

The impact of COVID-19 pandemic on business continuity in Serbia: A sectoral analysis

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Abstract

This paper focuses on the impact of COVID-19 pandemic on the business continuity of economic sectors in Serbia. The analysis was based on the secondary data from the Statistical Office of the Republic of Serbia, with particular focus given to the year-on-year changes in business revenues over the periods from 2010 to 2023, and 2019 to 2020. A simplified multivariate linear regression model was used to examine the influence of sectoral affiliation and enterprise size on the decline in revenues. The obtained results indicate significant differences across sectors, with the tourism, hospitality, and transport sectors being hit the hardest by the pandemic, while the information technology and finance sectors demonstrated greater resilience. The findings have also revealed that the level of vulnerability of sectors to systemic crises varies, which is why the targeted support measures are necessary. This study contributes to a more comprehensive understanding of the economic consequences of the pandemics in transition economies and provides a solid basis for improving crisis response strategies in the future.

Keywords: pandemic, business continuity, resilience, revenue, multivariate linear regression

1. Introduction

COVID-19 pandemic, which emerged in early 2020, has significantly transformed the global economic activity and shook the foundations of business continuity across all sectors. Beyond its impact on health and society, the crisis disrupted production chains, shifted consumption patterns, and revealed systemic vulnerabilities in both developed and transition economies (Donthu & Gustafsson, 2020; Nicola, Alsafi, Sohrabi, Kerwan, Al-Jabir, Iosifidis, Agha & Agha, 2020). However, not all industries were equally affected. While the industries relying on direct human interaction, such as tourism, hospitality, and transport, suffered a drastic decline, knowledge and digital industries showed remarkable resilience to the crisis (Ivanov, 2020; Bartik, Bertrand, Cullen, Glaeser, Luca & Stanton, 2020).

Apart from the pandemic, countries whose economies are in transition, including Serbia, were faced with other structural challenges like limited digital infrastructure, unequal access to financial resources, and reliance on traditional industries. These factors created sectoral imbalances in resilience, exposing small and medium-sized enterprises (SMEs) to substantial risks (Juergensen, Guimón & Narula, 2020; Radovanović & Krstić, 2021). In contrast, industries oriented toward digital solutions and financial intermediation adapted quickly, benefitting from accelerated digital transformation and shifts in demand patterns (European Commission, 2022; UNCTAD, 2021).

Research shows that COVID-19 crisis served both as a catalyst for long-term transformations, such as digitalization and flexible work models, and as a stress test that can reveal the readiness of economic systems for systemic shocks (Kuckertz, Brändle, Gaudig, Hinderer, Morales Reyes, Prochotta, Steinbrink & Berger, 2020; Shen, Koveos, Zhu, Wen & Liao, 2020). However, empirical analyses of transition economies in Southeast Europe were insufficient, especially concerning the role of enterprise size and sectoral affiliation in revenue fluctuations during the crisis.

This study aims to fill this gap by examining the impact of COVID-19 pandemic on business continuity in Serbia over the period from 2010 to 2023. Based on the official data from the Statistical Office of the Republic of Serbia and a

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multivariate linear regression model, the research revealed how business density, workforce, and sectoral membership influenced revenue run rate during and after the pandemic. By identifying the patterns of vulnerability and resilience across industries, this paper provides insights into the dynamics of crisis response in transition economies and offers policy-relevant recommendations for strengthening future resilience.

2. Literature review

The COVID-19 pandemic from 2020 to 2021 served as a stress test for business resilience across sectors. Lockdowns, supply chain disruptions, and sudden changes in consumption patterns led to a sharp decline in revenues in many industries but also to successful adaptation and innovation in others. Early large-scale surveys in the United States revealed that small businesses were hit hard, facing immediate severe financial crises like major layoffs, temporary closures, and high liquidity risks. At the same time, many demonstrated a capacity for rapid adjustment using strategies such as cost reductions, online sales, and modifications of product offerings (Bartik et al., 2020).

The research findings identified several key strategies that companies used to maintain continuity: 1) rapid digital transformation and a shift to online sales and service channels; 2) organizational restructuring and workforce management, including flexible work arrangements and cost optimization; 3) diversification of suppliers and strengthening of supply chain resilience; and 4) reliance on government support programs through subsidies, loans, and tax relief (Donthu & Gustafsson, 2020; OECD, 2021). Empirical studies show that firms with greater digital readiness or those that adopted digital tools early were more successful in maintaining revenue streams and recovering more rapidly (Kuckertz et al., 2020; Guo, Y., Chen, Usai, Wu & Qin, 2023).

Regarding the supply chains, the research shows a shift in priorities from short-term efficiency toward greater redundancy, localization, and flexibility. Companies that invested in supply chain visibility, scenario-based planning, and alternative sourcing strategies suffered minimum disruptions (Ivanov, 2020; Shen et al., 2020). Recent systematic reviews further confirm that SMEs with resilient supply chains were those that adopted Industry 4.0 technologies, faced redundancy, and strengthened collaborative ties with suppliers (Mishra & Singh, 2023; Mohezar, Mohamad & Mohd Nor, 2023).

Small and medium-sized enterprises (SMEs) were particularly affected, suffering severe financial distress and facing urgent need for liquidity. However, studies have also revealed that some SMEs showed considerable agility due to entrepreneurial resilience, flexible business models, and reliance on local networks (Hadjielias, Christofi, Tarba & Nikolopoulos, 2022; Purnomo, Adiguna, Widodo, Suyatna & Nusantara, 2021). These findings suggest that organizational survival did not depend only on available resources, but also on leadership, mindset, and capacity for rapid decision-making. The importance of disaster readiness has also been confirmed by evidence from France, where firms with stronger continuity planning practices experienced smaller revenue losses and faster recovery (El Baz & Ruel, 2022). At the policy level, the United Nations Conference on Trade and Development (UNCTAD, 2021) emphasized that a sustainable recovery required targeted investments in infrastructure, green growth, and digital transformation. While advanced economies were successful in mobilizing resources, the developing and transition economies suffered sharper decline in foreign direct investments (FDI), further complicating the adaptation process in companies. The Research from Saudi Arabia (Nurunnabi, 2020) and Southeast Asia (Purnomo et al., 2021) also illustrates the importance of the government to provide support and the entrepreneurs to adopt resilient strategies. Moreover, the gender-sensitive research shows that women-owned SMEs frequently rely on digitalization as a survival and growth strategy, further reinforcing the connection between technology adoption and business resilience (Bartalos & Sárvári, 2024).

The case of Serbia reflects many of these global patterns, though shaped by specific local features. Empirical studies confirm that the sectors directly dependent upon personal interaction, such as tourism, hospitality, and transport, suffered the largest revenue losses, while the information technology sector and segments of industry proved to be more resilient (Radovanović & Krstić, 2021). Serbian SMEs faced limited access to financing, uneven levels of digital maturity, and delays in state intervention. Nevertheless, many firms managed to conduct operations by combining the following strategies: 1) transition to online sales and marketing channels, particularly in trade and services; 2) renegotiating contracts with suppliers and clients to maintain liquidity; 3) utilization of government and international support programs; and 4) reorganizing working arrangements, including adopting remote work where possible (Đorđević et al., 2021).

Overall, the studies from the literature reveal that business continuity during systemic crises depends on a combination of key factors: proactive continuity planning, digital readiness, financial resilience, and flexible supply chains. For Serbia and similar transition economies, key future priorities include accelerating digital transformation, adopting targeted financial measures for the most vulnerable sectors, and strengthening connections between enterprises and both local and international sources of investment (UNCTAD, 2021; OECD, 2021; Mishra & Singh, 2023).

3. Data and methodology

3.1. The model

A multivariate linear regression model was applied to assess the impact of COVID-19 pandemic on business continuity across sectors in Serbia. This method was selected for its ability to estimate the simultaneous effects of multiple independent variables on a single continuous dependent variable, allowing for the analysis of both sectoral and temporal variations in a statistically rigorous way.

The independent variables included: Number of Employees (continuous), Number of Business Entities (continuous), Sector (categorical, represented by dummy variables for: Trade, Hospitality and Transport; Construction; Public Services, Education, Healthcare and Other Services; and Industry and Energy). The reference category was Agriculture and related activities. COVID Period (dummy variable: 1 for 2020 - 2021, 0 otherwise) was also included. This model was designed to assess the effects of sectoral affiliation, business density, workforce size, and the pandemic period on revenue performance, thereby providing a more comprehensive understanding of business continuity and economic resilience in crisis conditions. The dependent variable in the model was Revenue decline (indicator of business continuity), calculated as the year-over-year percentage change in business revenue. The absolute values of revenue decline were used to improve model stability and skewness, and then the logarithm was transformed before conducting the analysis.

The multivariate linear regression model used in this study is specified as follows:

(1)

$$\ln(\text{Rev_decline}_{it}) = \beta_0 + \beta_1 \ln(\text{No_Employ}_{it}) + \beta_2 \ln(\text{No_Bus_Ent}_{it}) + \sum_{s=1}^4 \beta_{2+s} \text{Sector}_s + \beta_7 \text{COVID_Period} + \epsilon_{it}$$

where $\ln \text{Rev_decline}$ is natural logarithm of the value of revenue decline for sector i in year t , and this is the dependent variable; β_0 is intercept term (the expected value of the dependent variable, when all predictors are 0); β_1 is coefficient for the number of employees; β_2 is coefficient for the number of business entities; β_3 to β_6 are coefficients for the five sectoral dummy variables; β_7 is coefficient for the COVID period dummy variable, therefore, β_7 represents the specific effect of the COVID-19 pandemic period on the dependent variable (revenue decline), which is a central focus of this analysis. Its value in the SPSS output indicates how significantly the pandemic period impacted revenue performance; $\ln \text{No_Employ}$ is the number of employees in sector i in year t (continuous independent variable); $\ln \text{No_Bus_Ent}$ is the number of registered business entities in sector i in year t (continuous independent variable); Sectors – dummy variables for sectors (five total), where each: Sector1 = Industry and Energy; Sector2 = Trade, Hospitality and Transport; Sector3 = IT and Real estate; Sector4 = Construction; and Sector5 = Public services, Education, Healthcare and Other services; The reference sector (omitted from the model) is Agriculture and related activities; COVID_Period is the dummy variable indicating pandemic period (1 if year is 2020 or 2021, 0 otherwise); ϵ_{it} is error term, capturing the variation not explained by the model.

Data characteristics and the analysis of proportional changes across variables were applied in a log-log regression model. This model is particularly suitable for studying revenue trends, as it enables interpretation of coefficients in terms of elasticity, reduces the influence of outliers, and helps maintain more consistent variance across observations.

3.2. Data and variables

In this study, official data from the Statistical Office of the Republic of Serbia (RZS) was used, namely, the annual business revenues across different economic sectors in Serbia in the period from 2010 to 2023. Table 1 shows an overview of the variables and their definitions, along with the corresponding measurement units and data sources.

Table 1. Description of variables, unit and data source

Variable	Description	Unit	Source
$\ln \text{Rev_decline}$	Percentage change in total revenue from one year to the next within a given sector*	Percentage (%)	RZS
$\ln \text{No_Employ}$	Total number of individuals employed in a given sector for a specific year	Persons	RZS
$\ln \text{No_Bus_Ent}$	Total count of registered active business organizations within a specific sector and year	Entities	RZS
Sector_Code_2	Trade, Hospitality and Transport	Categorical (nominal)	RZS

Table 1. Continued

Variable	Description	Unit	Source
Sector_Code_3*	IT and Real estate	Categorical (nominal)	RZS
Sector_Code_4	Construction	Categorical (nominal)	RZS
Sector_Code_5	Public services, Education, Healthcare and Other services	Categorical (nominal)	RZS
Sector_Code_1	Industry and Energy	Categorical (nominal)	RZS
COVID_Period	0 = years outside COVID pandemic, 1 = years during COVID pandemic	Binary indicator	RZS

Source: Author's creation

*Sector_Code_3 was excluded from the model, to serve as the reference category, as a standard practice when using dummy variables to represent categorical data and is necessary to avoid the problem of perfect multicollinearity ("dummy variable trap")

*Formula: Revenue decline (%) = ((Revenue_{current year} – Revenue_{previous year})/Revenue_{current year}) x 100

In order to eliminate the influence of heteroskedasticity and reduce the influence of data fluctuation (Shen et al., 2020), all data were converted into natural logarithms. For statistical data processing, IBM SPSS Statistics 25 software package was applied.

4. Data analysis and results

This section presents the empirical analysis conducted using a multivariate linear regression model. The aim is to evaluate the impact of sectoral characteristics, workforce size, business density, and the COVID-19 pandemic period on revenue decline in Serbia between 2010 and 2023. All variables were log-transformed to allow elasticity-based interpretation and reduce the influence of outliers. The analysis was carried out using SPSS, and the following results show statistical significance and the nature of relationships among the key variables. Table 2 shows descriptive statistics for the studied variables.

Table 2. Descriptive statistics

Variable	Mean	Std. Deviation	N
lnRev_decline	2.0986	0.80310	57
lnNo_Employ	12.0650	0.85388	57
lnNo_Bus_Ent	9.6984	0.82628	57
Sector_Code_2	0.1930	0.39815	57
Sector_Code_3	0.2281	0.42332	57
Sector_Code_4	0.2105	0.41131	57
Sector_Code_5	0.1754	0.38372	57
Sector_Code_1	0.1930	0.39815	57
COVID_Period	0.2982	0.46155	57

Source: Author's creation based on SPSS 25 output

This table presents the descriptive statistics for the variables used in the study, based on a sample of 57 observations. The natural logarithm of revenue decline (lnRev_decline) has a mean value of 2.0986 and a standard deviation of 0.8031, indicating moderate variation in reported revenue losses. The average number of employees (lnNo_Employ) is 12.0650, and the standard deviation is 0.8539, while the average number of business entities (lnNo_Bus_Ent) is 9.6984, and the standard deviation is 0.8263. The sectoral affiliation is represented using dummy variables: Sector_Code_2 and Sector_Code_1, both have a mean value of 0.1930, Sector_Code_3 has a mean value of 0.2281, Sector_Code_4 has a mean value of 0.2105, and Sector_Code_5 has a mean value of 0.1754. The standard deviations for these dummy variables indicate how companies are distributed across different sectors. The variable indicating whether the data point corresponds to the COVID period (COVID_Period) has a mean value of 0.2982 and a standard deviation of 0.4616, thus suggesting that approximately 29.8% of the data relates to the COVID period.

The correlation matrix provides an overview of the relationship between the dependent variable (*lnRev_decline*) and the independent variables included in the regression analysis, as well as the correlations among the independent variables. The Pearson correlation matrix (Table 3) is presented below, as well as the Figure 1 – Scatter matrix, summarizing the interrelationships between the dependent and the explanatory variables, and among the explanatory variables.

Table 3. Pearson correlation matrix with significance levels

Variable	lnRev_decline	lnNo_Employ	lnNo_Bus_Ent	COVID_Period
lnRev_decline	1.000	0.003 (p=0.490)	0.133 (p=0.162)	0.258* (p=0.026)
lnNo_Employ	0.003 (p=0.490)	1.000	0.888*** (p=0.000)	0.220* (p=0.050)
lnNo_Bus_Ent	0.133 (p=0.162)	0.888*** (p=0.000)	1.000	0.280* (p=0.016)
COVID_Period	0.258* (p=0.026)	0.220 (p=0.050)	0.280* (p=0.016)	1.000

Source: Author's creation based on SPSS 25 output

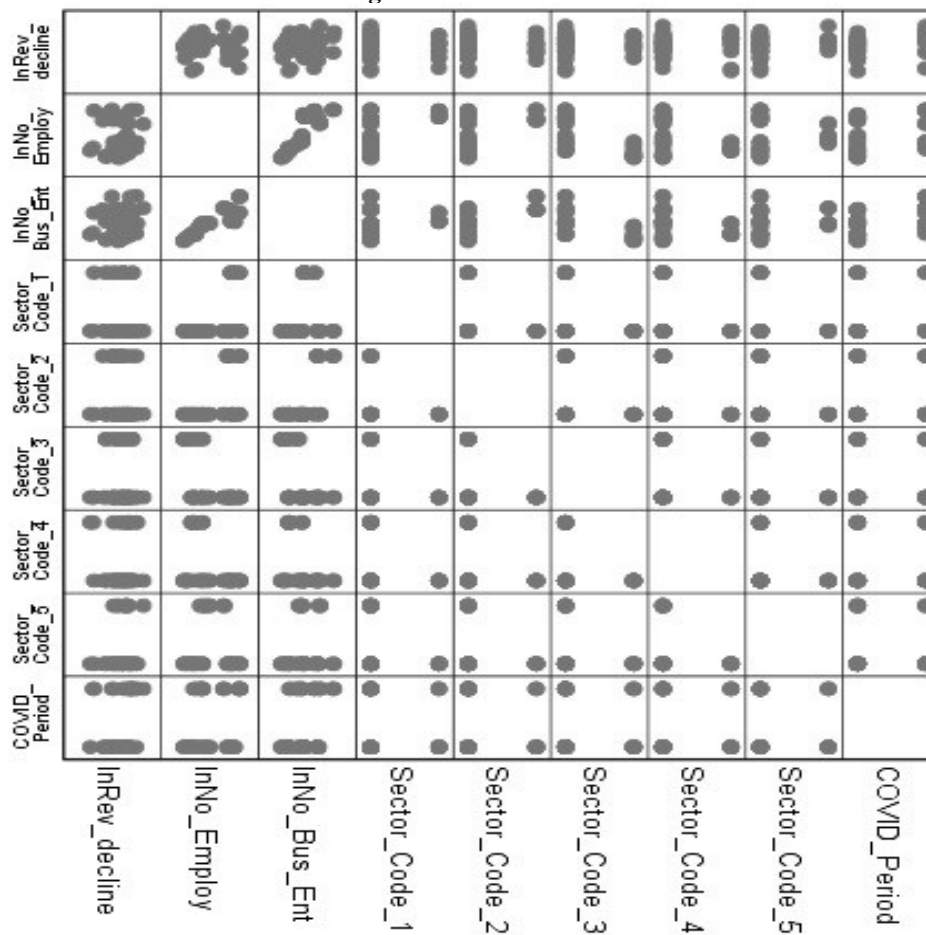
Correlation between dependent and independent variables. The dependent variable *lnRev_decline* shows a positive but weak correlation with *lnNo_Bus_Ent* ($r = 0.133$, $p = 0.162$), which is not statistically significant at 5% level. This indicates that, when considered independently, the number of business entities does not show a strong linear association with

revenue decline. Nevertheless, the regression results demonstrated that this variable becomes significant once sectoral and period effects are controlled, suggesting that the relationship is conditional rather than simple. The correlation between *lnRev_decline* and *lnNo_Employ* is practically negligible ($r = 0.003$, $p = 0.490$), which confirms the regression finding that the number of employees is not a significant predictor. In relation to sectoral dummies (Appendix A), *Sector_Code_5* (Public services, Education, Healthcare, and other services) shows a relatively stronger positive correlation with *lnRev_decline* ($r = 0.192$, $p = 0.077$), although still not statistically significant at 5%. This may indicate certain sectoral patterns in revenue decline, which are more clearly captured in the regression analysis. The variable *COVID_Period* exhibits a negative correlation with *lnRev_decline* ($r = -0.268$, $p = 0.026$), significant at the 5% level. This aligns with the regression results, which identified the pandemic period as a significant factor contributing to the reduction in revenue performance.

Correlation among independent variables. A very strong positive correlation exists between *lnNo_Employ* and *lnNo_Bus_Ent* ($r = 0.888$, $p = 0.000$). This high correlation raises concerns of potential multicollinearity, which may reduce the stability and interpretability of regression coefficients when both variables are included in the model. Correlations between sectoral dummy variables (Appendix A) are generally weak to moderate, as expected, given that they are mutually exclusive categorical indicators. Negative correlations are present between several sector dummies (e.g. *Sector_Code_2* and *Sector_Code_3*, $r = -0.578$, $p = 0.000$), reflecting the fact that belonging to one sector excludes membership in another. The correlation between *COVID_Period* and other independent variables is relatively weak (e.g. with *lnNo_Bus_Ent*, $r = -0.124$, $p = 0.162$), suggesting that the pandemic effect is not strongly collinear with structural characteristics such as sector or employment size.

Implications for model building. The negligible correlations of *lnRev_decline* with *lnNo_Employ* and *lnNo_Bus_Ent* suggest that sectoral affiliation and temporal effects (COVID-19 period) play a stronger role in explaining variations in revenue decline. The strong intercorrelation between *lnNo_Employ* and *lnNo_Bus_Ent* points to the need for caution when interpreting their effects simultaneously in regression models, as multicollinearity can inflate standard errors and obscure the individual impact of variables. The significant negative correlation between *COVID_Period* and *lnRev_decline* supports the hypothesis that the pandemic period was associated with a substantial decline in revenue performance, an effect confirmed by regression analysis.

Figure 1. Scatter matrix



Source: SPSS25 output.

The summary descriptive statistics of the regression output of the model is shown in Table 4.

Table 4. Descriptive statistics from the regression output

	Model
R	0.577
R ²	0.333
Adjusted R ²	0.238
Standard error	0.70111
N	57

Source: Author's creation based on SPSS 25 output

Table 3 summarizes the key statistical indicators derived from the regression model. The model yielded a correlation coefficient (R) of 0.577, indicating a moderate positive relationship between the dependent and independent variables. The coefficient of determination (R²) is 0.333, suggesting that approximately 33.3% of the variance in the dependent variable can be explained by the predictors included in the model. After adjusting for the number of predictors, the adjusted R² drops to 0.238, which provides a more conservative estimate of the model's explanatory power. The standard error of the estimate is 0.7011, indicating the average distance that the observed values fall from the regression line. The analysis was conducted on a sample of 57 observations. The following Table 5 provides the results of the F-test, which serves to assess the overall significance and validity of the regression model.

Table 5. F-test

	Model
F	3.497
Significance	0.004

Source: Author's creation based on SPSS 25 output

The results presented in Table 5 indicate that the regression model is statistically significant at the 5% significance level ($\alpha = 0.05$). Specifically, the F-statistic value is 3.497 with a corresponding p-value of 0.004, which is well below the threshold of 0.05. This confirms that the overall regression model provides a statistically valid explanation of the variance in the dependent variable and that the set of predictors included in the model collectively contribute to explaining the outcome variable. Consequently, in order to evaluate the individual contribution of each predictor and determine their relevance, further analysis using the t-test was applied (Table 6).

Table 6. Regression coefficients and t-test

Model	B	t	Significance
(Constant)	-21.719	-2.560	0.14
lnNo_Employ	0.215	0.173	0.863
lnNo_Bus_Ent	2.483	2.308	0.025
Sector_Code_2	-5.626	-3.768	0.000
Sector_Code_4	-0.685	-2.024	0.048
Sector_Code_5	-2.674	-3.249	0.002
Sector_Code_1	-3.574	-2.156	0.036
COVID_Period	-1.556	-2.860	0.006

Source: Author's creation based on SPSS 25 output

In the presented regression model, it can be concluded that the null hypothesis cannot be rejected for the variable *lnNo_Employ* since its p-value (0.863) is greater than the significance level of 0.05. This indicates that the number of employees does not have a statistically significant effect on the dependent variable and should, therefore, not be considered an important predictor within this model.

On the other hand, the variable *lnNo_Bus_Ent* has a p-value of 0.025, which is lower than 0.05. This means that the null hypothesis can be rejected and it can be concluded that the number of business entities significantly affects the dependent variable. Specifically, the positive regression coefficient ($B = 2.483$) implies that an increase in the number of business entities is associated with the increase in the dependent variable, assuming that other predictors remain constant. Furthermore, the sectoral dummy variables demonstrate mixed effects. *Sector_Code_2* ($p = 0.000$), *Sector_Code_4* ($p = 0.048$), *Sector_Code_5* ($p = 0.002$), and *Sector_Code_1* ($p = 0.036$) are all statistically significant at the 5% level. Their negative coefficients indicate that these sectors are associated with a reduction in the dependent variable compared to the reference sector. This suggests that sectoral differences play an important role in explaining variations in the dependent variable. Finally, the variable *COVID_Period* is also statistically significant ($p = 0.006$). The negative coefficient ($B = -1.556$) confirms that the COVID-19 period has an adverse effect on the dependent variable, leading to a decline when compared to the pre-COVID period.

In summary, the results of this regression model suggest that the number of business entities, sectoral affiliation, and the COVID-19 period are statistically significant predictors of the dependent variable (Revenue decline), while the number of employees does not demonstrate a significant impact.

$$\ln(\text{Rev_decline}_{it}) = -21.719 + 0.215 \ln(\text{No_Employ}_{it}) + 2.483 \ln(\text{No_Bus_Ent}_{it}) - 5.626 \text{Sector_Code_2}_{it} - \text{Sector_Code_4}_{it} - 2.674 \text{Sector_Code_5}_{it} - 3.574 \text{Sector_Code_1}_{it} - 1.556 \text{COVID_Period}_t + \varepsilon_{it} \quad (2)$$

The dummy variables for sectors are defined such that *Sector Code 3* (IT and Real estate) represents the reference (omitted) category.

4.1. Interpretation of the estimated coefficients

Constant: - 21.719 is the expected value of *lnRev decline* when all predictors are equal to zero (interpretation limited, often without practical economic meaning). Thus, *lnNo_Employ* (B = 0.215, p = 0.863) has a positive coefficient, but not statistically significant at the 5% level (p > 0.05). Thus, there is insufficient evidence that the number of employees explains variation in revenue decline in this model. *lnNo_Bus_Ent* (B = 2.483, p = 0.025) is statistically significant. Since both the dependent variable and the independent variable are expressed in logarithms, the coefficient can be interpreted as elasticity – approximately a 1% increase in the number of registered business entities is associated with about a 2.483% increase in revenue decline, holding other factors constant. Sectoral dummy variable (relative to the reference sector, *Sector_Code_3*): *Sector_Code_2* (B = -5.626, p = 0.000) has a significant negative deviation from the reference sector. This indicates that, ceteris paribus, belonging to Sector 2 (Trade, Hospitality and Transport) is associated with a very strong reduction in revenue decline, compared to Sector 3 (IT and Real estate). In percentage terms (using $e^B - 1$), the effect is approximately -99.64%; *Sector_Code_4* (B = -0.685, p = 0.048) has significant negative effect; $e^{-0.685} \approx -49.59\%$; *Sector_Code_5* (B = -2.674, p = 0.002) has significant negative effect; $e^{-2.674} \approx -93.10\%$; *Sector_Code_1* (B = -3.574, p = 0.036) has significant negative effect; $e^{-3.574} \approx -97.20\%$;

Since the dependent variable is in logarithmic form, the exact percentage effect of dummy variables is obtained using the formula $(e^B - 1) \times 100$. For large negative coefficients, this yields very high percentage reductions; thus, interpretation should be made with caution, and it is advisable to verify potential outliers or scaling issues in the variables. *COVID_Period* (B = -1.556, p = 0.006) has a statistically significant negative impact of the pandemic period. Specifically, the COVID period is associated with a decline in *lnRev decline* corresponding to approximately -78.90% relative to the pre-COVID period ($e^{-1.556} \approx -0.7890\%$). This indicates a substantial adverse effect of the pandemic on revenue performance.

5. Conclusion

This study has demonstrated that the COVID-19 pandemic had profound yet uneven effects on business continuity of Serbian economic sector. The regression analysis indicated that sectoral affiliation and the number of business entities were key factors influencing revenue fluctuations, whereas workforce size made no substantial impact. Sectors that depend directly on human interaction, such as tourism, hospitality, and transport, seemed to be seriously affected. In contrast, digital and financially stable industries demonstrated remarkable resilience. These findings highlight the structural imbalances that shape vulnerability of transition economies in crisis, where limited digital infrastructure, financing constraints, and reliance on traditional industries amplify systemic shocks. Beyond its empirical contribution, the study offers several practical implications. First, there are different levels of resilience across sectors, which is why it is important to establish targeted support policies to safeguard the most vulnerable industries. Second, digital transformation and adaptability in supply chain management appear to be the main drivers of continuity, suggesting that long-term competitiveness will depend on investment in technology and organizational flexibility. Finally, the Serbian case illustrates that resilience strategies cannot be generalized and they must reflect both sector specific conditions and broader structural limitations that transition economies face. Overall, this research contributes to the in-depth discussion about crisis management by providing evidence that pandemics serves both as stress tests and catalysts for transformation. Strengthening economic resilience in Serbia and similar economies requires close collaboration between policymakers and businesses to improve digital maturity, financial adaptability, and proactive continuity planning. By doing so, transition economies may be better prepared not only to withstand future systemic shocks but also to use them as opportunities for sustainable growth.

Future studies should build on this analysis by incorporating data from micro-level companies to spot the differences in managerial responses and organizational resilience strategies. Comparative studies within transition and developed economies could offer deeper insight into the structural factors influencing vulnerability in crisis response. In addition, a longitudinal study could help determine whether the adaptive measures introduced during the pandemic have led to lasting improvements in competitiveness and resilience. Finally, interdisciplinary approaches that combine economic, technological, and social perspectives could provide a more comprehensive understanding of how systemic crises transform business continuity in complex environments.

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