

# Evolution of globalisation and firm internationalisation under crisis conditions – the perspective of Polish exporters amidst the COVID-19 pandemic in 2020-2021<sup>1</sup>

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## Abstract

The COVID-19 pandemic triggered an economic crisis of a global nature, which – among its many consequences – had a significant impact on international economic activity carried out in various forms. Thus, the processes of globalisation, which on the one hand allow diversification of international activities of the enterprise, at the same time contribute to the transmission of economic shocks. The authors attempt to provide an initial answer to the research question of how Polish firms conducting export activities with various degrees of advancement perceive the impact of the pandemic crisis, as well as their reactions to this crisis. The article presents the results of quantitative research conducted in June 2022 among 120 Polish companies from the manufacturing sector.

**Keywords:** exporters, COVID-19 pandemic, economic crisis, firm internationalisation, crisis resilience.

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## **Ewolucja globalizacji a umiędzynarodowienie przedsiębiorstwa w warunkach kryzysu – perspektywa polskich eksporterów na pandemię COVID-19 w latach 2020–2021**

### **Streszczenie**

Pandemia COVID-19 zapoczątkowała kryzys gospodarczy o charakterze globalnym, który – wśród swoich rozmaitych konsekwencji – znacząco wpłynął na międzynarodową działalność gospodarczą prowadzoną w różnych formach. Tym samym procesy globalizacji, które z jednej strony pozwalają na dywersyfikację międzynarodowych działań przedsiębiorstwa, jednocześnie przyczyniają się do transmisji szoków gospodarczych. Autorzy podejmują próbę odpowiedzi na pytanie badawcze, w jaki sposób polscy przedsiębiorcy prowadzący działalność eksportową o różnym stopniu zaawansowania postrzegają wpływ kryzysu pandemicznego, jak i swoje reakcje na ten kryzys. W artykule przedstawiono wyniki badań ilościowych przeprowadzonych w czerwcu 2022 pośród 120 polskich przedsiębiorstw z sektora przetwórstwa przemysłowego.

**Słowa kluczowe:** eksporterzy, pandemia COVID-19, kryzys gospodarczy, umiędzynarodowienie przedsiębiorstw, odporność na kryzys

One of the streams within the discussion about the economic manifestations and consequences of the COVID-19 pandemic pertains to the international activity of companies, which, paradoxically, can be also regarded as one of the key factors contributing to a significant level of global linkages in terms of economic, environmental or medical threats (Wolf 2020). Hence, it comes as no surprise that the academic debate sometimes compares the current crisis and its negative impact on international business to the financial crisis of 2008 (Walsh 2020). The financial crisis of the end of the first decade of the 21st century has attracted the attention of economics and finance researchers trying to explain its long-term consequences (Claessens et al. 2010). The COVID-19 pandemic created a major global disruption affecting many areas of human activity worldwide, including international business (Seric et al. 2020; Walsh 2020). However, its effects on globalisation at large, and firm internationalisation in particular, are still uncertain (Gorynia 2021; Wolf 2020).

Since one of the key questions in research on firm internationalisation is whether the increase in internationalisation is beneficial for firm performance (Matysiak, Bausch 2012). It is reasonable to consider the role of the external environment in this relationship, because the crisis has a tangible impact on firm performance (Antonioli et al. 2011; Berrill, Kearney 2011; Teece et al. 1997; Wu 2010).

The objective of this article is to explore the impact of the COVID-19 pandemic on Polish exporters. In particular, the authors attempt to answer the research question of how the level of internationalisation affects both the affectedness and responses to the pandemic crisis. This article is structured as follows. In the first section, the effects of the COVID-19 crisis on globalisation are briefly reviewed. Subsequently, based on research in the fields of international business and economic crises, a number of expectations are formulated regarding the role of internationalisation in the context of the pandemic crisis. Next, the research methodology and empirical findings are presented. The article closes with a conclusion and some implications of the obtained results.

## **Conceptual overview**

### **Globalisation and the pandemic crisis**

Globalisation has led to increased international trade and foreign direct investment (FDI) in recent decades, which coincided with such phenomena as reduction of global poverty (Walsh 2020). At the same time, however, far-reaching inequality, both between countries and within individual economies (Sandbu 2020), remained one of the major challenges for the global economy. As nations gradually became economically more interdependent, international political stability also increased at a global level.

Globalisation experienced stages of growth, contraction and mutation, in line with structural changes in the international economic and geopolitical landscape, with recent developments including the rise of emerging economies and firms, particularly those from Asia (Olivié, Gracia Santos 2020). The most recent COVID-19 related turbulence significantly affected international business operations, and simultaneously reinforced the phenomena shaping globalisation already before the pandemic. In fact, fragmented supply chains and limited mobility of people strengthen such factors as the reinforcement of protectionism securing national supply of critical goods, or stricter immigration control (Legrain 2020). Accordingly, an incremental path of globalisation cannot be taken for granted. While some scholars argue that globality is irreversible in the sense that no country or group can isolate itself from others due to the multitude of economic, cultural or political ties (see e.g. Beck 2009), temporary or permanent contractions of international economic activity have long co-existed with the aforesaid interconnectedness (Benito, Welch 1997).

Therefore, the question arises as to what impact of the pandemic crisis on the phenomenon of globalisation can be expected, and what this effect is contingent upon. According to the World Health Organization, globalisation can be defined as increased interconnectedness and interdependence of peoples and countries (WHO 2020). Globalisation has been discussed from the perspective of its potential to boost economic growth and contribute to poverty reduction, particularly in the developing world (Bhagwati, Srinivasan 2002; Catão, Obstfeld 2019; Dollar 2001; Stiglitz 2006). Even if the related empirical literature is mixed, there is sound evidence that trade openness and economic integration are contributing positively to growth (see e.g., Candelon et al. 2018), while growth and improvement in living standards lead in turn to poverty reduction, particularly in emerging economies (Bhagwati 2007).

However, regarding the trajectories of globalisation in the context of the pandemic, Gorynia et al. (2022) discuss several scenarios. Firstly, what they refer to as disrupted globalisation assumes that there will be a return to pre-pandemic configurations given the extensive financial and non-financial public support for the affected sectors. In the second scenario of de-globalisation, overall decreases in trade and FDI can be expected, with significant divestments and a reinforced focus on home operations of companies, shortening of value chains and protection of domestic sectors by governments. Finally, the most nuanced scenario of a rebalanced globalisation suggests that the diversifica-

tion of international supply sources would continue, with the firms' efforts to increase resilience being supported by more interventionist government policies and selective sectoral measures.

### **Firm internationalisation and crisis symptoms**

As the previous section indicates, the effects of the pandemic on globalisation are ambiguous and far from obvious. Therefore, a vital question arises as to how the pandemic impact interacts with various levels of micro-level internationalisation. In other words, it is crucial to establish whether firm-level internationalisation is beneficial in terms of firm affectedness and the ability to react to the crisis, or not, and in what specific aspects.

While there are numerous empirical premises regarding the negative impact of the crisis on the competitive position of an enterprise, on the other hand, there are enterprises that are able to improve their competitiveness, even in the most unfavourable external conditions (Tushman, Anderson 1986). The level of vulnerability to the crisis and the ultimate impact of the crisis situation on the performance of the enterprise may depend, among others, on the country of origin (Berrill, Kearney 2011), the age of the enterprise (Burlita et al. 2011; Latham 2009; Shama 1993), the industry sector (Zelek, Maniak 2011), the implemented competitive strategy (Latham, Braun 2010), the size of the enterprise (Burlita et al. 2011), the resources owned (Teece et al. 1997; Türel et al. 2012; Wu 2010), and above all, the degree of internationalisation (Antonioli et al. 2011). This article concentrates on the latter aspect.

Under crisis conditions, a wide network of international operations may enable companies to react faster to the changes in the external environment, for example by taking advantage of the differences in the intensity of crisis occurrence between different markets, in which a given company is present (Kogut, Kulatilaka 1994; Roberts, Tybout 1997). This may be an advantage as compared to local companies, especially small and medium-sized enterprises (SMEs), which are struggling with economic crises, especially in such aspects as a decline in orders and sales, delayed or canceled payments (Orłowski et al. 2010), a decline in goodwill and an increase in costs (Brojak-Trzaskowska, Porada-Rochoń 2012; Nečadová, Breňová 2010; Grądzki, Zakrzewska-Bielawska 2009) or deterioration of financial performance (Michoń 2011; Scholleova 2012). On the other hand, the conducted export activity may help to minimise the negative effects of the crisis and increase the ability to survive (Wołodkiewicz-Donimirski 2010).

Therefore, it can be expected that the level of internationalisation, both in terms of its depth (i.e. intensity of servicing foreign markets) and breadth (i.e. the number of foreign markets served), will play a moderating role in relation to the effects of the pandemic crisis for companies. Thanks to a stronger international engagement, these firms will be able to compensate external shocks to a larger extent by recurring to different sources of demand. On the other hand, the companies may benefit from a more diversified sourcing and production base. Therefore, it can be expected that with greater involvement of the companies in international activities, the intensity of pandemic phenomena, which reflects the degree of impact from the crisis on them, will be lower in the case of more

internationalised companies. Therefore, it can be assumed that the depth and breadth of internationalisation will have a negative impact on the company's susceptibility to the impact of the crisis caused by the COVID-19 pandemic.

### **Firm internationalisation and reactions to crisis**

For companies with a proactive orientation, the period of crisis may provide an opportunity for expansion (Sauvant et al. 2010). Zelek and Maniak (2011) indicate that local SMEs most often show a tendency to defensive rather than offensive reactions to the crisis. Moreover, in the context of Polish SMEs as a post-transformation economy, there is evidence of a relatively low perceived effectiveness of expansion into new markets in times of crisis (Burlita et al. 2011). Symptoms of the crisis, such as fluctuations in exchange rates, sometimes even induce companies to limit their export activities (Kowalczyk 2012).

However, the situation may be different for the companies with better resources (Pantzalis 2001; Mishra, Gobeli 1998; Kotabe et al. 2002). Basing on the resource theory, researchers generally agree that having more developed skills by firms, such as R&D intensity or marketing intensity, can further enhance the positive impact of internationalisation on firm performance (Kotabe et al. 2002; Mishra, Gobeli 1998). Indeed, there are some indications that the propensity to export under crisis conditions may positively interact with having higher capacities compared to competitors (Lee et al. 2009). In addition, researchers found that companies facing economic crises can improve their ability to cope with uncertainty and perform better if they invest in knowledge development (Jansson et al. 2010).

Therefore, it can be expected that involvement in internationalisation will be associated with the desire not to limit proactive actions in times of economic crisis and to use this situation as a foundation for international growth in a post-pandemic perspective. Therefore, it can be argued that the depth and breadth of internationalisation will be positively related to proactive rather than reactive actions taken by companies in response to COVID-19.

## **Materials and Methods**

### **Data collection and sample**

The sampling for the study was based on data on Polish exporters from the BISNODE database and embraced firms meeting, *inter alia*, the following criteria:

- majority-owned by Polish shareholders;
- active in manufacturing sectors;
- exporting to at least 2 countries and showing at least 10% of foreign sales to total sales (FSTS);
- employing at least 10 people.

Based on the criteria, 358 randomly selected firms with an equal split of small, medium and large enterprises and low, mid and high-tech manufacturing were contacted by

a professional market research agency. Primary data were gathered from the *computer assisted telephone interviews* (CATI) with the owners, top managers or sales or export-related managers of 120 firms, conducted between June and July 2022. This resulted in a response rate of 34%.

The study follows up on an earlier survey from 2020 by Gorynia and Trąpczyński (2022), who explored some first descriptive statistics pertaining to the affectedness and responses to crisis by Polish exporters with diverse levels of internationalisation. The current sample characteristics are presented in *Table 1*. The respondents answered a number of questions on export strategy, business models and internationalisation performance, as well as a block of questions devoted to the COVID-19 pandemic, which is the focus of the present article.

### Data measurement

As for how to measure the symptoms of the crisis, according to the selected previous studies on the effects of the economic crisis (e.g. Burlita et al. 2011; Zelek, Maniak 2011) the authors asked the respondents about the susceptibility of their company to the limitation or suspension of sales due to the changes in regulations, supply disruptions, decrease or increase in demand, limiting the possibility of meetings with business partners, limiting the possibility of meetings with suppliers, delays in payments by customers or business partners, increased employee concerns, difficulties in accessing financing, difficulties in transporting goods, costs and difficulties in adapting the workplace to the applicable sanitary requirements, difficulties with the coordination and control of employees working remotely, increased unused production capacity, distorted sales and production planning, and an excessive increase in inventories. The respondents were hereby asked to rate the related statements on a 7-point Likert scale, where: 1 – does not apply to our company; 7 – largely concerns our company.

As for the responses to the crisis, solutions adopted in previous studies were used (Zelek, Maniak 2011; Kowalczyk 2012) and the questionnaire was expanded to include the effects of the COVID-19 pandemic observed in economic practice and the reactions of companies, taking into account such activities as the use of remote work, digitisation of internal/external communication and sales or service provision, the scope of hygiene procedures, the price level of products offered by the company, amount of remuneration, obtaining state aid funds, investments in new technologies or processes, production volume, employment, average working time, national and international employee mobility, number of new products / services introduced to the offer, number of new applications of existing products, intensity research and development activities. Respondents were asked to rate related statements on a 7-point Likert scale, where 1 – significant decrease, 4 – no changes, 7 – significant increase compared to the corresponding period before the pandemic.

Finally, internationalisation depth was measured by using *foreign sales to total sales* – FSTS (e.g. Velez-Calle et al. 2018), while internationalisation breadth was operationalised as the number of markets served by the firm (e.g. Casillas, Acedo 2013).

**Table 1: Sample characteristics (N=120)**

<b>Employment (as of 2021)</b>	<b># firms</b>	<b>Manufacturing sectors</b>	<b># firms</b>
10-49 employees	41	Low-tech	40
50-249 employees	39	Mid-tech	40
50-249 employees	40	High-tech	40
<b># export markets</b>		<b>FSTS</b>	<b># firms</b>
1-10	89	10-19%	44
11-20	25	20-30%	51
>21	6	>30%	25

Source: authors' own elaboration.

## Results and Discussion

### Differences in the impact of the COVID-19 crisis depending on internationalisation level

In the first step of the analysis, the distribution of variables related to the impact of the crisis was verified with the Kolmogorov-Smirnov. The calculations showed that the distributions of these variables are far from the normal distribution ( $p > 0.05$  in the case of the Kolmogorov-Smirnov test). Moreover, the values of skewness and kurtosis in many cases exceed the absolute value of 2, and in some cases the absolute value of 1. Additionally, outliers exceeding the third standard deviation were noted in many variables. For this reason, the analyses for these variables were based on non-parametric tests.

In order to check whether the depth and breadth of companies internationalisation differentiate the variables related to the impact of the crisis, a series of Kruskal-Wallis tests were performed. In the case of statistically significant results, post hoc tests with the Bonferroni correction were additionally performed. For the sake of clarity, all ensuing tables only display statistically significant results.

The analysis shows that the depth of internationalisation differentiates the impact of the crisis on the limitation or suspension of sales by legal regulations, supply disruptions, delays in payments by customers or trade partners, difficulties in accessing external financing, difficulties in transporting goods (moderate effects) and increasing employee anxiety (weak effect).

The firms with a shallow internationalisation depth experienced a greater degree of supply disruption than the firms with a greater internationalisation depth. As for remaining challenges with statistically significant effects, differences were noted only between the companies with low and high depth of internationalisation. The companies with a low depth of internationalisation experienced the above-mentioned challenges to a greater extent than the companies with a high depth of internationalisation. Other comparisons turned out to be statistically insignificant.

**Table 2: Differences in crisis impact depending on depth of internationalisation**

	Depth of internationalisation						<i>H</i> (2)	<i>p</i>	$\eta^2$
	low ( <i>n</i> = 42)		medium ( <i>n</i> = 46)		high ( <i>n</i> = 32)				
	average rank	<i>Me</i>	average rank	<i>Me</i>	average rank	<i>Me</i>			
Limitation or suspension of sales by legal regulations	70.69 <sup>a</sup>	5.00	60.39 <sup>ab</sup>	4.00	47.28 <sup>b</sup>	3.00	8.54	<b>0.014</b>	0.06
Supply disruptions	75.13 <sup>a</sup>	6.00	53.34 <sup>b</sup>	4.00	51.59 <sup>b</sup>	4.00	12.01	<b>0.002</b>	0.09
Payment delays by customers or business partners	72.11 <sup>a</sup>	6.00	58.72 <sup>ab</sup>	4.00	47.83 <sup>b</sup>	3.50	9.40	<b>0.009</b>	0.06
Increase in employee concerns	71.58 <sup>a</sup>	5.00	57.12 <sup>ab</sup>	5.00	50.81 <sup>b</sup>	4.00	7.49	<b>0.024</b>	0.05
Difficulties in accessing external financing	71.80 <sup>a</sup>	5.00	58.33 <sup>ab</sup>	4.00	48.80 <sup>b</sup>	4.00	8.48	<b>0.014</b>	0.06
Difficulty in goods transportation	73.74 <sup>a</sup>	5.00	58.43 <sup>ab</sup>	5.00	46.09 <sup>b</sup>	5.00	15.57	<b>&lt;0.001</b>	0.12

*Annotation:* The mean ranks with different letter indices differ at the level of  $p < 0.05$  with the Bonferroni correction. Source: the authors' own elaboration.

The second part of these analyses examined how the breadth of internationalisation differentiates the aspects related to the impact of the crisis on the activities of enterprises. The test results are presented in *Table 3*.

**Table 3: Differences in crisis impact depending on the breadth of internationalisation**

	Breadth of Internationalisation						<i>H</i> (2)	<i>p</i>	$\eta^2$
	low ( <i>n</i> = 58)		medium ( <i>n</i> = 24)		high ( <i>n</i> = 38)				
	average rank	<i>Me</i>	average rank	<i>Me</i>	average rank	<i>Me</i>			
Limitation or suspension of sales by legal regulations	78.09 <sup>a</sup>	5.00	49.42 <sup>b</sup>	3.00	40.64 <sup>b</sup>	2.00	30.80	<b>&lt;0.001</b>	0.25
Supply disruptions	77.27 <sup>a</sup>	6.00	42.65 <sup>b</sup>	3.00	46.18 <sup>b</sup>	4.00	27.45	<b>&lt;0.001</b>	0.22
Payment delays by customers or business partners	77.90 <sup>a</sup>	6.00	46.65 <sup>b</sup>	3.00	42.70 <sup>b</sup>	3.00	29.37	<b>&lt;0.001</b>	0.23
Increase in employee concerns	73.72 <sup>a</sup>	5.00	43.10 <sup>b</sup>	3.50	51.32 <sup>b</sup>	4.00	17.76	<b>&lt;0.001</b>	0.13
Difficulties in accessing external financing	73.90 <sup>a</sup>	5.00	47.29 <sup>b</sup>	3.00	48.39 <sup>b</sup>	4.00	17.17	<b>&lt;0.001</b>	0.13
Increase in borrowing costs	68.86 <sup>a</sup>	4.00	47.44 <sup>b</sup>	3.00	55.99 <sup>ab</sup>	4.00	7.69	<b>0.021</b>	0.05
Increase in delivery costs	72.53 <sup>a</sup>	5.00	45.29 <sup>b</sup>	4.00	51.75 <sup>b</sup>	4.00	14.80	<b>&lt;0.001</b>	0.11

*Annotation:* The mean ranks with different letter indices differ at the level of  $p < 0.05$  with the Bonferroni correction. Source: the authors' own elaboration.



The results of the tests indicate statistically significant effects for the following challenges: limitation or suspension of sales by legal regulations, supply disruptions, delays in payments by customers or business partners (strong effects) and increased employee anxiety, difficulties in accessing external financing, increase in delivery costs (moderate effects). Significant differences were also observed regarding the increase in the costs of servicing, however, the effect of external financing is weak.

The pairwise comparisons showed that companies with low internationalisation breadth differ from the companies with medium internationalisation in terms of the increase in borrowing costs. Moreover, the companies with low internationalisation breadth experienced the challenges of the crisis more strongly than the companies with medium and high internationalisation breadth in terms of all the remaining challenges mentioned as significant. In every aspect, companies with low internationalisation have experienced difficulties with greater intensity than the other companies.

### **Differences in the reactions to the COVID-19 crisis depending on internationalisation level**

In the next part of the analyses, the distributions of variables related to the response to the crisis were checked. The conclusions from the analyses are similar as before: the results of the Kolmogorov-Smirnov tests are statistically significant, which indicates a distribution distant from the Gaussian curve. Skews and kurtoses, exceeding the absolute value of 2 or in some cases 1, indicate significant asymmetry of the distribution and outliers. For this reason, non-parametric tests were used again to verify whether the responses to the crisis related to the COVID-19 pandemic were dependent on the internationalisation level of the surveyed companies.

This was further tested in crisis responses depending on the depth of internationalisation of the company. The results of the performed tests are presented in *Table 4*.

The analysis showed statistically significant differences depending on the depth of internationalisation for the scope of digitalisation of communication within the company and with external entities, the volume of sales and purchases via the Internet, the scope of digitalisation of the provision of services, obtaining governmental aid, average working time and the level of general enterprise costs. Almost every effect was of moderate strength - with the exception of obtaining governmental aid and the average working time (weak effects).

Successive post hoc tests showed that a greater degree of activities within the scope of digitalisation of communication, both within the company and with external entities, the volume of sales and purchases via the Internet, as well as the scope of digitalisation of the provision of services, were undertaken by the companies with a low internationalisation depth in relation to the companies with a large depth of internationalisation. On the other hand, the companies with a large depth of internationalisation put significantly less emphasis on obtaining governmental aid as compared to the companies with an average depth of internationalisation. At the same time, the companies with a large depth of internationalisation operated to a greater extent in the area of general enterprise costs than

the companies with an average depth of internationalisation and in the area of average working time in relation to the companies with a low depth of internationalisation. Other comparisons do not indicate statistically significant differences.

**Table 4: Differences in crisis responses depending on the depth of internationalisation**

	Depth of internationalisation						H (2)	p	$\eta^2$
	Low (n = 42)		Medium (n = 46)		high (n = 32)				
	average rank	Me	average rank	Me	average rank	Me			
The scope of digitisation of communication within the company	70.79 <sup>a</sup>	6.00	59.74 <sup>ab</sup>	6.00	48.09 <sup>b</sup>	6.00	9.16	<b>0.010</b>	0.06
The scope of digitisation of communication with external entities	72.95 <sup>a</sup>	6.00	58.35 <sup>ab</sup>	6.00	47.25 <sup>b</sup>	6.00	13.66	<b>0.001</b>	0.10
Internet sales volume	72.17 <sup>a</sup>	6.00	57.91 <sup>ab</sup>	6.00	48.91 <sup>b</sup>	6.00	10.45	<b>0.005</b>	0.07
The volume of purchases over the Internet	68.21 <sup>a</sup>	6.00	62.71 <sup>ab</sup>	6.00	47.20 <sup>b</sup>	6.00	10.22	<b>0.006</b>	0.07
Scope of digitisation of service provision	64.43 <sup>a</sup>	6.00	68.45 <sup>a</sup>	6.00	43.92 <sup>b</sup>	5.00	13.16	<b>0.001</b>	0.10
Obtaining governmental aid funds	60.21 <sup>ab</sup>	5.00	69.07 <sup>a</sup>	6.00	48.56 <sup>b</sup>	5.00	7.68	<b>0.022</b>	0.05
Average working time	54.40 <sup>a</sup>	1.00	56.97 <sup>ab</sup>	1.00	73.58 <sup>b</sup>	4.00	7.85	<b>0.020</b>	0.05
General enterprise costs	59.45 <sup>ab</sup>	4.00	52.85 <sup>a</sup>	4.00	72.88 <sup>b</sup>	5.00	9.10	<b>0.011</b>	0.06

*Annotation:* The mean ranks with different letter indices differ at the level of  $p < 0.05$  with the Bonferroni correction.

Source: the authors' own elaboration.

Analogical analyses were performed in response to the crisis depending on the breadth of internationalisation (see: *Table 5*).

The conducted tests show that the breadth of internationalisation differentiates the degree of activity in the area of digitalisation of communication within the company, the volume of sales via the Internet, the scope of application of hygiene procedures, prices of products offered by the company, average working time, intensity of activities in the area of research and development and the level of operating costs. Only the differences in the intensity of activities in the area of research and development show a moderate effect, the rest of the observed effects is weak.

Subsequently, post-hoc tests showed that companies with a small breadth of internationalisation put more emphasis than the companies with a large breadth of internationalisation on activities in the area of digitalisation of communication within the company, as well as on the volume of sales via the Internet. The opposite was true in the case of the scope of application of hygiene procedures, the prices of

products offered by the company and the level of costs of general company activities. In this case, there were the companies with a large breadth of internationalisation that focused more on these aspects as a response to the crisis than the companies with a small breadth of internationalisation. On the other hand, despite the statistically significant effect of the average working time, pairwise comparisons did not show any significant differences between the compared groups. In addition, the companies with a medium breadth of internationalisation reacted to a lesser extent than the companies with a large breadth of internationalisation in the area of research and development. There were no other statistically significant differences between the groups in response to the crisis.

**Table 5: Differences in crisis responses depending on the breadth of internationalisation**

	Breadth of Internationalisation						H (2)	p	η <sup>2</sup>
	low (n = 58)		medium (n = 24)		high (n = 38)				
	average rank	Me	average rank	Me	average rank	Me			
The scope of digitisation of communication within the company	65.95 <sup>a</sup>	6.00	64.58 <sup>ab</sup>	6.00	49.61 <sup>b</sup>	6.00	6.47	<b>0.039</b>	0.04
Internet sales volume	65.60 <sup>a</sup>	6.00	65.04 <sup>ab</sup>	6.00	49.84 <sup>b</sup>	6.00	6.40	<b>0.041</b>	0.04
The scope of application of hygiene procedures	54.76 <sup>a</sup>	6.00	58.88 <sup>ab</sup>	6.00	70.29 <sup>b</sup>	6.00	6.07	<b>0.048</b>	0.03
Prices for products offered by the company	54.76 <sup>a</sup>	4.00	56.69 <sup>ab</sup>	4.00	71.67 <sup>b</sup>	4.00	6.75	<b>0.034</b>	0.04
Average working time	55.68	1.00	55.90	1.00	70.76	4.00	6.05	<b>0.049</b>	0.03
Intensity of activities in the area of research and development	57.94 <sup>ab</sup>	4.00	48.71 <sup>a</sup>	4.00	71.86 <sup>b</sup>	4.00	8.81	<b>0.012</b>	0.06
General enterprise costs	55.50 <sup>a</sup>	4.00	56.73 <sup>ab</sup>	4.00	70.51 <sup>b</sup>	4.50	6.67	<b>0.036</b>	0.04

*Annotation:* The mean ranks with different letter indices differ at the level of  $p < 0.05$  with the Bonferroni correction.

Source: the authors' own elaboration.

## Conclusions

The crisis triggered by the COVID-19 pandemic unfolded at a time, when some scholars had been questioning the successes of globalisation in the last decade, and national identities had come to the forefront more clearly than ever before. Importantly, the pandemic revealed weaknesses in global value chains and, therefore, the limits of globalisation itself (Legrain 2020). Paradoxically, however, a limitation of global economic ties would also diminish the global economy's ability to counteract global challenges, including the pandemic itself (Walsh 2020).

At the microeconomic level this exploratory study presents a series of statistical analyses in various subgroups related to the depth and breadth of internationalisation in order to shed light on the relationship between the COVID-19 pandemic and the internationalisation at the company level. Initial support – requiring further research – was found to support the statement that the companies with greater depth and breadth of internationalisation tend to be more resistant to the effects of the pandemic crisis. Likewise, it has been tentatively stated that more internationalised companies are more cautious in their COVID-19 responsiveness. However, this effect depends on the specific areas of the measures taken amidst the crisis. For instance, for areas related to digitalisation, less internationalised firms turned out to be more active, while research and development related measures were more predominant among highly internationalised companies.

Moreover, it is worth noting that the provided empirical premises relate to the companies from a post-transition economy and, therefore, may exhibit different characteristics and behaviour patterns than typical companies from the emerging markets or, even more, from the developed economies. Due to the limited scale of operations, limited experience of operating in international markets, as well as a low level of conventional intangible assets, typical of their counterparts from the more developed countries, these companies provide a promising context for studying the relationships discussed here.

Due to the obvious limitations of this early study, there are numerous opportunities for the further research in the context of the pandemic. Regarding the determinants of commitment to internationalisation, further important variables need to be considered by resorting to more advanced quantitative methods, including the nature of the underlying business models and the use of the specific online tools. These features of enterprises may affect both the course of internationalisation and condition actions while facing crisis situations.

Regarding the proactive and reactive nature of the crisis response, this research shows, surprisingly, that the most internationalised companies are less proactive in their actions, especially with regard to new product launches or R&D. A more in-depth examination of these relationships, while taking into account the sectoral breakdown and the related knowledge intensity, could shed more light on these interesting results.

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## ➔ References:

- ANTONIOLI Davide, BIANCHI Annaflavia, MAZZANTI Massmiliano, MONTRESOR Sandro, PINI Paolo (2011), *Economic Crisis, Innovation Strategies and Firm Performance. Evidence from Italian-Firm Level Data*, "Quaderno", vol. 2/2011.
- BECK Ulrich (2009), *What is globalization?*, Cambridge.
- BENITO Gabriel R.G., WELCH Lawrence S. (1997), *De-Internationalization*, „*Management International Review*”, vol. 37.
- BERRILL Jenny, KEARNEY Colm (2011), *Has the International Banking and Financial Crisis Damaged Emerging Market MNCs?*, "Contemporary Studies in Economic and Financial Analysis", vol. 93. DOI: 10.1108/S1569-3759(2011)0000093012
- BHAGWATI Jagdish (2007), *In defense of globalization*, New York.
- BHAGWATI Jagdish, SRINIVASEN Thirukodikaval Nilakanta (2002), *Trade and Poverty in the Poor Countries*, „*American Economic Review*”, vol. 92 (2).
- BROJAK-TRZASKOWSKA Małgorzata, PORADA-ROCHOŃ Małgorzata (2012), *Zakres i struktura działalności innowacyjnej badanych przedsiębiorstw województwa zachodniopomorskiego w okresie kryzysu gospodarczego*, „*Współczesne Zarządzanie*”, vol. 1.
- BURLITA Augustyna, BURSIAK Leszek, GRZESIUK Aleksandra, LACHOWSKA Anna, MANIAK Grażyna, ŚWIERGIEL E., ZELEK Aneta (2011), *Przetwać dekoniunkturę. Przedsiębiorstwa i gospodarstwa domowe wobec kryzysu*, Szczecin.
- CANDELON Bertrand, CARARE Alina, HASSE Jean-Baptiste, LU Jing (2018), *Globalization and the New Norm*, IMF Working Paper – WP/18/75, International Monetary Fund, Washington D.C.

- CASILLAS José, ACEDO Francisco J. (2013), *Speed in the internationalization process of the firm*, "International Journal of Management Reviews", vol. 15, no. 1. DOI: 10.1111/j.1468-2370.2012.00331.x
- CATÃO Luis A.V., OBSTFELD Maurice (eds) (2019), *Meeting Globalization's Challenges. Policies to Make Trade Work for All*, Princeton University Press. DOI: 10.2307/j.ctvh1dr13
- CLAESSENS Stijn, KOSE M. Ayhan, TERRONES Marco E. (2010), *The global financial crisis: How similar? How different? How costly?*, "Journal of Asian Economics", vol. 21.
- DOLLAR David (2001), *Globalization, Inequality and Poverty since 1980*, World Bank, Washington D.C.
- GORYNIA Marian (2021), *Will COVID-19 Kill Globalization?*, in: Marin A. Marinov, Svetla T. Marinova (eds), *Covid-19 and International Business. Change of Era*, Routledge, London.
- GORYNIA Marian, NOWAK Jan, TRĄPCZYŃSKI Piotr, WOLNIAK Radosław (2022), *Globalization in a COVID-19 Afflicted World*, "International Business in Times of Crisis": Tribute Volume to Geoffrey Jones, vol. 16.
- GORYNIA Marian, TRĄPCZYŃSKI Piotr (2022), *Strategie polskich eksporterów wobec pandemii koronawirusa – wyniki badań empirycznych*, in: Iwona Pawlas, Anna Czech (eds), *Podmioty gospodarki światowej wobec pandemii COVID-19*, Katowice.
- GRĄDZKI Ryszard, ZAKRZEWSKA-BIELAWSKA Agnieszka (2009), *Przyczyny i objawy kryzysu w polskich przedsiębiorstwach*, in: J. Bieliński, R. Płoska (eds), *Przedsiębiorstwo w warunkach kryzysu*, „Prace i Materiały Wydziału Zarządzania Uniwersytetu Gdańskiego”, Gdańsk.
- JANSSON Hans, HILMERSSON Mikael, SANDBERG Susanne (2010), *The Impact of the Great Global Recession on the International Competitiveness of SMEs from Southern Sweden*, 33 Annual Meeting of SNEE (Swedish Network for European Studies in Economics and Business): European Integration in Swedish Economic Research, Mölle, 2010.
- KOGUT Bruce, KULATILAKA Nalin (2001), *Capabilities as real options*, "Organization Science", vol. 12, no. 6. DOI: 10.1287/orsc.12.6.744.10082
- KOTABE Masaaki, SRINIVASAN Srini S., AULAKH Preet S. (2002), *Multinationality and firm performance: The moderating role of R&D and marketing capabilities*, "Journal of International Business Studies", vol. 33, no. 1.
- KOWALCZYK Jacek (2012), *Drobne firmy sparzyły się na zagranicznych rynkach*, „Puls Biznesu”.
- LATHAM Scott F. (2009), *Contrasting strategic response to economic recession in start-up versus established software firms*, "Journal of Small Business Management", vol. 47(2).
- LATHAM Scott F., BRAUN Michael R. (2010), *Jilted? The manager's little book for keeping customers in a recession*, "Journal of Business Strategy", vol. 31.
- LEE Seung-Hyun, BEAMISH Paul W., LEE Ho-Uk, PARK Jong-Hun (2009), *Strategic choice during economic crisis: Domestic market position, organizational capabilities and export flexibility*, "Journal of World Business", vol. 44.
- LEGRAIN Philippe (2020), *The Coronavirus Is Killing Globalization as We Know It*, "Foreign Policy", 12 March 2020, <https://foreignpolicy.com/2020/03/12/coronavirus-killing-globalization-nationalism-protectionism-trump/> (12.03.2020).
- MATYSIAK Lars, BAUSCH Andreas (2012), *Antecedents of MNE Performance: Blinded by the Obvious in 35 Years of Literature*, "Multinational Business Review", vol. 20, no. 2.
- MICHON Piotr (2011), *Nie taki kryzys straszny? Wpływ recesji gospodarczej na kondycję regionu Wielkopolski*, Poznań.

- NEČADOVÁ Marta, BREŇOVÁ Lubomira (2010), *Impact of Economic Crisis on Czech Firms from Managers' Point of View – The Results of Primary Research*, "Economics and Management", vol. 15.
- OLIVIÉ Iliana, GRACIA SANTOS Manuel (2020), *The end of globalisation? A reflection on the effects of the COVID-19 crisis using the Elcano Global Presence Index*, "ARI" no. 60/2020, Real Instituto Elcano, 4 May 2020, [http://www.realinstitutoelcano.org/wps/portal/rielcano\\_en/contenido?WCM\\_GLOBAL\\_CONTEXT=/elcano/elcano\\_in/zonas\\_in/ari60-2020-olivie-gracia-end-of-globalisation-reflection-on-effects-of-covid-19-crisis-using-elcano-global-presence-index](http://www.realinstitutoelcano.org/wps/portal/rielcano_en/contenido?WCM_GLOBAL_CONTEXT=/elcano/elcano_in/zonas_in/ari60-2020-olivie-gracia-end-of-globalisation-reflection-on-effects-of-covid-19-crisis-using-elcano-global-presence-index) (04.05.2020).
- PANTZALIS Christos (2001), *Does location matter? An empirical analysis of geographic scope and MNC market valuation*, "Journal of International Business Studies", vol. 32, no. 1.
- ROBERTS Mark J., TYBOUT James R. (1997), *The decision to export in Colombia: an empirical model of entry with sunk costs*, "American Economic Review", vol. 87, no. 4.
- SANDBU Martin (2020), *The Economics of Belonging: A Radical Plan to Win Back the Left Behind and Achieve Prosperity for All*, Princeton University Press.
- SAUVANT Karl P., MASCHEK Wolfgang A., MCALLISTER Geraldine (2010), *Foreign Direct Investment by Emerging Multinational Enterprises, the Impact of the Financial Crisis and Recession, and Challenges Ahead*, in: Karl P. Sauvant, Geraldine McAllister, Wolfgang A. Maschek (eds), *Foreign Direct Investments from Emerging Markets. The Challenges Ahead*, Palgrave Macmillan, New York.
- SCHOLLEOVA Hana (2012), *The Economic Crisis and Working Capital Management of Companies*, "Theoretical and Applied Economics", vol. XIX (2012), no. 4(569).
- SERIC Adnan, GÖRG Holger, MÖSLE Saskia, WINDISCH Michael (2020), *Managing COVID-19: How the pandemic disrupts global value chains*, 27 April 2020, "World Economic Forum", <https://www.weforum.org/agenda/2020/04/covid-19-pandemic-disrupts-global-value-chains> (27.04.2020).
- SHAMA Avraham (1993), *Marketing strategies during recession: a comparison of small and large firms*, "Journal of Small Business Management", vol. 31, no. 3.
- STIGLITZ Joseph E. (2006), *Making Globalization Work*, New York and London.
- TEECE David J., PISANO Gary, SHUEN Amy (1997), *Dynamic capabilities and strategic management*, "Strategic Management Journal", vol. 18.
- TÜREL Ahmet, TÜREL Asli, NEEDLES Belverd E. (2012), *Financial Characteristics of High Performance Companies in Turkey: A Comparative Analysis of Stable Economy in the Financial Crisis Era*, "Accounting and Management Information Systems", vol. 11, no. 1.
- VELEZ-CALLE Andres, SANCHEZ-HENRÍQUEZ Fernando, CONTRACTOR Farok (2018), *Internationalization and performance: The role of depth and breadth*, "Academia Revista Latinoamericana de Administración", vol. 31, no. 1. DOI: 10.1108/ARLA-04-2017-0125
- WALSH Bryan (2020), *The coronavirus is a force for deglobalization*, "Axios Future", 20 May 2020, <https://www.axios.com/coronavirus-economic-globalization-744b0660-ce56-4ffa-93e9-cc4c20ee135c.html> (20.05.2020).
- WOLF Martin (2020), *How Covid-19 will change the world?*, "Financial Times", 16.07.2020.
- WOŁODKIEWICZ-DONIMIRSKI Zdzisław (2010), *Kondycja finansowa eksporterów*, in: *Kryzys finansowy a handel zagraniczny*, Warszawa.
- WHO (2020), *Health Topics. Globalization*, World Health Organization, <https://www.who.int/topics/globalization/en/> (10.08.2020).

WU Lei-Yu (2010), *Applicability of the resource-based and dynamic-capability views under environmental volatility*, "Journal of Business Research", vol. 63.

ZELEK Aneta, MANIAK Grażyna (2011), *Polskie MSP wobec dekonunktury gospodarczej 2007-2010 - studium przedsiębiorstw Pomorza Zachodniego*, in: A. Zakrzewska-Bielawska (ed.), *Wyzwania rozwojowe małych i średnich przedsiębiorstw. Innowacje, technologie, kryzys*, Warszawa.