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## The Impact of the COVID-19 Pandemic on the Economic and Financial Situation of the Micro and Small Enterprises from the Construction and Development Industry in Poland

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Submitted 11/03/21, 1st revision 14/04/21, 2nd revision 11/05/21, accepted 30/06/21

Artur Paździor<sup>1</sup>, Marta Sokół<sup>2</sup>, Aleksandra Styk<sup>3</sup>

**Abstract:**

**Purpose:** The main purpose of the article was to assess the impact of the COVID-19 pandemic on the financial situation of micro and small enterprises in the construction and development industry in Poland.

**Design/Methodology/Approach:** The research was conducted in February 2021 by means of a survey on a group of 100 randomly selected, representative samples of micro and small entrepreneurs from the construction and development industry in Poland. The survey questionnaire was developed in the form of 15 record and substantive single or multiple choice questions. Another method that was used for the research was the review and analysis of bibliographic resources.

**Findings:** The conducted research shows that as a result of the COVID-19 pandemic, the economic and financial situation of micro and small enterprises in Poland has deteriorated. However, this was not only due to a reduction in demand. A large part of the problems resulted from the disruption of material logistics chains, which contributed to problems with access to professional equipment (fixed assets) and financial chains, which was reflected in the growing concerns of entrepreneurs about the timely inflow of receivables from recipients.

**Practical Implications:** The pandemic, affecting almost all economic entities, destabilizes their functioning and raises concerns about the future. Support in a more difficult situation granted to entrepreneurs by the government may significantly burden the state budget, and the resignation from investments may hinder economic growth. A significant drop in demand for construction services and concerns about an increase in the prices of materials and wages and salaries may lead to a price fight between entities. Due to the difficulty in predicting the long-term effects of the pandemic, it seems necessary to apply for economic protection outside traditional crisis management systems.

**Originality/Value:** With the use of an original, authors' survey conducted on a representative research sample, current issues were raised, concerning not only Poland, but also the whole world.

**Keywords:** COVID-19 pandemic, micro and small enterprises, construction industry, economic and financial situation, surveys.

**JEL codes:** G30, C10.

**Paper Type:** Research article.

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<sup>1</sup>Faculty of Management, Department of Finance and Accounting, Lublin University of Technology, e-mail: [a.pazdzior@pollub.pl](mailto:a.pazdzior@pollub.pl)

<sup>2</sup>Same as in 1, e-mail: [m.sokol@pollub.pl](mailto:m.sokol@pollub.pl)

<sup>3</sup>Same as in 1, e-mail: [a.styk@pollub.pl](mailto:a.styk@pollub.pl)

## **1. Introduction**

Every business entity operates in a specific environment that determines its activities. The enterprises' financial condition depends not only on internal circumstances but also on the micro and macroeconomic situation. The environment can induce both positive and negative incentives affecting the company's functioning, constituting a source of opportunities and threats for its current and future activities (Zastempowski *et al.*, 2018). Contemporary socio-economic reality is a multifaceted mechanism strongly influenced by globalization processes. The increasing interdependence and integration of countries, societies, economies or cultures undoubtedly entail many positives, but also dangers. Currently, the COVID-19 pandemic is among the significant factors negatively affecting the functioning of almost all global economies. Infectious disease epidemics not only affect global health but simultaneously cause widespread socio-economic disruption and losses (Ahmad *et al.*, 2020).

The SARS-CoV-2 virus first appeared in China in December 2019 (Chen *et al.*, 2020). Following rapid spread, increasing numbers of infected cases and mortality, it was recognized as an international threat and on March 11, 2020, the World Health Organization declared the COVID-19 a pandemic (WHO, 2020). Hence, this caused a sudden reaction from investors in the world's major stock exchanges (Nuno, 2020; Liu *et al.*, 2020), attributing the COVID-19 pandemic as a black swan (Antipova, 2020; Goodell, 2020). Unexpected severe declines in stock market indices and imposed restrictions to reduce infection rates have caused a severe economic downturn worldwide (Kozicki *et al.*, 2020; Grima *et al.*, 2020).

Limiting commercial and service activities, as well as cultural and educational, cancellation of air connections, the closing of borders, recommendation of remote work or restrictions on free movement (Regulation of the Minister of Health, 2020) had a significant impact on economic prosperity in Poland as well. The pandemic impact affected all sectors, but to varying degrees due to their different characteristics. By far the greatest difficulties were observed in the service sector, followed by retail trade and industry. Whereas the lowest - in the construction industry (Rokicki, 2021). The Polish construction industry condition thus appears to be relatively good compared to other industries (CSO, 2021). Nonetheless, the economic downturn is also being felt by construction entities, but it is speculated that the strongly negative effects of the pandemic may appear with some delay (PZPB Report, 2020). This is due to the fact that during the pandemic, construction sites were not closed, so work was ongoing all the time. The situation may be somewhat different for micro and small enterprises, whose activities are often not based on long-term contracts, but on making smaller investments.

The paper aims to determine the impact of the COVID-19 pandemic on micro and small businesses in the construction and development industry. The conducted research will provide answers to the questions of what difficulties entrepreneurs are

experiencing, how they counteract the pandemic's negative effects and what are their concerns and predictions as to how the situation will develop in the next six months, i.e., January-June 2021.

## **2. The Situation in the Construction and Development Industry before and during the Pandemic**

Construction plays a significant role in each country's economy (Geise *et al.*, 2021). The construction industry's contribution to the national economy is directly related to its level of development (Lopes, 2012). The construction sector is also one of the largest consumers of intermediate products such as raw materials, chemicals, electrical and electronic equipment, and intermediate services. In addition to its economic importance, it is also significantly important for the quality of the society lives (COM(2012) 433 final, 2012).

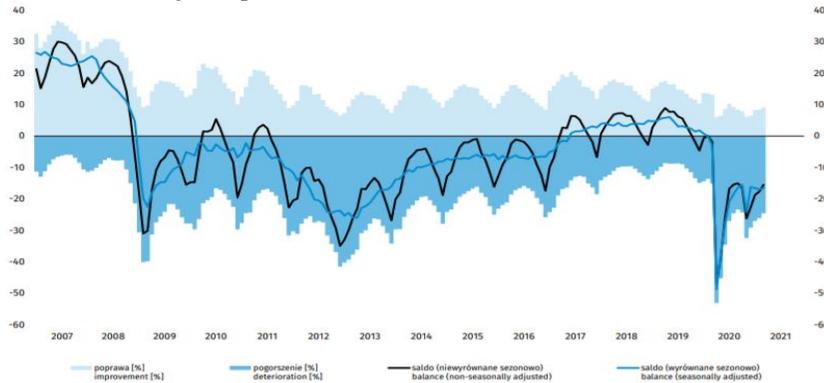
In Poland, the construction industry is one of the key economic sectors. Over the period 2009-2019, it accounted for about 6 - 8% of GDP, with 6.6% in 2019 (CSO, 2009-2019). In employment terms, the number of people working in construction was 997,600 in 2019, accounting for 6.1% of the total workforce. Considering the period 2009-2019, there was an 11% increase in the number of employees in construction, with the number of total employees increasing by 16.9% (CSO, 2009-2019).

The construction and assembly production value realized in 2019 is at the level of 243.1 billion PLN, which is an increase of 5.1% compared to the previous year, and 29.50% compared to 2015. However, compared to 2010, this is an increase of 38.50% (CSO, 2019). Considering the past five years, the construction and assembly production value on a y/y terms, with the exception of 2016, shows an upward trend, with the value reached in 2019 reaching a record level (CSO, 2020).

Regarding the structure, it can be concluded that the Polish construction industry is dominated by micro companies. Enterprises with up to 9 employees account for 97% of the present enterprises in this industry. Another 2.6% are enterprises employing between 10 and 49 employees. The remaining 0.4% are enterprises with more than 50 employees, including 50 to 249 employees (0.31%); 250 to 999 employees (0.026%); more than 1000 employees (0.004%) (CSO, 2020). However, it is important to remember that enterprises with more than 50 employees employ about one-quarter of the total construction workforce (PZPB Report, 2020).

An important issue concerning the situation of the construction sector is also the investigation of the economic situation, which reflects the sentiment of construction entities about their economic situation. Figure 1 presents the general economic situation indicator for the construction section.

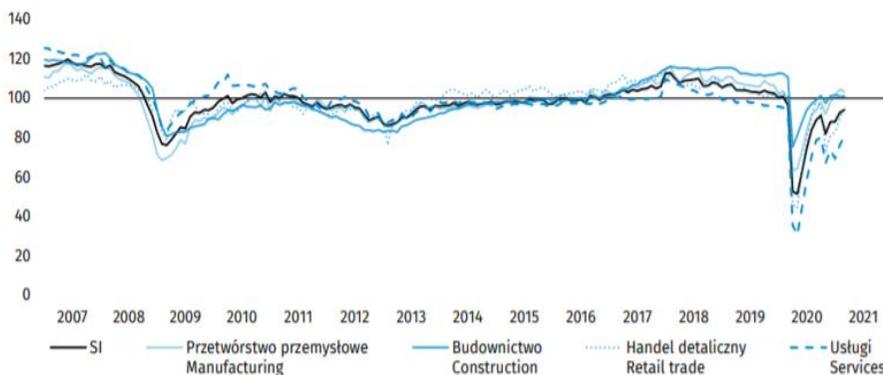
**Figure 1.** Indicator of the general economic situation in the construction sector



**Source:** CSO, *Economic situation in manufacturing, construction, trade and services 2007-2021 (February 2021)*.

Analyzing the 2009-2019 construction boom determined by the seasonally adjusted balance, it can be observed that the index is below zero, which may indicate that entrepreneurs perceive the construction industry as difficult (PZPB Report, 2020). In contrast, positive values have only been observed since the second quarter of 2017. In 2019, meanwhile, the indicator reaches the highest value after which it begins to decline. In the first quarter of 2020, a drastic drop in the indicator is seen which is a consequence of the COVID-19 pandemic unexpected announcement. Figure 2. shows the CSO's overall synthetic economic situation indicator for Poland.

**Figure 2.** CSO general economic situation indicator for Poland (SI) and its decomposition



**Source:** CSO, *Economic situation in manufacturing, construction, trade and services 2007-2021 (February 2021)*.

Following the WHO's announcement of the COVID-19 pandemic and the government's imposition of lockdown was a drastic economic downturn. In May, the indicator reached only 49.3. However, it should be noted that there were

significant differences across sectors. In 2020, the largest economic downturn by far occurred in the services sector (the average indicator for March-June 2020 (was 44.7), followed by retail trade (62.3 and 64.1), industry (75.6), and the smallest in construction (89.6). Firstly, this may be due to the fact that the pandemic did not mean that construction companies stopped their activities. Investments that had been started could be continued with proper sanitation procedures (Rokicki, 2021). Secondly, construction projects are often based on long-term contracts and therefore companies may have secured contracts even before the COVID-19 pandemic (PHPB Report, 2020).

The situation for micro and small companies may be slightly worse, as their business is often based on fulfilling smaller, often local contracts.

### **3. Purpose, Hypotheses and Research Questions**

The main objective of the considerations conducted in this publication is to assess the impact of the COVID-19 pandemic on the economic and financial situation of micro and small enterprises in the construction and development industry in Poland. This objective was accomplished through the questionnaire surveys analysis addressed to a randomly selected representative respondent group. For the purpose of the analyses conducted in the aforementioned research, the main hypothesis was also set as follows: despite the relatively good situation in the construction and development industry, micro and small enterprises were negatively affected by the COVID-19 pandemic. The first subsidiary hypothesis is that COVID-19 had the greatest impact on the economic and financial situation of smaller sized companies with a relatively short history of operating in the construction services market. The second auxiliary hypothesis is based on the assumption that the negative effects of the COVID-19 pandemic have been largely neutralized by micro and small enterprises' use of crisis shield support systems.

The purpose and research hypotheses are complemented by the conclusive and complementary research questions posed in this research paper with the following content:

- Was the impact of the pandemic symmetrically distributed across enterprises of different sizes, i.e. with different revenues and number of employees?
- Did the impact of the pandemic vary across enterprises with different operating histories?
- Do enterprises use support systems dedicated to enterprises affected by the COVID-19 pandemic?
- Did the pandemic change the development plans of enterprises?
- Are more stable entities, i.e. larger and with a richer history, more optimistic about the future economic and financial situation?

#### 4. Description of the Research Tool

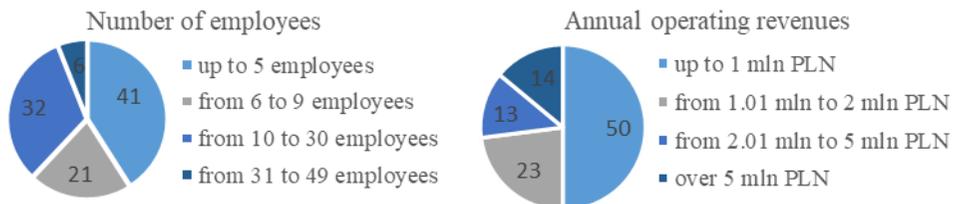
The research method that was used for the purpose of this paper is the survey method. The research technique used to conduct the survey is a self-developed questionnaire. The survey had 15 metric and content questions either single or multiple choice. The questions related to business operations both before and during the pandemic. Another method that was used for the research was the review and analysis of bibliographic resources. It was used to familiarize and explore the topic and write the theoretical part of the paper. The survey questionnaire is included in Appendix 1.

The dependence assessments of the answers given in relation to the questions from the metric were made using the Chi-square test with Yates correction, which allowed to verify the hypothesis of no dependence between the answers in favor of the alternative hypothesis that the dependence exists. The strength of the relationship was assessed using Cramer's and gamma coefficient, which was also used to determine the direction of the relationship (Sobczyk, 2007).

#### 5. Research Material and its General Characteristics

The research material in this paper consisted of people randomly selected from all over Poland. The research was conducted from 01/02/2021 to 28/02/2021. The survey involved 100 representatives of construction and development enterprises in Poland. The surveyed group was dominated (62%) by small-sized micro enterprises with no more than 9 employees. The remaining part (38%), were small enterprises, i.e., employing between 10 and 49 people. Half of the surveyed group were entities generating no more than 1 million PLN (220 thousand EUR) of revenue per year. Turnover in the range from 1 million to 5 million PLN (220 thousand EUR to 1.1 million EUR) was generated by 36% of companies. Revenues above 5 million PLN were generated by only 14 companies (Figure 3).

**Figure 3.** *The size of the surveyed enterprises*

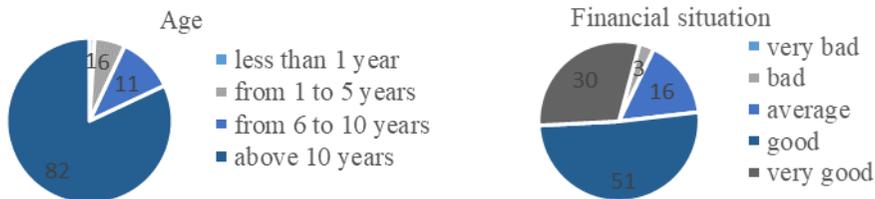


**Source:** *Own creation based on survey results.*

The vast majority (93%) of the surveyed entities are mature companies, operating in the market for at least 6 years. The history of 6 enterprises ranges from 1 to 5 years, and only 1 enterprise operates for less than 1 year (Figure 2). Due to the relatively long operation of most companies, their financial situation before the

pandemic was mostly stable. According to the subjective assessment, 51% of surveyed entities described their situation as good, and 30% even as very good. The average situation was found in 16% of entities, and only 3% in a bad situation (Figure 4).

**Figure 4.** Age of the surveyed enterprises and financial situation before the pandemic

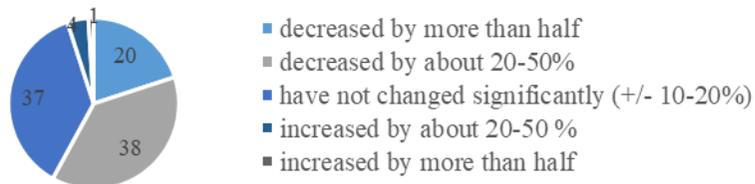


*Source:* Own creation based on survey results.

## 6. Research Results

The pandemic outbreak has negatively affected the financial situation of most surveyed enterprises. For more than half of those surveyed, sales revenue decreased by at least 20% during the pandemic. One-fifth of respondents showed a decrease in sales by more than half (Figure 5).

**Figure 5.** Impact of the pandemic on the enterprises' financial situation



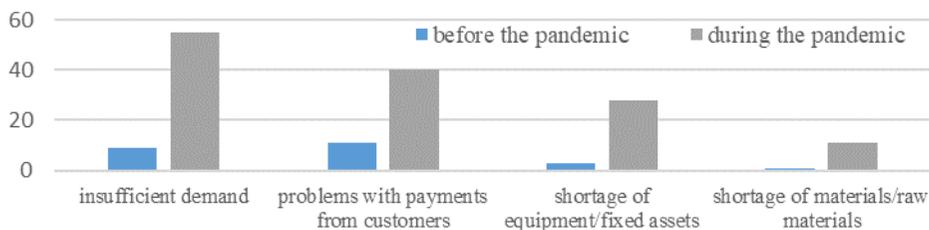
*Source:* Own creation based on survey results.

The deterioration of the economic and financial situation may have been due to the intensification of barriers restricting the enterprises' activities. First of all, entrepreneurs with the outbreak of the pandemic experienced a significant reduction in demand and consequently reduced revenues. Large parts of the problems also resulted from the material logistics chains disruption, which contributed to problems with access to professional equipment (fixed assets) and financial chains. This was reflected in the growing concerns of entrepreneurs about the payment of the timely receivables from customers (Figure 6).

The pandemic has also negatively impacted entrepreneurs' investment plans. As a result of unfavorable phenomena, among 60% of respondents who declared investment intentions, 77% partially or completely abandoned them (Figure 7).

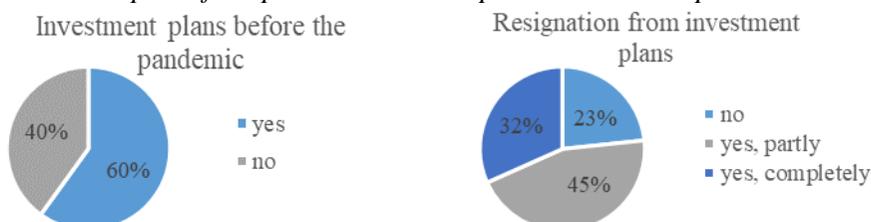
These plans were mainly related to the purchase of fixed assets, increasing employment and expanding the business profile (Figure 8).

**Figure 6. Barriers limiting the enterprises' activities**



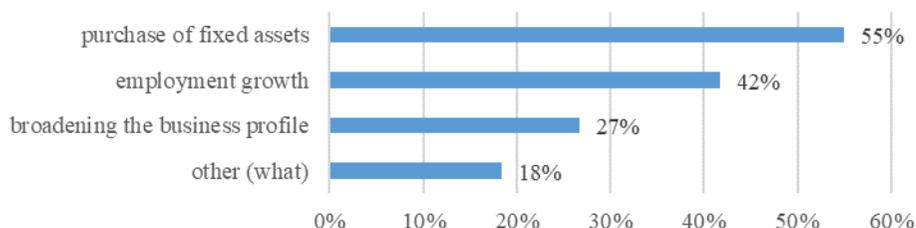
*Source: Own creation based on survey results.*

**Figure 7. The impact of the pandemic on enterprises' investment plans**



*Source: Own creation based on survey results.*

**Figure 8. Type of investment plans before the pandemic**

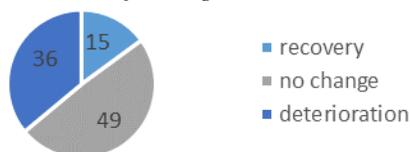


*Source: Own creation based on survey results.*

Due to the significant economic constraints caused by the pandemic, the government has offered entrepreneurs support. A support package called the crisis shield was introduced, proving to be a real help to the surveyed enterprises. 80% of the surveyed enterprises benefited from the crisis shield. Mainly entrepreneurs applied for exemptions from social security contributions, preferential loan granting and wage subsidies. Among the reasons why the rest of the respondents did not take advantage of assistance under the crisis shield, the most frequently given were failure to meet the conditions for receiving assistance and difficulties with formalities.

Due to the pandemic, entrepreneurs felt real concerns about the future. The greatest concern was related to increases in material prices and wage levels, while serious concerns about liquidation or lower demand for services were shown by a few of the surveyed enterprises. As a result of the above concerns, entrepreneurs' predictions were not one-way. Nearly half of the respondents believed that their situation in the next six months would be stable and would not change significantly, 36% showed concerns about deterioration, and 15% of entrepreneurs were optimistic about the future, hoping for an improvement in their situation (Figure 9).

**Figure 9.** Forecasts of changes in the overall enterprise situation



*Source:* Own creation based on survey results.

## 7. Statistical Analysis

The Chi-square test (with Yates' correction in the case of classes smaller than 10) was used to assess the relationship of the answers provided to the questions in the metric. For significant test results, the null hypothesis of no relationship between responses was rejected in favor of the alternative hypothesis that a relationship exists. The strength of the relationship was assessed using Cramer's coefficient and the strength and direction of the relationship using gamma coefficient (Sobczyk, 2007). The results of the applied analysis are presented in Tables 1 and 2.

**Table 1.** Significant Chi-square test results for question number 6 along with an assessment of the relationship strength and direction

Question	Metric	Chi-square	p-value	gamma coef	Cramer's coef
How did the pandemic (March-December 2020) affect the company's revenues compared to the same period last year?	age of the enterprise	16.06	0.04159	-0.154	0.283

*Source:* Own creation based on survey results.

**Table 2.** Significant Chi-square test results for questions No. 14.02, No. 14.05, No. 14.06 with an assessment of relationship strength and direction

Question	Metric	Chi-square	p-value	gamma coef	Cramer's coef
Increase in material costs	age of the enterprise	15.55	0.049327	0.262	0.279
Problems with employees	sales revenues	34.26	0.000613	0.225	0.338

<b>(redundancies, holidays, closed borders)</b>	number of employees	25.31	0.013410	0.278	0.290
<b>Increase in salary costs</b>		31.22	0.001820	0.234	0.323

*Source: Own creation based on survey results.*

## 8. Conclusions

The statistical analysis showed that the revenue level during the pandemic (March-December 2020), compared to the same period last year, depended to some extent on the age of the enterprise, with a negative correlation to be noted. Additionally, a significant effect of the basic categories describing the surveyed companies on the real concerns about further consequences of the pandemic crisis was observed.

The research shows that as a result of the COVID-19 pandemic, the economic and financial situation of micro and small enterprises in Poland has deteriorated. However, this was not only due to a reduction in demand. A large part of the problems resulted from the material logistics chains being disrupted, which contributed to problems with access to professional equipment (fixed assets) and financial chains, reflected in the growing concerns of entrepreneurs about the timely payment of receivables from customers.

For more than half of respondents, sales revenue decreased by at least 20% during the pandemic. One-fifth of respondents showed a decrease in sales by more than half. As a result of the negative phenomena, 77% of the surveyed enterprises have partially or completely cancelled their investment plans. Although it is reassuring that 23% do not intend to cancel plans mainly related to the purchase of fixed assets, increasing employment and extending the business profile.

The anti-crisis shield offered by the government and local authorities was real support for Polish enterprises. 80% of the surveyed companies took advantage of this opportunity. As part of this support, the surveyed enterprises mainly benefited from an exemption from social security contributions (65 respondents) and a preferential loan of up to 5,000 PLN (1,100 EUR) (40 enterprises).

However, few of the surveyed enterprises indicate serious concerns about liquidation or lower demand for services. The greatest concerns were related to increases in material prices and salary levels.

It is difficult to identify a clear trend among respondents. Nearly half of the respondents claim that the economic and financial situation of their enterprises will not change in the next six months. 36 are concerned about the economic downturn, while 15 believe the situation will improve.

The conducted analysis enabled the posed research questions to be answered. The conclusion is that no significant correlation was observed between the duration of

operation in the market, the employees' number and the sales revenue level, and the perceived impact of the pandemic.

The observed results indicate that the COVID-19 pandemic is global in economic terms. A pandemic affects almost all economic entities, destabilising their functioning and raising fears about the future. Due to the difficulty of predicting the pandemic's long-term effects, it seems necessary to apply for economic protection outside traditional crisis management schemes.

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