




Article

COVID-19 Pandemic and Its Impact on Challenges in the Construction Sector: A Case Study of Slovak Enterprises

Dominika Gajdosikova ^{1,*}, Katarina Valaskova ^{1,*}, Tomas Kliestik ^{1,2} and Veronika Machova ²¹ Faculty of Operation and Economics of Transport and Communications, University of Zilina, Univerzitná 1, 010 26 Zilina, Slovakia² The Institute of Technology and Business in Ceske Budejovice, School of Expertness and Valuation, Okružní 517/10, 3701 Ceske Budejovice, Czech Republic

* Correspondence: dominika.gajdosikova@stud.uniza.sk (D.G.); katarina.valaskova@fpedas.uniza.sk (K.V.)

Abstract: The corona crisis has affected not only the economic sphere, but also the sphere of health, health care, employment, safety, and health protection in the workplace, shopping habits, and future expectations, to which people adapt their decisions in various areas of daily life. The COVID-19 pandemic, called a global health crisis, was an unpredictable risk of global proportions that paralyzed the entire world. The main aim of this paper is to quantify the impacts of the COVID-19 pandemic on the construction sector, which is considered a crucial sector of the Slovak economy, to evaluate changes in the development of key indicators using adequate quantitative methods. First, a sample of 2000 businesses were analyzed using the 12 financial indicators that were chosen. Second, using the non-parametric Friedman test, a more thorough study was carried out with a focus on analyzing the existence of statistically significant variations in the values of computed indicators as a result of changes in the development of key financial ratios. The Bonferroni adjustments were employed to pinpoint the areas of stochastic dominance at the conclusion of the study. A detailed analysis of the calculated financial indicators showed that the arrival of the pandemic had a negative impact on many aspects of business in the construction sector and affected the financial and economic situation of companies in the construction sector of the Slovak Republic. However, due to the fact that this sector is characterized by slower reactions to changes in the economy, the most significant impacts will be even more noticeable in the future.

Keywords: business performance; financial analysis; COVID-19 pandemic; construction sector; Slovak enterprises

MSC: 62P20

Citation: Gajdosikova, D.; Valaskova, K.; Kliestik, T.; Machova, V. COVID-19 Pandemic and Its Impact on Challenges in the Construction Sector: A Case Study of Slovak Enterprises. *Mathematics* **2022**, *10*, 3130. <https://doi.org/10.3390/math10173130>

Academic Editors: Lina Novickytė, Jolanta Drozd, Radosław Pastusiak and Michał Soliwoda

Received: 22 July 2022

Accepted: 27 August 2022

Published: 1 September 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The global COVID-19 pandemic hit the whole world and stopped all activities and enterprises in their businesses [1]. The COVID-19 pandemic first appeared in Slovakia in the first quarter of 2020, when the first case of the disease was confirmed. Gradually, with increasing cases of coronavirus infection, the epidemiological situation worsened until it gradually resulted in the first wave of the pandemic in Slovakia, which forced enterprises to partially or completely limit their business activities [2]. The uncertainty that accompanied the first wave of the pandemic, the unfavorable epidemiological situation, and the measures associated with it caused many businesses to be unable to respond to the situation flexibly and in a timely manner. The limitation of production naturally had an impact on the added value and the result of management of almost the entire spectrum of business entities [3]. Businesses were forced to optimize costs and often had to reduce the number of employees due to a lack of financial resources. To help entrepreneurs, the Slovak government has taken measures to eliminate the adverse effects of the pandemic on the business economy. However, before the enterprises recovered from the first wave

of the pandemic, after the end of the measures, the second wave of the pandemic came, the impact of which on individual sectors of the business economy was different [4]. The construction sector is considered one of the decisive sectors of the Slovak economy. The construction sector as a whole creates works of long-term consumption and durability. At the same time, this sector is considered a contribution to the field of culture, aesthetics, and architecture because it reflects a significant part of the intellectual property of the workers. However, from an ecological point of view, construction creates large amounts of construction waste and emissions [5]. The construction sector is closely related to the economy. It is an important indicator of its development because it directly reacts to every change in the economy and thus other sectors of the national economy. The effects of the pandemic are observed from different perspectives, and it is interesting to monitor and quantify the changes that the COVID-19 pandemic has brought and how it has affected the lives of people in all its aspects [6].

The main aim of this paper is the description and quantification of the impacts of the COVID-19 pandemic on the construction sector (SK NACE 41, 42, and 43), which is considered a crucial sector of the Slovak economy, to evaluate changes in the development of significant indicators and at the same time identifying new trends.

The paper is divided into the following sections. The first part of the paper is focused on literary research, which familiarizes the reader with the principal theoretical background of the issue. The second part describes the methods for meeting the objective of this paper, which is the realization of a financial analysis together with a focus on the existence of statistically significant differences in the values of calculated indicators due to changes in the development of crucial financial ratios. The third part describes the results obtained by the previous calculation of selected indicators and their subsequent statistical verification with a description of the obtained results, which are compared in the context of other relevant studies published worldwide. At the end of this paper, the most important outputs of this research are summarized together with the mentioned limitations and future research of this issue.

2. Literature Review

Despite the efforts of economists all over the world to predict the development of economies, crises usually occur very unexpectedly. More if their cause is other than an economic event, as is the case here. The COVID-19 pandemic paralyzed the world, and even the developed economies of the world stopped for a time [7]. According to Durana et al. [8], the COVID-19 pandemic hit the world unexpectedly, and scientists and analysts around the world are trying to measure and quantify its effects on various areas from employment [9] and GDP [10], through analyses of the business environment [11] or enterprises in various sectors [12,13], to the examination of changes in purchasing behavior [14] and others.

Rodrigues-Caballero and Vera-Valdes [15], in a study focusing on the long-term economic effects of a pandemic, examined changes in employment during periods of past pandemics along with the period of the current COVID-19 pandemic. The authors pointed to the fact that, in general, these pandemic shocks have a favorable effect on the development of unemployment not only by increasing the level of employment shortly after the pandemic, but also by increasing its duration. Based on their findings, the authors support the fact that the introduction of timely interventions in the economy can mitigate the pandemic shock itself. In their study, Lahiri and Sinha [16] focused on concerns about the possible emergence of the worst economic crisis in history, which could follow the COVID-19 pandemic. The authors pointed to various changes in consumption or work habits of people brought about by the pandemic, which affect not only individuals, but also all businesses. Valaskova et al. [7] dealt with a similar topic, where the authors, based on a sample of 425 respondents from Slovakia, found out which are the most important factors affecting their financial situation and purchasing behavior even during the ongoing pandemic. As a result, the study showed that the income, profession, and age of the respondents played a significant role in the context of the analyzed questions, and the authors

also confirmed the impact of the pandemic on the purchasing behavior of the respondents, which was in line with other global studies on similar topics.

Bonam and Smadu [17] pointed out in their publication that all past pandemics led to an increase in trend inflation in Europe, which lasted for more than a decade. Using a data model, Kocisova and Pastyrikova [18] tracked several microeconomic and macroeconomic aspects of non-performing loans granted in the European Union from 2005 to 2018. The results of their study indicate that the large number of high-value non-performing loans recorded after the financial crisis around 2008 could also adversely affect the economic recovery of economies after the current crisis caused by the COVID-19 pandemic. Orlowski [19] analyzed the financial and economic consequences of the current pandemic, and argues that this pandemic has brought labor problems, which, however, can be solved by structural adjustments in the labor market. At the same time, according to the author, the pandemic has increased all financial risks in enterprises, especially credit, market, or payment risks. Svabova et al. [2] focused on the impact of anti-pandemic measures on the employment rate in Slovakia using the method of comparison before and after the outbreak of the pandemic using various statistical methods based on officially available data on the unemployment rate from 2013 to 2020. Their findings indicate a worsening of the unemployment rate in Slovakia in 2020 by roughly 2% to 3% compared to the previous trend. The results can be used in proposals and measures to mitigate the long-term effects of the pandemic on employment in the Slovak Republic. Subsequently, Svabova and Gabrikova [20] addressed the issue of unemployment during the COVID-19 pandemic focusing on the structure of the unemployed workforce by age, focusing primarily on the young unemployed between 2020 and 2021, compared to the situation if the pandemic had not occurred. Their results pointed out that career opportunities for young people have significantly worsened since the beginning of the pandemic, although this level depends primarily on the sector.

The business environment is a crucial determinant of the economy and enterprises of every country, especially in the field of competition. Hajduova et al. [21] focused on the evaluation of the level of the business environment based on the multi-criteria TOPSIS method, which the authors used to point out the ranking of countries with different levels of business environments from the best to the worst. In the study, the authors came to the conclusion that the business environment levels in Slovakia, the Czech Republic, Poland, Hungary, Lithuania, Latvia, Slovenia, Estonia, and Cyprus are well below the EU average. In a comparative study, Valaskova et al. [22] focused on the topic of the business environment of selected European countries between 2013 and 2018, namely on the comparison of selected macroeconomic factors of Slovakia, the Czech Republic, Poland, Hungary, Croatia, Latvia, Lithuania, Estonia, France, and Germany. These macroeconomic factors were evaluated by the multi-criteria TOPSIS method, and mutual testing of dependence was carried out using analysis of variance and post hoc tests. The results point to a group of countries with a similar business environment, which can be helpful in monitoring the competitiveness of enterprises operating in the market. However, the results showed that Slovakia, Croatia, and Hungary have a similar business environment. Achim et al. [23] analyzed various changes in the activities of Romanian enterprises belonging to different sectors, evaluating the level of business performance in response to the COVID-19 pandemic. The results show that the overall profit of enterprises fell by more than 37% in the period under review, even though better results occurred in sectors such as construction, agriculture, trade, IT, transport, or storage. Furthermore, the authors point to the fact that liquidity management and capital financing improve the performance of enterprises in the area of return on assets and equity, which is crucial information, especially for company managers and investors. Rakha et al. [24] predicted the impacts of the COVID-19 pandemic on three selected sectors in the United Kingdom using artificial intelligence, including the construction sector, and their predictions indicated that although GDP was expected to increase slightly in 2021, it was on average 8.5% lower compared to the pre-pandemic period. Hu and Zhang [25] monitored the mutual relationship between the performance

of enterprises and the pandemic was confirmed. At the same time, however, the authors pointed out that countries with better financial or health care systems achieved better results than countries with worse systems.

Zajmi [26] examined not only profitability, but also the level of liquidity of enterprises from 2018 to 2020. In the results, he found that liquidity is generally at half the level of recommendations, and the growth of long-term loans and equity is not sufficient from the point of view of the solvency of enterprises. These solvency problems affect productivity, efficiency, and profitability. However, the fact remains that the COVID-19 pandemic affects small and medium-sized enterprises the most in sectors such as transport, accommodation and tourism, recreation, arts, and construction. The main aim of the study by Lassoued and Khanchel [27] was to determine the impact of the arrival of the pandemic on the use of earnings management in listed companies. Their results point to a tendency of increased use of earnings management during the pandemic period, mainly in the area of revenue management increasing the level of income in 2020 compared to the period before the pandemic, which therefore refers to the acceleration or deferral of expenses or revenue to generate a steady rise in earnings. Salami et al. [28] investigated measures to mitigate the risks associated with non-compliance with commercial contracts of construction enterprises due to COVID-19 pandemic. The most frequently adopted measures include an increased effort to maintain good relations with business partners, analysis of contractual conditions regarding the notice period by both parties, and quick and prompt reporting of potential disputes. At the same time, the authors provided an opportunity to learn from the impact of these measures, which helped to minimize the risks associated with the pandemic and also reduce the expenses related with it. Khalef et al. [29] investigated the long-term consequences of the COVID-19 pandemic on construction projects in various sectors. According to authors, the current pandemic had a significant impact on production, material supplies, availability of human resources, and many other factors that negatively affected construction processes not only in the construction sector, but also in various sectors. The authors focused primarily on contractual consequences and corrective measures in response to the pandemic as support for effective project management practices under pandemic conditions.

In general, the COVID-19 pandemic has visibly affected not only enterprises in various areas of development across all sectors of different countries, but also entrepreneurs, employees, and consumers. However, the construction sector of the Slovak Republic remains specific, on which the effects of the current COVID-19 pandemic will be described in the presented paper.

3. Materials and Methods

The main aim of this paper is to perform a financial analysis of enterprises operating in the construction sector, classified as one of the principal manufacturing sectors of the national economy, operating in the territory of the Slovak Republic using adequate quantitative methods. The construction sector is defined as one of the decisive sectors related to the Slovak economy. Therefore, it is considered an important indicator of its development, which directly reacts to every change in the economy and thus brings impacts on other sectors of the national economy as well [30]. The overall position of the construction industry can be easily monitored not only by the industry's share of GDP, but also by the share of total employment of the sector. The share of the construction sector in the creation of GDP had a downward trend after 2010, where it was at the level of 8.1% in 2011, at the level of 7.4% of the total GDP in 2017, and in 2018 only at the level of 7%. Likewise, when monitoring the share of the construction sector in total employment, a downward trend can be seen, where this ratio was at the level of 7.9% in 2011 and only at the level of 6.9% in 2017 [31].

Individual financial data from the ORBIS database, which contains data on 400 million global commercial and public enterprises, served as the basis for the financial study. In total, 3605 businesses were found in Slovakia after searching for ones engaged in the construction industry. The dataset comprised private and public businesses with total assets exceeding

200,000 EUR, as well as limited liability corporations, joint stock companies, limited partnerships, public limited companies, and other legal entities. It was required to adjust the acquired database of financial data before computing the most crucial financial indicators. Businesses who failed to supply all of the essential data for financial analysis throughout the monitored period of 2018–2020 were excluded from the produced dataset (data for the year 2021 are not included as they are not available). Additionally, all outliers that would have diminished the usefulness of the conclusions drawn from the actual financial study were eliminated. After this adjustment, the database contains 2000 enterprises whose elementary identification data are shown in Table 1.

Table 1. The elementary data of the enterprises operating in the construction sector in the period under the review.

| Indicator | | Absolute Frequency | Relative Frequency |
|------------|------------------------------|--------------------|--------------------|
| Firm size | Small enterprise | 749 | 37.45 |
| | Medium-sized enterprise | 1141 | 57.05 |
| | Large enterprise | 108 | 5.40 |
| | Very large enterprise | 2 | 0.10 |
| Legal form | Limited liability enterprise | 1844 | 92.20 |
| | Joint stock enterprise | 148 | 7.40 |
| | Other legal form | 8 | 0.40 |
| Firm age | <5 | 8 | 0.40 |
| | 5–9 | 311 | 15.55 |
| | 10–19 | 947 | 47.35 |
| | 20–29 | 606 | 30.30 |
| | >30 | 128 | 6.40 |
| Total | | 2000 | 100.00 |

Source: own elaboration.

The basis for the calculation of individual financial indicators was financial data (in thousands of euros), whose basic descriptive statistics, such as mean, median, standard deviation, minimum, maximum, and coefficient of variation (CV), are summarized in Table 2.

Table 2. Descriptive statistics of individual financial indicators (values are given in thousands of euros).

| | Mean | Med. | Std. Dev. | Min. | Max. | CV |
|------|----------|----------|-----------|-----------|-------------|-------|
| CUAS | 1650.578 | 575.200 | 5859.591 | 6.966 | 135,656.852 | 3.550 |
| STOK | 253.372 | 21.781 | 2490.983 | −63.721 | 103,006.656 | 9.831 |
| DEBT | 699.873 | 227.339 | 2009.062 | −3626 | 30,923.053 | 2.871 |
| OCAS | 701.517 | 213.393 | 3310.951 | −182.100 | 101,280.725 | 4.719 |
| CASH | 339.467 | 115.486 | 2108.753 | −244.970 | 88,841.782 | 6.212 |
| TOAS | 2331.388 | 863.141 | 7186.946 | 210.997 | 136,778.224 | 3.083 |
| SHFD | 779.199 | 286.691 | 2362.285 | −5118.237 | 69,851.308 | 3.032 |
| NCLI | 377.573 | 35.582 | 2442.938 | −245.389 | 72,491.123 | 6.470 |
| CULI | 1174.616 | 430.643 | 4313.549 | −46.426 | 129,009.509 | 3.672 |
| CRED | 590.778 | 180.901 | 2037.352 | −34.786 | 46,869.346 | 3.449 |
| OPRE | 3042.036 | 1289.487 | 8396.336 | 0.029 | 226,668.934 | 2.760 |
| TURN | 2890.494 | 1226.787 | 8176.421 | 0.029 | 226,330.071 | 2.829 |
| PLAT | 100.199 | 33.169 | 440.009 | −8260.572 | 9920.586 | 4.391 |

Note: CUAS: Current Assets, STOK: Stocks, DEBT: Debtors, OCAS: Other Current Assets, CASH: Cash and Cash Equivalent, TOAS: Total Assets, SHFD: Shareholders Funds, NCLI: Non-Current Liabilities, CULI: Current Liabilities, CRED: Creditors, OPRE: Operating revenue (Turnover), TURN: Sales, PLAT P/L: after Tax. Source: own elaboration.

The financial analysis of enterprises operating in the construction sector in the Slovak Republic in the monitored period was carried out using 12 crucial indicators, whose formulas necessary for calculation are summarized in Table 3.

Table 3. Summarized formulas of financial indicators.

| Ratio | Algorithm |
|--------------------------|---|
| Cash liquidity ratio | Cash and cash equivalent to current liabilities |
| Quick liquidity ratio | Current assets minus inventory to current liabilities |
| Current liquidity ratio | Current assets to current liabilities |
| Inventory turnover ratio | Stocks to operating revenue and sales |
| Collection period ratio | Debtors to operating revenue and sales |
| Credit period ratio | Creditors to operating revenue and sales |
| Return on assets ratio | Profit after tax to total assets |
| Return on equity ratio | Profit after tax to shareholders funds |
| Return on sales ratio | Profit after tax to operating revenue and sales |
| Total indebtedness ratio | Current and non-current liabilities to total assets |
| Equity leverage ratio | Total assets to shareholders funds |
| Insolvency ratio | Current and non-current liabilities to receivables |

Source: [32–34].

The overall financial analysis was carried out in the following methodological steps.

Firstly, significant financial ratios were calculated for individual enterprises in the construction sector operating in Slovakia in the monitored time horizon, set for the period from 2018 to 2020. Individually calculated financial parameters affecting business performance were subsequently analyzed using the methods of analysis, exploration, and explanation.

In the next step, the normality tests (Kolmogorov–Smirnov and Shapiro–Wilk tests) were used to determine if a dataset is well modelled by a normal distribution. The normality tests are supplementary to the graphical assessment of normality, and its ability is to detect whether a sample follows a non-normal distribution.

The p -value is interpreted against a significance level of 5% and finds that the test dataset does significantly deviate from normal distribution.

The Friedman test, a nonparametric substitute for one-way ANOVA with repeated measures analysis of variance by levels, was then applied to identify treatment differences over numerous test sessions. The K algorithms under consideration are ranked using the Friedman test on each dataset individually [35]. The information can be set up in a table with n rows and K columns. Typically, the columns indicate the different circumstances, while the rows represent the blocks. The data of the test are ranks (R_{ik} , $i = 1, \dots, n$; $k = 1, \dots, K$) of the conditions by blocks; therefore, $1 \leq R_{ik} \leq K$, $i = 1, \dots, n$ [36]. The data must adhere to two presumptions. The variables must be independent of one another so that the outcomes of one block cannot affect those of another block. The observations in each row may also be prioritized differently based on a variety of factors [37]. Friedman's test examines if the rank totals for each condition deviate noticeably from the predicted values [36]. Friedman's developed the following test statistic:

$$F_r = \frac{12}{nK(k+1)} \sum_{k=1}^K R_{.k}^2 - 3n(K+1), \quad (1)$$

where $R_{.k} = \sum_{i=1}^n R_{ik}$ is the sum of the ranks for each condition k over the n blocks. As n tends to infinity, under the null hypothesis, this statistic F_r has an asymptotic Chi-square distribution with $K - 1$ degrees of freedom. If $F_r \geq \chi_{K-1;1-\alpha}^2$, where $\chi_{K-1;1-\alpha}^2$ is the $(1 - \alpha)$ quantile of the Chi-square distribution with $K - 1$ degrees of freedom, the null hypothesis is rejected at the α level of significance [35].

Friedman's test results indicate a substantial difference across groups, but they do not specify which groups are different in which combinations. Therefore, it is typically required to use a post hoc method for pairwise comparison once the null hypothesis is rejected by these multiple comparison tests [38]. In the literature, there are numerous methods for multiple comparison that may be used to look at differences between median pairs. The Bonferroni adjustment was applied in this study to reduce the likelihood of obtaining a statistically significant result and to address the multiple comparisons issue.

The Bonferroni–Dunn test is adaptable and may be used to determine if there are differences across all conditions as well as between any two conditions [36]. A Bonferroni adjustment, which may change the rejection level for any test by dividing by the total number of tests and necessitates a significantly lower p -value to reject any test, was previously outlined by Dunn [39] as a way to deal with this problem. The Bonferroni–Dunn test, as described by Siegel and Castellan [35], makes an adjustment to the critical value used to reject the null hypothesis in order to lower the familywise Type I error rate, i.e., $1 - (1 - \alpha)^c$, where $c = K(K - 1)/2$ is the number of comparisons and α is the per comparison Type I error rate. This correction makes sure that the total likelihood of making at least one Type I error in the collection of comparisons stays below a predefined α value [40]. Pereira et al. [36] state, that the conditions k and j are significantly different if

$$|R_{.k} - R_{.j}| \geq z_1 - \frac{\alpha}{K(K-1)} \sqrt{\frac{nK(K+1)}{6}}, \quad (2)$$

where $z_1 - \frac{\alpha}{K(K-1)}$ is the $\left(1 - \frac{\alpha}{K(K-1)}\right)$ quantiles of the standard normal distribution.

4. Results and Discussion

It is difficult for enterprises to ensure the long-term success in the current global environment. In general, the enterprise must constantly look for ways to improve its performance. Traditional approaches used to evaluate business performance focus on various financial indicators based on values obtained from financial accounting. Parallel systems of indicators are frequent analytical procedures used to evaluate business performance. Individual ratios are equivalent and are classified into groups according to the area of business management to which they relate. In order to fulfil the main aim of the paper, 12 essential financial indicators were selected (see Table 3).

In the analysis of liquidity, three basic levels are distinguished. Each of them points to the enterprise liquidity from a different point of view, but in general it is true that all types of liquidity should not be negative [41]. Rafaqat and Rafaqat [42] state that it is favorable for enterprises if the value of liquidity ratios gradually increases from year to year. The calculated liquidity indicators for individual enterprises are included in the intervals, summarized in Table 4.

Table 4. Liquidity ratios of the enterprises operating in the construction sector during 2018–2020.

| Cash liquidity ratio (EUR) | 2018 | 2019 | 2020 |
|-------------------------------|------|------|------|
| mean | 1.18 | 1.11 | 1.82 |
| <0.2 | 940 | 935 | 870 |
| 0.2–0.5 | 456 | 409 | 399 |
| >0.5 | 604 | 656 | 731 |
| Quick liquidity ratio (EUR) | 2018 | 2019 | 2020 |
| mean | 3.35 | 2.99 | 3.56 |
| <1 | 808 | 765 | 736 |
| 1–1.5 | 532 | 511 | 484 |
| >1.5 | 660 | 724 | 780 |
| Current liquidity ratio (EUR) | 2018 | 2019 | 2020 |
| mean | 3.89 | 3.37 | 3.74 |
| <1.5 | 1198 | 1146 | 1089 |
| 1.5–2.5 | 423 | 446 | 417 |
| >2.5 | 379 | 408 | 494 |

Source: own elaboration.

The *cash liquidity ratio* is given by the relationship of cash and cash equivalent to current liabilities, and according to Canton et al. [43], a value in the range of 0.2 to 0.5 is considered the optimal value of the monitored indicator. This level of liquidity means that from 0.2 EUR to 0.5 EUR of cash accounts for 1 EUR of current liabilities in the enterprise. Between 2018 and 2020, the number of these enterprises decreased from year to year, so the liquidity of the monitored enterprises gradually improved. The average value of this indicator was 1.11 EUR in 2018, and 1.82 EUR in 2020. During the analysis of the cash liquidity ratio, it can be noted that approximately 45% of the monitored enterprises achieved a relatively low value of the given indicator in the monitored period, with an average value of the ratio lower than 0.2. However, the results gradually improved, and the number of such enterprises gradually decreased. The arrival of the COVID-19 pandemic in 2020 did not have a significant impact on this positive decline, and the level of cash liquidity ratio in the industry continued to grow. A similar positive trend was also observed in the analysis of the quick liquidity ratio and current liquidity ratio. Batrancea [44] states that the *quick liquidity ratio* refers to the ability of the enterprise to cover short-term liabilities through current assets, which are reduced by the level of inventories. The indicator thus expresses how many times the enterprise would be able to pay its creditors in the event of monetization of all its current assets, except for the sale of inventory. According to Balina [45], the interval between 1 and 1.5 is considered to be the recommended value of the indicator. The same downward trend can be observed within the enterprises, which means an increase in quick liquidity across enterprises. In 2018, there were 532 enterprises in this interval, while in 2020, the number of these enterprises was only 484. The quick liquidity ratio also showed that even before the pandemic, more than a third of construction enterprises were unable to cover their short-term liabilities through current assets, which means they would have to sell inventory to cover their liabilities. Despite the not the best results of the industry, an improving trend was observed, which was not negatively affected by the pandemic. The *current liquidity ratio* evaluates the development of the solvency of the enterprise in the long term. Da Rocha et al. [46] point to what extent an enterprise covers current assets with its short-term liabilities, i.e., the future solvency of enterprises. In general, the value should not be less than 1, because, in this case, the enterprise becomes illiquid in the long run and faces the risk of bankruptcy. In 2018, 423 enterprises were included in the interval of recommended values from 1.5 to 2.5. However, after the outbreak of the pandemic in 2020, the number of enterprises slightly decreased to 417, which is also related to the increase of enterprises exceeding the optimal values of total liquidity. If the value of the indicator is high, the enterprise becomes excessively liquid, which threatens its efficiency in the long term. In the monitored period, approximately 55% of enterprises faced imminent bankruptcy, but their number decreased. The value of the current liquidity of the sector thus grew again, which is positive in the long term.

The efficiency ratios in financial analysis determine whether individual assets are adequately spent in the enterprise in relation to the specific investigated areas in the present or in the future [47]. The average values of the calculated activity indicators with intervals are summarized in Table 5.

The *inventory turnover ratio* refers to the relationship of stocks to operating revenue and sales [48]. In selected enterprises of the construction sector in Slovakia, the average turnaround time in 2018 was approximately 50 days. In 2019, this period was already 78 days, and in 2020 it was extended to 111 days. According to Boisjoly et al. [49], this is an indicator of turnaround time that needs to be minimized. Between 2018 and 2020, a decrease in the number of enterprises whose inventory turnover ratio is less than 30 days can be observed. In 2018, up to 87.8% of enterprises were in the given interval, compared to 2020, when it was only 84.9%. The value of the ratio indicates a worsening trend, which could be mostly related to the arrival of the COVID-19 pandemic, since the time when inventory was converted to cash significantly increased compared to 2018. However, this ratio development was understandable because the lockdown, which affected the business activities, was implemented across the country at the beginning of the pandemic [50].

The implemented lockdown was manifested primarily by the suspension of construction production [51], while the period during which stocks were tied up in the enterprise was extended. Another indicator is the *collection period ratio* determined by the share of debtors to operating revenue and sales multiplied by the number of days in a year, when the result is the average time from sales to collection of funds [52]. According to Farhan et al. [53], the ratio points to the days when payment collections are withheld in receivables. The indicator needs to be minimized because the lower the indicator, the fewer resources the enterprise needs to finance its receivables [54]. In the monitored period, the collection period gradually lengthened from 2018, with most enterprises having a collection period ranging from 30 to 90 days. The trend of higher collection period can also be observed in the average values for the individual monitored years when the average collection period after the arrival of the COVID-19 pandemic increased from 50 days to 94 days in 2020. According to Mahato and Mahato [55], the *credit period ratio*, another activity ratio, points to the average duration from the origination of the obligation to its repayment, i.e., average length of trade credit from suppliers. Similar to the previous indicator, the credit period ratio needs to be minimized [56]. The enterprise has problems with its liquidity if it has a long maturity period of liabilities [57]. In the monitored period, the most represented enterprises had a maturity period of up to 30 days. In 2018, 1177 enterprises were included in the given interval, and after the arrival of the pandemic a slight increase can be observed. The improving trend of repayment of obligations indicates good liquidity of enterprises, which was not significantly affected even by the arrival of the pandemic. However, the average values of the credit period of liabilities for individual years point to a slightly worsening trend that began before the pandemic and continued even after its outbreak, when it worsened significantly. In 2018, the average credit period ratio of the monitored enterprises was 57 days, while it was extended to 112 days after the arrival of the COVID-19 pandemic. Wang et al. [58] state in their publication that when analyzing the collection period and credit period ratio, it is appropriate to compare these two indicators in the enterprise with each other and to monitor any differences in the observed values. For both indicators, there was a worsening trend in the period before the pandemic (in 2018 and 2019), while the collection period and credit period ratio were made even worse by the arrival of the pandemic in 2020.

Table 5. Efficiency ratios of the enterprises operating in the construction sector during 2018–2020.

| Inventory turnover ratio (Days) | 2018 | 2019 | 2020 |
|--|-------------|-------------|-------------|
| mean | 49.8 | 77.7 | 111.2 |
| <30 days | 1755 | 1730 | 1697 |
| 30–120 days | 172 | 190 | 207 |
| > 120 days | 73 | 80 | 96 |
| Collection period ratio (days) | 2018 | 2019 | 2020 |
| mean | 50 | 56.2 | 93.6 |
| <30 days | 882 | 892 | 871 |
| 30–90 days | 959 | 930 | 896 |
| >90 days | 159 | 178 | 233 |
| Credit period ratio (days) | 2018 | 2019 | 2020 |
| mean | 57.1 | 69.0 | 111.7 |
| <30 days | 1177 | 1195 | 1216 |
| 30–90 days | 677 | 646 | 590 |
| >90 days | 146 | 159 | 194 |

Source: own elaboration.

When analyzing the profitability of enterprises in the construction sector, the value of the net profit enters the numerator of all indicators, and the relevant investigated unit based on the ratio enters the denominator. Trang et al. [59] state that profitability indicators express the profitability of business efforts and point to the efficiency of business activity and indicate the intensity of use, reproduction, and appreciation of the capital invested in the business. Average values of individual profitability indicators are summarized in Table 6.

Table 6. Profitability ratios of the enterprises operating in the construction sector during 2018–2020.

| Return on assets ratio (%) | 2018 | 2019 | 2020 |
|----------------------------|--------|--------|---------|
| mean | 6.72 | 5.86 | 3.26 |
| < 5% | 1058 | 1149 | 1286 |
| 5%–10% | 380 | 321 | 309 |
| >10% | 562 | 530 | 405 |
| Return on equity ratio (%) | 2018 | 2019 | 2020 |
| mean | 168.10 | 22.82 | −272.92 |
| <15% | 964 | 1035 | 1226 |
| 15%–20% | 140 | 183 | 176 |
| >20% | 896 | 782 | 598 |
| Return on sales ratio (%) | 2018 | 2019 | 2020 |
| mean | −18.04 | −20.17 | −15.11 |
| <5% | 1672 | 1670 | 1707 |
| 5%–10% | 301 | 219 | 197 |
| >10% | 27 | 111 | 96 |

Source: own elaboration.

The first monitored profitability indicator is the *return on assets ratio*, which according to Eldridge et al. [60] indicates the production force and relates the profit to the total assets invested in the business, regardless of the method of financing. The higher the ratio, the more efficient the enterprise is at generating profit [61], while the optimal interval of the monitored indicator is considered to be between 5 and 10% [62], and when interpreted it can be claimed that every 1 EUR of invested assets produced between 0.05 EUR and 0.10 EUR of net profit. A slight decline can be observed in the group of enterprises with asset profitability at an optimal level, even if the changes from year to year are significant. In the period before the pandemic, approximately 53% of enterprises did not reach the optimal level of the monitored indicator. However, in 2020, most businesses in the construction sector already faced the pandemic crisis, as their number increased to 64%. When monitoring the average values of the monitored indicator, a significant trend of decreasing profitability of assets can be observed. According to Xu and Liu [63], return on assets needs to be evaluated with return on equity because these two indicators are interconnected. The *return on equity ratio* is an indicator showing the profitability of invested capital, which, according to Soewarno and Tjahjadi [64], makes it possible to point out whether the invested capital of the enterprise is sufficiently profitable. Bolton et al. [65] state that every investor also faces increased risk related to different business activities. These risks can be divided into risks associated not only with the production itself, market development, legislation, inflation, and technological progress [66], but also risks associated with unpredictable events, such as the current pandemic [67]. Again, the higher the return on equity, the better the enterprise at generating profit from its existing assets [68], and the range from 15% to 20% is considered the optimal value. The level of return on equity in the monitored enterprises decreased, and less than 20% were in the optimal interval. Before the pandemic, approximately 964 enterprises operating in the construction sector had a return on equity of less than 15%, but in 2020, the number of these enterprises increased to 1226. According to Balatsky [69], a low return on equity ratio means the enterprise earns less compared to its shareholder's equity. When monitoring the average values of the return on equity indicator for individual years, a sharp drop can be observed, when enterprises were able to produce less than 1 EUR of equity capital in the monitored years. Another indicator that points to the size of the achieved profit concerning sales is the *return on sales ratio*, the results of which are very individual across industries. Zimon and Tarighi [70] state that an indicator between 5% and 10% is excellent, while it is generally true that if the return on sales is above 0%, the enterprise is turning a profit. From the results, most enterprises have revenue profitability of up to 5%, i.e., business units with less than 0.05 EUR of net profit per 1 EUR of revenue. However, after the arrival of the pandemic in 2020, the number of enterprises in this interval slightly increased. On the contrary, a downward trend can be observed in the following two intervals. The sales

profitability development trend described so far is easy to see because it is clear from the analysis that 2020, together with the pandemic it brought, was a shock for the construction sector that significantly affected the internal conditions of the enterprises.

A debt analysis is focused on the structure of the financial resources of the enterprise, which affects its financial stability. In general, an enterprise with a high share of equity is stable and independent, and vice versa, an enterprise with a low share of them is financially unstable [34]. Within the debt analysis, it was possible to monitor the combination of equity and debt through debt indicators, which decline due to debt repayment from sold assets [71], as well as the ability of enterprises to bear the indebtedness between 2018 and 2020, i.e., in the period before and after the COVID-19 pandemic. Average values of individual indebtedness ratios are summarized in Table 7.

Table 7. Indebtedness ratios of the enterprises operating in the construction sector during 2018–2020.

| Total indebtedness ratio (%) | 2018 | 2019 | 2020 |
|-------------------------------|-------|-------|-------|
| mean | 0.648 | 0.633 | 0.623 |
| <50% | 598 | 652 | 705 |
| 50%–75% | 621 | 628 | 600 |
| >75% | 781 | 720 | 695 |
| Equity leverage ratio (coef.) | 2018 | 2019 | 2020 |
| mean | 9.47 | 6.53 | 12.76 |
| <2 | 701 | 753 | 827 |
| 2–3 | 397 | 389 | 366 |
| >3 | 902 | 858 | 807 |
| Insolvency ratio (coef.) | 2018 | 2019 | 2020 |
| mean | 2.89 | 3.22 | 2.60 |
| <1 | 971 | 1019 | 1031 |
| >1 | 1029 | 981 | 969 |

Source: own elaboration.

The *total indebtedness ratio* is an indicator of indebtedness that compares current and non-current liabilities to total assets, and its complementary indicator is the self-financing ratio. It is clear that the debt level of the monitored enterprises was slowly decreasing from year to year, and not only in the period before the pandemic, but also after it started, this trend continued. According to Stefko et al. [72], the range from 50% to 75% is considered to be the optimal level of indebtedness of enterprises operating in the construction sector.

At the same time, from a pure risk perspective, lower debt ratios are considered better, while a higher debt ratio makes the enterprise more difficult to borrow money [73]. In general, there is a risk associated with an enterprise carrying too much debt, while a low value of the total indebtedness ratio suggests greater creditworthiness [74]. In the monitored period, most enterprises are in the debt group at the level of 75% and above. More than 75% of the financial resources of the enterprise are in debt, and they may face an increased risk of instability. After the arrival of the COVID-19 pandemic in 2020, the number of enterprises with optimal indebtedness decreased to 600. The rest of the enterprises reached a debt level of less than 50%, which represents their increasing autonomy and independence of them in the field of finance but, on the contrary, according to Mouandat [75], equity financing is generally considered more expensive compared to debt financing. The average value of the total indebtedness ratio was at the level of 64.8% in 2018, and a gradual decrease in corporate indebtedness can be observed until the outbreak of the pandemic. Another monitored indicator is the *equity leverage ratio*, the inverse value of the degree of self-financing, is calculated as the ratio of total assets to shareholders' funds. Rahmati et al. [76] state that if the indicator value is 1, the enterprise uses only equity to finance its business activity. In the case of an increase in the value, it can be pointed to an increasing use of debt in the enterprise, while an interval from 2 to 3 is considered the optimal ratio. In the monitored period, there was an increase in the number of enterprises whose value of the equity leverage ratio was 2, i.e., business units in which debt was located in the proportion of up to 50%. On the contrary, the largest group of enterprises

with a financial leverage higher than the value of 3 gradually decreased. The last indicator is the *insolvency ratio*, which gives the relationship of current and non-current liabilities to receivables of the enterprise. According to de Rezende [77], it is generally considered together with liquidity indicators in financial analysis because these indicators give a better picture of the enterprise. The ratio examines whether the enterprise insolvency is caused by its own business activities [78]. If the value of the insolvency ratio is higher than 1, primary insolvency can be pointed out. On the contrary, in the case of a value lower than 1, it is possible to mention secondary insolvency caused as a consequence of primary insolvency of the enterprise [79]. In 2018, in the monitored enterprises in the construction sector, there were more enterprises whose insolvency was caused by their own business activities, i.e., the insolvency ratio value was greater than 1. This number of enterprises decreased over time, and from 2019 there were more enterprises whose value of the indicator was less than 1. Therefore, the insolvency ratio is often assessed with liquidity indicators, where, based on the results of the analysis, it was shown that the arrival of the pandemic in 2020 did not significantly affect the financial situation of the examined enterprises in the area of liquidity, nor in the area of solvency, since the changes were not significant, and more or less only they continued the trend from previous years, i.e., from the period before the pandemic.

The detailed financial analysis, focused on the enterprises operating in the construction sector in Slovakia, was aimed at monitoring the existence of statistically significant differences between the individual indicators because of the period in which the enterprises achieved these values. The main aim of this more detailed analysis was to examine whether the average values of the financial indicators are the same in all years of the period under review (2018, 2019, and 2020) or whether the individual values of the indicators differ significantly from each other.

Firstly, it was necessary to verify the normality of the dataset using the Kolmogorov–Smirnov and Shapiro–Wilk tests. The results of these tests rejected the null hypothesis that the data came from a normal distribution. Subsequently, the Friedman test, the non-parametric alternative to the one-way ANOVA with repeated measures, was used to determine a statistically significant difference between the calculated indicators concerning the year. The Friedman test tests the existence of differences between groups when the measured dependent variable is ordinal. Table 8 summarizes the result of the Friedman test, which points to the fact that the *p*-value of the test is less than the chosen level of significance for some financial ratios, which means that the null hypothesis of equal median values of indicators is rejected. Based on the result, it can be claimed that there are statistically significant differences in the individual indicators concerning the monitored year, except the two activity indicators. There are no statistically significant differences in the collection period and credit period ratio.

Because there are statistically significant differences between the 10 financial indicators, in the next step, a post hoc analysis was performed, the result of which was the determination between which monitored periods the differences in the individual indicators are the most significant. The result of pairwise comparison of the monitored years is included in Table 9.

The results of the pairwise comparison (see column Adj. Sig.) indicate that those periods, where the test value is below the significance level 0.05 (marked in bold), are the periods with significant differences in the values of the analyzed indicators. It is evident that in 2020 there were significant changes in the development of the financial indicators compared to the previous periods.

The construction sector is closely related to the national economy, which means that it responds to every change in the development of the economy [80]. At the same time, these reactions affect other sectors, even though the position of the construction industry in the national economy from the point of view of the share in GDP formation is not significant in percentage terms and is gradually decreasing year-by-year [81]. Before the arrival of the COVID-19 pandemic in 2019, the construction industry was predicted to grow slightly, and on the contrary, a slight decline or stagnation was subsequently expected in 2020. However,

Narayanamurthy and Tortorella [82] pointed out that the construction sector was primarily characterized by a high rate of insolvencies and generally worse payment morale before the pandemic. The authors pointed out that the payment terms of the construction sector are set for more than 90 days, and their repayment occurs even after the due date. This sector produces lots of bad debts, which in the long term has a negative impact on its future development.

Table 8. The output of the Friedman test.

| | | CashR | QR | CurrR | IT | CollP | CredP |
|-------------|------|---------|---------|---------|---------|---------|--------|
| Mean Rank | 2018 | 1.91 | 1.86 | 1.84 | 1.94 | 1.99 | 2.00 |
| | 2019 | 1.94 | 1.98 | 1.98 | 1.95 | 1.98 | 2.00 |
| | 2020 | 2.15 | 2.15 | 2.19 | 2.12 | 2.03 | 1.99 |
| N | | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| Chi-Square | | 69.303 | 86.131 | 122.557 | 49.717 | 3.333 | 0.158 |
| Df | | 2 | 2 | 2 | 2 | 2 | 2 |
| Asymp. Sig. | | 0.000 | 0.000 | 0.000 | 0.000 | 0.189 | 0.924 |
| | | ROA | ROE | ROS | TI | EL | Ins |
| Mean Rank | 2018 | 2.14 | 2.22 | 2.09 | 2.18 | 2.19 | 2.13 |
| | 2019 | 2.03 | 2.03 | 2.01 | 2.00 | 2.01 | 2.01 |
| | 2020 | 1.82 | 1.75 | 1.89 | 1.82 | 1.80 | 1.86 |
| N | | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| Chi-Square | | 106.255 | 226.688 | 41.128 | 133.170 | 153.830 | 75.230 |
| Df | | 2 | 2 | 2 | 2 | 2 | 2 |
| Asymp. Sig. | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Note: CashR: Cash liquidity ratio, QR: Quick liquidity ratio, CurrR: Current liquidity, IT: Inventory turnover ratio, CollP: Collection period ratio, CredP: Credit period ratio, ROA: Return on assets ratio, ROE: Return on equity ratio, ROS: Return on sales ratio, TI: Total indebtedness ratio, EL: Equity leverage ratio, Ins: Insolvency ratio. Source: own elaboration.

In 2020, many researchers began to focus on the issue of the coronavirus pandemic and its impact on the economy, employment, enterprises, individuals, and society as a whole.

Orlowski [19] identified labor force problems with the arrival of the COVID-19 pandemic that could be solved by structural changes in the labor market. Similarly, Svabova et al. [2] examined the impact of anti-pandemic measures on the development of employment in the Slovak Republic and found that in 2020 unemployment worsened by approximately 2% to 3% in contrast to its development before the pandemic. This situation also affected self-employed people in the construction sector, who were significantly more affected by the pandemic than employees. According to Davidescu et al. [83], the wages of self-employed people were already at a lower level than the wages of employees before the pandemic. The arrival of the pandemic at the turn of March and April in 2020 worsened this development, while many self-employed people suspended their work activities. However, Jha [84] pointed to the fact that the direct cash benefits provided during the pandemic to construction sector employees were of significant help as they helped them to overcome financial hardship more easily. Unfortunately, this support was primarily associated not only with the dysfunctionality of the institutions in the handling process but with several financial problems [85]. Such aid was introduced in Slovakia in the form of First Aid I and First Aid II, which offered a large number of self-employed people in the construction sector to draw benefits calculated on the basis of the decrease in their cash income during the pandemic compared to the amount of their income in the period before the pandemic.

Table 9. The output of the pairwise comparison of the monitored years.

| Cash Liquidity Ratio | Test Statistics | Std. Error | Str. Test Statistics | Sig. | Adj. Sig. |
|--------------------------|-----------------|------------|----------------------|-------|-----------|
| 2018–2019 | 0.030 | 0.032 | 0.949 | 0.343 | 1.000 |
| 2018–2020 | 0.241 | 0.032 | 7.637 | 0.000 | 0.000 |
| 2019–2020 | 0.211 | 0.032 | 6.688 | 0.000 | 0.000 |
| Quick liquidity ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2018–2019 | 0.120 | 0.032 | 3.811 | 0.000 | 0.000 |
| 2018–2020 | 0.292 | 0.032 | 9.234 | 0.000 | 0.000 |
| 2019–2020 | 0.172 | 0.032 | 5.423 | 0.000 | 0.000 |
| Current liquidity ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2018–2019 | 0.137 | 0.032 | 4.332 | 0.000 | 0.000 |
| 2018–2020 | 0.347 | 0.032 | 10.989 | 0.000 | 0.000 |
| 2019–2020 | 0.210 | 0.032 | 6.657 | 0.000 | 0.000 |
| Inventory turnover ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2018–2019 | 0.007 | 0.032 | 0.221 | 0.825 | 1.000 |
| 2018–2020 | 0.176 | 0.032 | 5.566 | 0.000 | 0.000 |
| 2019–2020 | 0.169 | 0.032 | 5.344 | 0.000 | 0.000 |
| Return on assets ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.210 | 0.032 | −6.639 | 0.000 | 0.000 |
| 2020–2018 | −0.321 | 0.032 | −10.148 | 0.000 | 0.000 |
| 2019–2018 | −0.111 | 0.032 | −3.509 | 0.000 | 0.001 |
| Return on equity ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.284 | 0.032 | −8.994 | 0.000 | 0.000 |
| 2020–2018 | −0.473 | 0.032 | −14.954 | 0.000 | 0.000 |
| 2019–2018 | −0.188 | 0.032 | −5.959 | 0.000 | 0.000 |
| Return on sales ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.121 | 0.032 | −3.825 | 0.000 | 0.000 |
| 2020–2018 | −0.201 | 0.032 | −6.370 | 0.000 | 0.000 |
| 2019–2018 | −0.080 | 0.032 | −2.545 | 0.011 | 0.033 |
| Total indebtedness ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.179 | 0.032 | −5.675 | 0.000 | 0.000 |
| 2020–2018 | −0.365 | 0.032 | −11.539 | 0.000 | 0.000 |
| 2019–2018 | −0.185 | 0.032 | −5.865 | 0.000 | 0.000 |
| Equity leverage ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.209 | 0.032 | −6.623 | 0.000 | 0.000 |
| 2020–2018 | −0.392 | 0.032 | −12.393 | 0.000 | 0.000 |
| 2019–2018 | −0.182 | 0.032 | −5.770 | 0.000 | 0.000 |
| Insolvency ratio | Test Statistics | Std. Error | Std. Test Statistics | Sig. | Adj. Sig. |
| 2020–2019 | −0.149 | 0.032 | −4.711 | 0.000 | 0.000 |
| 2020–2018 | −0.274 | 0.032 | −8.662 | 0.000 | 0.000 |
| 2019–2018 | −0.125 | 0.032 | −3.952 | 0.000 | 0.000 |

Source: own elaboration.

When analyzing the effects of past pandemics on the economy, Bonam and Smadu [17] pointed to the fact that in the past, pandemics primarily brought with them an increase in inflation, which subsequently lasted for more than 10 years. Given the current situation, this essential information indicates potential future developments that could occur even after the outbreak of the coronavirus pandemic. Currently, it is possible to point out that the arrival of the pandemic brought a crisis, which is increasingly beginning to manifest itself mainly in high inflation [86]. According to the National Bank of Slovakia, inflation was at an acceptable level of 1.6% in January 2021, rising slightly over time to 6.4% in November 2021. This growth trend continued in the following year as inflation reached 8.4% in January and an incredible 9% in February [87]. At the same time, the National Bank of Slovakia evaluates the current development of the economy and also provides

a prediction of the expected development in the medium term. Not only the ongoing COVID-19 pandemic, but also the current war in Ukraine, will slow down the recovery of the world economy in the near future, and increasing global inflationary pressures will lead to further price increases across all sectors. In one of the predictions for 2022, Karmazin [88] expects a continued trend of inflation growth throughout the year due to the ongoing pandemic, crisis, and situation in Ukraine. The author also stated that, in the long term, he expects an increase in interest rates from the National Bank of Slovakia as a reaction to high inflation in an effort to reduce it, which will also have a direct impact on investments in the construction sector and thus a worsening of the conditions for providing mortgages and loans. Since the beginning of the pandemic, a significant increase in the prices not only of materials consumed in the construction sector [89], but also of construction works, which have grown at a dizzying pace since April 2021 [90], can be observed. Given the increased inflation, this trend was expected, although the real growth in the prices of materials and real estate dramatically exceeded expectations. The prices of construction materials as of the third quarter of 2021 increased by an average of 23% compared to October 2020. The cause of this growth is not only the growth of inflation, but also high energy prices and the ongoing demand for real estate [91]. Khalef et al. [29] emphasized that the current pandemic had an impact on construction projects in all sectors, specifically in material supply and human resources. In Slovakia, however, one can currently observe the problem of a lack of construction material, which is not only pointed out by many construction enterprises and individuals, but also faced by state contracts, where prices can increase by 15% to 20% [92].

When investigating the effects of the corona crisis on the business performance, Hu and Zhang [25] found a statistically significant relationship between the arrival of the pandemic and the deteriorated performance of the monitored enterprises. Achim et al. [23] found that the total profit of the monitored enterprises was up to 37% lower after the pandemic than before the pandemic, while according to Lam et al. [93], the construction sector performed significantly better than other sectors. Lassoued and Khanchel [27], on the contrary, pointed to the fact that in enterprises operating in the construction sector, the use of earnings management increased during the pandemic, especially in 2020, which brings with it a reduced reliability of financial statements during the pandemic. However, since the arrival of the COVID-19 pandemic, the construction sector has not been significantly affected compared to other sectors. Although there has been a sharp decline in construction production since the beginning of the pandemic, caused by the measures of the government in the form of a lockdown and its persistence even after the short-term restart of production during the last months of 2020, this development did not reach the values from the period before the pandemic.

Based on the findings, it can be argued that the COVID-19 pandemic brought about a sharp decline in construction output, which affected enterprises across the industry, but has recovered over time [94]. Increased consumption only supported the already started increase in inflation, which led to price increases not only in the entire economy but in the construction sector [95]. According to Iqbal et al. [96], the increased prices in the construction sector are caused not only by inflation but prices of input raw materials, such as oil or metals, while this increase is reflected in the growth of prices of new buildings and existing apartments [97]. However, a slight correction in the prices of apartments and houses can be expected in the future, which could slow down the possible future growth of this industry.

5. Conclusions

Even before the arrival of the COVID-19 pandemic, the world economy felt a decline in global demand, which began to manifest itself, especially towards the end of 2019. However, measures introduced in developed countries associated with the new coronavirus pandemic, which affected overall global consumption, had a considerable impact. In

general, there is a decrease in the production of industrial production with a sharp decline in demand and consumption.

Based on the results of the liquidity analysis, it can be said that the enterprises operating in the construction sector in Slovakia during the period under review are improving the financial situation, reducing their indebtedness, guarding the financing of non-current assets, ensuring a sufficient level of liquidity against possible bankruptcy. At the same time, it turned out that at the beginning of the pandemic, the enterprises in the construction sector reacted very quickly because they decided to create higher reserves, thereby improving the results of the monitored indicators. Enterprises thus prepared for the new situation that the pandemic brought. These conclusions are supported by the results from the realized debt analysis, which pointed to a trend of decreasing corporate indebtedness, which started before the pandemic and continued after the arrival of the coronavirus crisis. Based on the results of the total indebtedness ratio, the average indebtedness of enterprises between 2018 and 2020 was at a level of up to 65% and gradually decreased. Similarly, the financial leverage indicator, the inverse of the self-financing coefficient, confirmed these results. On the contrary, when analyzing other ratios, it is possible to claim that the arrival of the COVID-19 pandemic had a negative impact on many aspects of business in this sector. The efficiency ratios are the most affected by the pandemic, as the average inventory turnover time is more than 111 days in 2020, compared to 2018, when it was only 50 days. In the case of the average collection period and the average credit period ratio, a disparity between these two indicators was revealed, which became more and more profound from year to year in the examined companies and worsened even more significantly with the arrival of the pandemic. The average collection period was 50 days in 2018, and in 2020, i.e., after the pandemic, it was almost 94 days. The average credit period was similar at the level of 57 days in 2018, and in 2020 the number of days until maturity doubled. In the analysis of profitability, a worsening trend across all selected indicators was also recorded, which confirmed their interconnectedness, i.e., if the enterprise does not have a favorable ROA indicator, then it cannot create positive results even in the ROE and ROS ratios. These indicators faced a worsening trend even before the pandemic, and the arrival of the pandemic only helped it in the form of a significant, even jumpy deterioration. Overall, based on the findings of the detailed analysis, the arrival of the pandemic had a clear impact on the financial and economic situation of the examined enterprises from the Slovak construction sector. However, the most significant impacts will be even more noticeable in the future due to the fact that this sector is characterized by slower reactions to changes in the economy.

Construction sector enterprises operating in Slovakia are trying to make the right decisions in the long term, thus facing the pandemic sensibly, primarily by maintaining good liquidity or reducing indebtedness. On the contrary, enterprises are trying to increase the use of earnings management techniques and reduce the reliability of annual reports during the pandemic. This situation could improve after the end of the entire pandemic period. In the long term, high inflation at approximately 10% to 15% is expected in the coming years, followed by its gradual reduction. At the same time, an increase in interest rates is expected not only for mortgages but for loans, which can significantly slow down the sector growth and, therefore, reduce investment in this area.

Despite the contribution of this paper to the extant literature, the following limitation needs to be highlighted. The scope of the paper (i.e., the focus only on one national economy of Slovakia) limits the generalization of the findings. Future research should examine this phenomenon in more national economies or in a longer time horizon than what was set for this research to determine whether there will be differences in the findings and allow for greater generalization and applicability.

Author Contributions: Conceptualization, D.G. and K.V.; methodology, D.G. and K.V.; software, T.K.; validation, D.G., K.V. and V.M.; formal analysis, T.K. and D.G.; investigation, V.M.; resources, K.V. and T.K.; data curation, D.G. and T.K.; writing—original draft preparation, D.G. and K.V.; writing—review

and editing, D.G., K.V. and T.K.; visualization, V.M.; supervision, T.K.; project administration, K.V. All authors have read and agreed to the published version of the manuscript.

Funding: This research was financially supported by the Slovak Research and Development Agency—Grant Vega 1/0121/20: Research of transfer pricing system as a tool to measure the performance of national and multinational companies in the context of earnings management in conditions of the Slovak Republic and V4 countries and faculty institutional research 1/KE/2021: The use of quantitative methods to assess corporate indebtedness.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this research paper are available on request from the corresponding authors.

Acknowledgments: The paper is an output of the project NFP313010BWN6 “The implementation framework and business model of the Internet of Things, Industry 4.0 and smart transport”.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Kovacova, M.; Krajcik, V.; Michalkova, L.; Blazek, R. Valuing the Interest Tax Shield in the Central European Economies: Panel Data Approach. *J. Compet.* **2022**, *14*, 41–59. [\[CrossRef\]](#)
- Svabova, L.; Tesarova, E.N.; Durica, M.; Strakova, L. Evaluation of the impacts of the COVID-19 pandemic on the development of the unemployment rate in Slovakia: Counterfactual before-after comparison. *Equilib. Q. J. Econ. Econ. Policy* **2021**, *16*, 261–284. [\[CrossRef\]](#)
- Belas, J.; Gavurova, B.; Dvorsky, J.; Cepel, M.; Durana, P. The impact of the COVID-19 pandemic on selected areas of a management system in SMEs. *Econ. Res. Ekon. Istraz.* **2021**, *35*, 3754–3777. [\[CrossRef\]](#)
- Penakova, Z. Tax policy in the Slovak and Czech economies. *Polit Ekon.* **2021**, *69*, 689–707. [\[CrossRef\]](#)
- Strukova, Z.; Liska, M. Application of automation and robotics in construction work execution. *Ad Alta J. Interd. Res.* **2012**, *2*, 121–125.
- Deep, S.; Joshi, R.; Patil, S. Identifying the Contractor’s core competencies in post-COVID-19 scenario: Developing a survey instrument. *Eng. Constr. Archit. Manag.* **2022**. [\[CrossRef\]](#)
- Valaskova, K.; Durana, P.; Adamko, P. Changes in consumers’ purchase patterns as a consequence of the COVID-19 pandemic. *Mathematics* **2021**, *9*, 1788. [\[CrossRef\]](#)
- Durana, P.; Valaskova, K.; Blazek, R.; Palo, J. Metamorphoses of Earnings in the Transport Sector of the V4 Region. *Mathematics* **2022**, *10*, 1204. [\[CrossRef\]](#)
- Svabova, L.; Kramarova, K.; Gabrikova, B. Counterfactual Assessment of the Allowance for School-leaver Practice Performance as a Measure of Active Labour Market Policy in Slovakia. *Ekon. Cas.* **2022**, *70*, 99–123. [\[CrossRef\]](#)
- Binh, L.H.; Ha, L.T. Vietnam Economy Under the Impact of COVID-19. *Rus. J. Vietn. Stud.* **2022**, *5*, 45–70.
- Wang, Q.; Zhang, C. Can COVID-19 and environmental research in developing countries support these countries to meet the environmental challenges induced by the pandemic? *Environ. Sci. Pollut. Res.* **2021**, *28*, 41296–41316. [\[CrossRef\]](#) [\[PubMed\]](#)
- Adnan, A.T.M.; Hasan, M.M. The emergence of COVID-19 and capital market reaction: An emerging market scenario analysis. *Asian Acad. Manag. J. Account.* **2021**, *17*, 35–62. [\[CrossRef\]](#)
- Valaskova, K.; Nagy, M.; Zabochnik, S.; Lazaroiu, G. Industry 4.0 Wireless Networks and Cyber-Physical Smart Manufacturing Systems as Accelerators of Value-Added Growth in Slovak Exports. *Mathematics* **2022**, *10*, 2452. [\[CrossRef\]](#)
- Tesarova, E.N.; Krizanova, A. The Impact of COVID-19 on Sustainability and Changing Consumer Behavior in the Textile Industry. Is it Significant? *Manag. Dyn. Knowl. Econ.* **2022**, *10*, 95–105.
- Rodríguez-Caballero, C.V.; Vera-Valdes, J.E. Long-lasting economic effects of pandemics: Evidence on growth and unemployment. *Econ. J.* **2020**, *8*, 16.
- Lahiri, S.; Sinha, M. A study of the socio-economic implications of the COVID-19 pandemic. *Australas. Account. Bus. Financ. J.* **2021**, *15*, 51–69. [\[CrossRef\]](#)
- Bonam, D.; Smadu, A. The long-run effects of pandemics on inflation: Will this time be different? *Econ. Lett.* **2021**, *208*, 110065. [\[CrossRef\]](#)
- Kocisova, K.; Pastyrikova, M. Determinants of non-performing loans in European Union countries. *Proc. Econ. Financ. Conf.* **2020**, 64–71. [\[CrossRef\]](#)
- Orlowski, L.T. The 2020 Pandemic: Economic repercussions and policy responses. *Rev. Financ. Econ.* **2021**, *39*, 20–26. [\[CrossRef\]](#)
- Svabova, L.; Gabrikova, B. The rise in youth employment? Impact evaluation of COVID-19 consequences. *J. East. Eur. Cent. Asian Res.* **2021**, *8*, 511–526. [\[CrossRef\]](#)
- Hajduova, Z.; Hurajova, J.C.; Smorada, M.; Srenkel, L. Competitiveness of the Selected Countries of the EU with a Focus on the Quality of the Business Environment. *J. Compet.* **2021**, *13*, 43–59. [\[CrossRef\]](#)

22. Valaskova, K.; Gajdosikova, D.; Pavic Kramaric, T. How Important Is the Business Environment for The Performance of Enterprises? Case Study of Selected European Countries. *Cent. Eur. Bus. Rev.* **2022**. [\[CrossRef\]](#)
23. Achim, M.V.; Safta, I.L.; Vaidean, V.L.; Mureşan, G.M.; Borlea, N.S. The impact of COVID-19 on financial management: Evidence from Romania. *Econ. Res.-Ekon. Istraz.* **2021**, *35*, 1807–1832. [\[CrossRef\]](#)
24. Rakha, A.; Hettiarachchi, H.; Rady, D.; Gaber, M.M.; Rakha, E.; Abdelsamea, M.M. Predicting the economic impact of the COVID-19 pandemic in the United Kingdom using time-series mining. *Economies* **2021**, *9*, 137. [\[CrossRef\]](#)
25. Hu, S.; Zhang, Y. COVID-19 pandemic and firm performance: Cross-country evidence. *Int. Rev. Econ.* **2021**, *74*, 365–372. [\[CrossRef\]](#)
26. Zajmi, S. Liquidity and solvency analysis of the real sector of the economy of serbia for 2018–2019. *Cas. ekon. trz. komun.* **2021**, *11*, 294–306. [\[CrossRef\]](#)
27. Lassoued, N.; Khanchel, I. Impact of COVID-19 pandemic on earnings management: An evidence from financial reporting in European firms. *Glob. Bus. Rev.* **2021**. [\[CrossRef\]](#)
28. Salami, B.A.; Ajayi, S.O.; Oyegoke, A.S. Tackling the impacts of COVID-19 on construction projects: An exploration of contractual dispute avoidance measures adopted by construction firms. *Int. J. Constr. Manag.* **2021**. [\[CrossRef\]](#)
29. Khalef, R.; Ali, G.G.; El-adaway, I.H.; Gad, G.M. Managing construction projects impacted by the COVID-19 pandemic: A contractual perspective. *Constr. Manag. Econ.* **2022**, *40*, 313–330. [\[CrossRef\]](#)
30. Vetrakova, M.; Potkany, M.; Hitka, M. Outsourcing of facility management. *E. M. Ekon. Manag.* **2013**, *16*, 80–92.
31. Hanak, T.; Chadima, T.; Selih, J. Implementation of online reverse auctions: Comparison of Czech and Slovak construction industry. *Eng. Econ.* **2017**, *28*, 271–279. [\[CrossRef\]](#)
32. Lalithchandra, B.N.; Rajendhiran, N. Liquidity Ratio: An Important Financial Metrics. *Turk. J. Comp. Math. Educ.* **2021**, *12*, 1113–1114.
33. Santosuosso, P. Do efficiency ratios help investors to explore firm performances? Evidence from Italian listed firms. *Int. Bus. Rev.* **2014**, *7*, 111. [\[CrossRef\]](#)
34. Valaskova, K.; Klietstik, T.; Gajdosikova, D. Distinctive determinants of financial indebtedness: Evidence from Slovak and Czech enterprises. *Equilib. Q. J. Econ. Econ. Policy* **2021**, *16*, 639–659. [\[CrossRef\]](#)
35. Siegel, S.; Castellan, N.J., Jr. *Nonparametric Statistics for the Behavioral Sciences*, 2nd ed.; McGraw-Hill: New York, NY, USA, 1988.
36. Pereira, D.G.; Afonso, A.; Medeiros, F.M. Overview of Friedman’s test and post-hoc analysis. *Commun. Stat. Simul. Comput.* **2015**, *44*, 2636–2653. [\[CrossRef\]](#)
37. Conover, W.J. *Practical Nonparametric Statistics*; Wiley: New York, NY, USA, 1999.
38. Liu, J.; Xu, Y. T-Friedman Test: A New Statistical Test for Multiple Comparison with an Adjustable Conservativeness Measure. *Int. J. Comput. Intell.* **2022**, *15*, 1–19. [\[CrossRef\]](#)
39. Dunn, O.J. Multiple comparisons among means. *J. Am. Stat. Assoc.* **1961**, *56*, 52–64. [\[CrossRef\]](#)
40. Dinno, A. Nonparametric pairwise multiple comparisons in independent groups using Dunn’s test. *Stata J.* **2015**, *15*, 292–300. [\[CrossRef\]](#)
41. Musa, H.; Musova, Z.; Natorin, V.; Lazaroiu, G.; Boda, M. Comparison of factors influencing liquidity of European Islamic and conventional banks. *Oeconomia Copernican.* **2021**, *12*, 375–398. [\[CrossRef\]](#)
42. Rafaqat, S.; Rafaqat, S. The Impact of Merger and Acquisition on the Financial Performance of the Nasdaq Listed Small Size Technology Companies. *Econ. Financ. Let.* **2020**, *7*, 200–217. [\[CrossRef\]](#)
43. Canton, C.; Muller, M.; da Silva, T.P.; Rodrigues, M.M. Accounting conservatism effect on speed of adjustment of the cash. *Rev. Ges. Organiz.* **2019**, *12*, 3–17.
44. Batrancea, L. The Influence of Liquidity and Solvency on Performance within the Healthcare Industry: Evidence from Publicly Listed Companies. *Mathematics* **2021**, *9*, 2231. [\[CrossRef\]](#)
45. Balina, R. Forecasting bankruptcy risk in the contexts of credit risk management—A case study on wholesale food industry in Poland. *J. Int. Econ. Sci.* **2018**, *7*, 1–15. [\[CrossRef\]](#)
46. da Rocha, E.M.; de Oliveira, F.I.S.; Valdevino, R.Q.S. PROFUT: An analysis of the capital of Brazilian times. *Rev. Ambient. Cont.* **2021**, *13*, 145–164.
47. Jelavic, S.R.; Brkic, I.; Kozul, A. Financial Indicators of the Cement Industry in Croatia. *Econ. Thought Pract.* **2016**, *25*, 565–586.
48. Almomani, T.M.; Almomani, M.A.; Obeidat, M.I. The relationship between working capital management and financial performance: Evidence from Jordan. *J. As. Finance Econ. Bus.* **2021**, *8*, 713–720.
49. Boisjoly, R.P.; Conine, T.E., Jr.; McDonald, M.B., IV. Working capital management: Financial and valuation impacts. *J. Bus. Res.* **2020**, *108*, 1–8. [\[CrossRef\]](#)
50. Goolsbee, A.; Syverson, C. Fear, lockdown, and diversion: Comparing drivers of pandemic economic decline 2020. *J. Public Econ.* **2021**, *193*, 104311. [\[CrossRef\]](#)
51. Bera, B.; Bhattacharjee, S.; Shit, P.K.; Sengupta, N.; Saha, S. Significant impacts of COVID-19 lockdown on urban air pollution in Kolkata (India) and amelioration of environmental health. *Environ. Dev. Sustain.* **2021**, *23*, 6913–6940. [\[CrossRef\]](#)
52. Aregbeyen, O. The effects of working capital management on the profitability of Nigerian manufacturing firms. *J. Bus. Econ.* **2013**, *14*, 520–534. [\[CrossRef\]](#)
53. Farhan, N.H.; Belhaj, F.A.; Al-ahdal, W.M.; Almaqtari, F.A. An analysis of working capital management in India: An urgent need to refocus. *Cogent Bus. Manag.* **2021**, *8*, 1924930. [\[CrossRef\]](#)

54. Kumaraswamy, S. Goods and services tax shock on small and medium enterprises working capital in India. *Entrepreneurship Sustain. Issues* **2020**, *7*, 3464–3476. [\[CrossRef\]](#)
55. Mahato, C.; Mahata, G.C. Decaying items inventory models with partial linked-to-order upstream trade credit and downstream full trade credit. *J. Manag. Anal.* **2022**, *9*, 137–168. [\[CrossRef\]](#)
56. Ghoul, S.E.; Guedhami, O.; Kim, Y. Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *J. Int. Bus.* **2017**, *48*, 360–385. [\[CrossRef\]](#)
57. Barbuta-Misu, N. Analysis of factors influencing managerial decision to use trade credit in construction sector. *Econ. Res.-Ekon. Istraz.* **2018**, *31*, 1903–1922.
58. Wang, X.; Han, L.; Huang, X.; Mi, B. The financial and operational impacts of European SMEs' use of trade credit as a substitute for bank credit. *Eur. J. Finance* **2021**, *27*, 796–825. [\[CrossRef\]](#)
59. Trang, L.N.T.; Nhan, D.T.T.; Phuong, D.N.T.; Wong, W.K. The Effects of Selected Financial Ratios on Profitability: An Empirical Analysis of Real Estate Firms in Vietnam. *Ann. Econ. Financ.* **2022**, *17*, 2250006. [\[CrossRef\]](#)
60. Eldridge, D.; Nisar, T.M.; Torchia, M. What impact does equity crowdfunding have on SME innovation and growth? An empirical study. *Small Bus. Econ.* **2021**, *56*, 105–120. [\[CrossRef\]](#)
61. Lee, W.M. The determinants and effects of board committees. *J. Corp. Financ.* **2020**, *65*, 101747. [\[CrossRef\]](#)
62. Nguyen, T.N.L.; Nguyen, V.C. The determinants of profitability in listed enterprises: A study from Vietnamese stock exchange. *J. As. Financ. Econ. Bus.* **2020**, *7*, 47–58. [\[CrossRef\]](#)
63. Xu, J.; Liu, F. Nexus between intellectual capital and financial performance: An investigation of Chinese manufacturing industry. *J. Bus. Econ.* **2021**, *22*, 217–235. [\[CrossRef\]](#)
64. Soewarno, N.; Tjahjadi, B. Measures that matter: An empirical investigation of intellectual capital and financial performance of banking firms in Indonesia. *J. Intellect. Cap.* **2020**, *21*, 1085–1106. [\[CrossRef\]](#)
65. Bolton, P.; Kacperczyk, M. Do investors care about carbon risk? *J. Financ. Econ.* **2021**, *142*, 517–549.
66. Gangi, F.; Daniele, L.M.; Varrone, N. How do corporate environmental policy and corporate reputation affect risk-adjusted financial performance? *Bus. Strategy Environ.* **2020**, *29*, 1975–1991. [\[CrossRef\]](#)
67. Korzeb, Z.; Niedziolka, P. Resistance of commercial banks to the crisis caused by the COVID-19 pandemic: The case of Poland. *Equilib. Q. J. Econ. Econ. Policy* **2020**, *15*, 205–234. [\[CrossRef\]](#)
68. Kumar, S.; Zbib, L. Firm performance during the COVID-19 crisis: Does managerial ability matter? *Financ. Res. Lett.* **2022**, *47*, 102720. [\[CrossRef\]](#)
69. Balatsky, E.V. Return on equity as an economic growth driver. *Econ. Soc. Chang. Fac. Tr. For.* **2021**, *14*, 26–40. [\[CrossRef\]](#)
70. Zimon, G.; Tarighi, H. Effects of the COVID-19 global crisis on the working capital management policy: Evidence from Poland. *J. Risk Financ. Manag.* **2021**, *14*, 169. [\[CrossRef\]](#)
71. Durana, P.; Michalkova, L.; Privara, A.; Marousek, J.; Tumpach, M. Does the life cycle affect earnings management and bankruptcy? *Oeconomia Copernican.* **2021**, *12*, 425–461. [\[CrossRef\]](#)
72. Stefko, R.; Vasanicova, P.; Jencova, S.; Pachura, A. Management and economic sustainability of the Slovak industrial companies with medium energy intensity. *Energies* **2021**, *14*, 267. [\[CrossRef\]](#)
73. Cerkovskis, E.; Gajdosikova, D.; Ciurlau, C.F. Capital structure theories: Review of literature. *Ekon.-Manaz. Spektrum* **2022**, *16*, 12–24.
74. Jencova, S.; Petruska, I.; Lukacova, M. Relationship between roa and total indebtedness by threshold regression model. *Montenegrin J. Econ.* **2021**, *17*, 37–46. [\[CrossRef\]](#)
75. Mouandart, S.R. Is Foreign Debt Management in Gabon Efficient? *Manag. Dyn. Knowl. Economy* **2022**, *10*, 82–94.
76. Rahmati, Z.; Noshadi, A.; Bozorgmehr, S. Studying the Variations in Ratio of Capital Resources toward the Equity Return in Tehran Stock Exchange. *J. Life Sci.* **2012**, *9*, 664–669.
77. de Rezende, F.A.C.; de Albuquerque, A.A.; de Souza, G.H.S. Solvency index at differentiated levels of corporate governance according the models from Elizabetsky (1976), Kanitz (1978), Matias (1978) and Altman (1979): The case of the Brazilian electricity sector. *Ind. J. Man. Prod.* **2014**, *5*, 921–946. [\[CrossRef\]](#)
78. Cai, J.; Landriault, D.; Shi, T.; Wei, W. Joint insolvency analysis of a shared map risk process: A capital allocation application. *N. Am. Actuar. J.* **2017**, *21*, 178–192. [\[CrossRef\]](#)
79. Centes, J.; Krajcovic, M. Consideration of the effectiveness of flat-rate compensation for damage in insolvency proceedings. *Entrep. Sustain. Issues* **2019**, *7*, 1435–1449.
80. Krulicky, T.; Horak, J. Business performance and financial health assessment through artificial intelligence. *Ekon. Manaz. Spektrum* **2021**, *15*, 38–51.
81. Mai, X.; Chan, R.C.; Zhan, C. Which sectors really matter for a resilient Chinese economy? A structural decomposition analysis. *Sustainability* **2019**, *11*, 6333. [\[CrossRef\]](#)
82. Narayanamurthy, G.; Tortorella, G. Impact of COVID-19 outbreak on employee performance—moderating role of industry 4.0 base technologies. *Int. J. Prod. Econ.* **2021**, *234*, 108075. [\[CrossRef\]](#)
83. Davidescu, A.A.; Apostu, S.A.; Stoica, L.A. Socioeconomic Effects of COVID-19 Pandemic: Exploring Uncertainty in the Forecast of the Romanian Unemployment Rate for the Period 2020–2023. *Sustainability* **2021**, *13*, 7078. [\[CrossRef\]](#)
84. Jha, A. Vulnerability of construction workers during COVID-19: Tracking welfare responses and challenges. *Indian J. Labour Econ.* **2021**, *64*, 1043–1067. [\[CrossRef\]](#)

85. Ortensi, L.E.; di Belgiojoso, E.B. Welfare and social protection: What is the link with secondary migration? Evidence from the 2014-crisis hit Italian region of Lombardy. *Popul. Space Place* **2022**, *28*, e2469. [CrossRef]
86. Fetzer, T.; Hensel, L.; Hermle, J.; Roth, C. Coronavirus perceptions and economic anxiety. *Rev. Econ. Stat.* **2021**, *103*, 968–978. [CrossRef]
87. Karmazin, B. Rychle komentare: Ceny vstupov posunuli infláciu na 9%. Narodna banka Slovenska. 2022. Available online: <https://nbs.sk/dokument/4de47406-2779-4b8e-8d76-a4e0d2a79b96/stiahnut?force=false/> (accessed on 24 May 2022).
88. Karmazin, B. Rychle komentare: Regulované ceny potiahli infláciu nad 8%. Narodna banka Slovenska. 2022. Available online: <https://nbs.sk/komentare/regulovane-ceny-potiahli-infláciu-nad-8/> (accessed on 28 May 2022).
89. Assaad, R.; El-adaway, I.H. Guidelines for responding to COVID-19 pandemic: Best practices, impacts, and future research directions. *J. Manag. Eng.* **2021**, *37*, 06021001. [CrossRef]
90. Araya, F. Modeling the spread of COVID-19 on construction workers: An agent-based approach. *Saf. Sci.* **2021**, *133*, 105022. [CrossRef] [PubMed]
91. Vandana; Singh, R.; Yadav, D.; Sarkar, B.; Sarkar, M. Impact of Energy and Carbon Emission of a Supply Chain Management with Two-Level Trade-Credit Policy. *Energies* **2021**, *14*, 1569. [CrossRef]
92. Vrbovsky, R. Rychle komentare: Rast cien nehnuteľností pokračuje aj na začiatku roku 2022. Narodna banka Slovenska. 2022. Available online: <https://nbs.sk/komentare/rast-cien-nehnuteľností-pokračuje-aj-na-začiatku-roku-2022/> (accessed on 18 March 2022).
93. Lam, W.S.; Lam, W.H.; Jaaman, S.H.; Liew, K.F. Performance evaluation of construction companies using integrated entropy–fuzzy VIKOR model. *Entropy* **2021**, *23*, 320. [CrossRef]
94. Ayat, M.; Malikah; Kang, C.W. Effects of the COVID-19 pandemic on the construction sector: A systemized review. *Eng. Constr. Archit. Manag.* **2021**. [CrossRef]
95. Gillman, M. Macroeconomic trends among Visegrad countries, EU Balkans, and the US, 1991–2021. *Cent. Eur. Bus. Rev.* **2021**, *10*, 1–20. [CrossRef]
96. Iqbal, M.; Ahmad, N.; Waqas, M.; Abrar, M. COVID-19 pandemic and construction industry: Impacts, emerging construction safety practices, and proposed crisis management. *Braz. J. Oper. Prod. Manag.* **2021**, *18*, 1–17. [CrossRef]
97. Alsamhi, M.H.; Al-Ofairi, F.A.; Farhan, N.H.; Al-ahdal, W.M.; Siddiqui, A. Impact of COVID-19 on firms' performance: Empirical evidence from India. *Cogent Bus. Manag.* **2022**, *9*, 2044593. [CrossRef]