 \quad (8)$$

As F = 7.170, p = 0.010, this linear model significantly predicts the values of the dependent variable (stock prices). R^2 is 0.128, which means that the model explains 12.8% of the stock price variance.

Conslusion

The COVID-19 pandemic has significantly destabilized global economic flows and threatened the business of companies around the world. Companies whose activities depended on the mobility of people and capital experienced the most significant decline in the value of ROE and ROA indicators in Serbia. However, companies that have developed and implemented effective crisis management policies, as well as financial policies, have proven to be far more financially resilient than companies where this was not the case. Starting from that premise, in this paper the research of the influence of the companies' financial policy on the profitability, liquidity, and market value, as financial health indicators, was conducted. The research efforts focused on identifying the elements of the companies' assets and sources of financing that most strongly influence the stated indicators of the companies' financial health.

The research started from companies from the real sector listed on the Belgrade Stock Exchange. The research results show that the COVID-19 pandemic significantly affected the profitability of selected companies measured by ROE and ROA indicators, while its occurrence did not significantly affect their liquidity and market value. When it comes to the impact of changes in the value of individual items of assets and sources of financing on the financial health state of the observed companies, the research came to the following facts. The profitability of all analysed companies measured by the ROE indicator significantly depends on the flow of cash and cash equivalents and other taxes, benefits, and other duties, while subscribed and unpaid capital and repurchased own shares had a significant impact on the ROE of several observed companies. On the other hand, the movement of ROA indicator is positively and strongly influenced by changes in short-term financial placements, cash, and cash equivalents, repurchased own shares, reserves, deferred tax liabilities, and liabilities for other taxes, benefits, and other duties, while the impact of subscribed and unpaid capital is negative. Other balance sheet items of the observed companies do not have a statistically significant effect on the movement of their profitability. However, after conducting a multivariate regression analysis, it was shown that the only liabilities item which

has a statically significant impact on the movement of both profitability indicators are taxes, benefits, and other duties. Only short-term financial placements, whose influence is positive, and value-added tax, which has a negative effect, have a statistically significant impact on the observed companies' liquidity shown by the current liquidity ratio. The statistically significant influence of the mentioned independent variables on the movement of the current liquidity ratio was confirmed with the help of multivariate regression analysis. Finally, the only balance sheet item that has a statistically significant, and at the same time, a positive impact on the selected companies' share price movement are repurchased own shares.

Financial health factors that this research deals with are critical, both for corporate financial policymakers and the academic public interested in the corporate finance sector. Understanding the impact of certain elements of assets and capital on the companies' financial health should be an incentive for creators and implementers of corporate financial policies to strive to create an optimal investment and capital structure. This strengthens companies' financial position and financial resilience, which is particularly important, especially in the turbulent socio-economic circumstances for the global society and economy caused by COVID-19 pandemic. Subsequent research should, among other things, overcome certain limitations of this research. The first limitation is objective and concerns the shortness of the observed period of the COVID-19 pandemic, while the second is subjective and refers to a relatively small sample of observed companies. However, we believe that these restrictions do not diminish the importance and quality of research results because all current relevant data are included, and the sample consists of companies whose significance for the economy of the Republic of Serbia is exceptional.

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