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Impact of the COVID-19 pandemic on foreign direct investment worldwide

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ABSTRACT

Objective: The objective of this article is to identify and describe selected trends and phenomena occurring in the global economy in conjunction with the description of changes taking place globally, in the EU countries, in the Visegrad Group (V4) countries and in Poland, which are related to the impact of the COVID-19 pandemic on capital flows in the form of foreign direct investment.

Research Design & Methods: We used own calculations made based on available UNCTAD statistics provided in the WIR Reports 2010-2023 and the UNCTADstat database. We also used literature studies, source text analysis, logical inference method, deductive reasoning, documentary and critical analysis methods, descriptive analysis, comparative analysis, and simple quantitative methods such as time series analysis.

Findings: We verified eight main research questions, each with four specific research questions (32 analyses in total). In the vast majority of cases, the main questions were verified positively in full, meaning that we confirmed the assumption that foreign direct investment (FDI) outflows, the number of net cross-border M&As (by seller region), the value of announced greenfield FDI projects (by source of investment), the value of announced greenfield FDI projects (by destination of investment) and the number of announced greenfield FDI projects (by source of investment) decreased after the outbreak of the COVID-19 pandemic in all the proposed four geographic aspects. For main research questions RQ1, RQ3, and RQ8, i.e. FDI inflows, net cross-border M&As (by seller region) and the number of announced greenfield FDI projects (by destination of investment), we observed positive verification only partially. For specific research questions RQ1d, RQ3b, and RQ8d, the verification of assumptions was negative.

Implications & Recommendations: The presented research findings have not only a descriptive but also an explicative value. They may also have an implication value when we consider the level of investment attractiveness of our country and the possible location and relocation of foreign capital in our part of Europe related to the destabilisation of global value chains and the search for safe location havens for foreign direct investment. It is becoming important to look for attempts to reduce business dependence on production processes far abroad, for example outside the EU. Paradoxically, the effect of the COVID-19 pandemic may be the emergence of a development opportunity for Poland and the countries of our region.

Contribution & Value Added: Proposal to broaden the nomenclature of negative phenomena – my proposal of 'new swan colours' (a reference to N.N. Taleb's 'black swans'). A literature search was also conducted in relation to various types of crises (sudden events) – including the COVID-19 pandemic – and foreign direct investment. The conclusions from research findings (especially regarding Poland) can serve as recommendations for specific actions at the government level.

Article type: research article

Keywords: COVID-19 pandemic; foreign direct investment; FDI; Visegrad countries; economic activity

JEL codes: F21, F23

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INTRODUCTION

The explosion of the coronavirus pandemic (COVID-19) in the last months of 2019 (first reported in Wuhan, China) suddenly and unexpectedly led the global economy to a clear slowdown in the first quarter of 2020. Individual countries – in an attempt to try and control the outbreak – imposed travel bans, quarantines, lockdowns, orders to maintain social distance and isolation and a range of other restrictions, resulting in rapid changes in the functioning of the global economy. In addition to huge losses in humanitarian and social terms, many disruptions could be observed in the context of business and international trade, the management of international supply chains, global business networks and business ecosystems. All over the world, companies recorded a slowdown in turnover in their business activity, decreases in profits, reduced employees of employees, decreases in the financial liquidity of companies (cash flow), and investments (including foreign ones) were reduced or completely inhibited. Therefore, it seems interesting to examine how the COVID-19 coronavirus pandemic has influenced capital flows in the form of foreign direct investment in the world and various regions.

The objective of this article is to identify and describe selected trends and phenomena occurring in the global economy and to describe the changes taking place globally, in the European Union countries, in the Visegrad Group (V4) countries and in Poland, which are related to the impact of the COVID-19 pandemic on capital flows in the form of foreign direct investment.

There are not many studies in the literature on the object related to the relationship between the COVID-19 pandemic and direct foreign investment, especially in an extensive approach proposed in this study (world, the EU, the Visegrad Group, Poland – inflows, outflows, the net value of cross-border M&As, number of net cross-border M&As, value of announced greenfield FDI projects analysed by source of investment, value of announced greenfield FDI projects analysed by destination of investment, number of announced greenfield FDI projects analysed by source of investment, and number of announced greenfield FDI projects analysed by destination of investment).

This article consists of a review of the subject literature and presents the results of our own calculations in accordance with the topic. Lastly, we will draw conclusions and some recommendations.

LITERATURE REVIEW

Capital flows in the form of foreign direct investment are highly susceptible to economic shocks. Many of the available analytical results on FDI flows have been synthesised by Paul and Feliciano-Cestero (2021) by conducting an in-depth search covering 50 years of the effects of FDI flows, different theories, determinants, and links of FDI to economic development, productivity or international trade. The links between sudden economic events, financial crises, disasters, COVID-19 and aspects of international business, including capital flows in the form of FDI are also available in the world literature. Table 1 presents selected examples of a synthetic summary of selected research findings on these issues.

Very interestingly: a country's policy towards the challenges of coping with the impact of the COVID-19 pandemic is emerging as an element of the investment attractiveness of the FDI host country. In addition to traditional factors such as purchasing power and size of the domestic market, level of technological development, economic stability, labour productivity, employee loyalty, transparency and reliability of business partners, availability of materials and components, cooperation with local administration, availability of skilled human resources, quality of investment land, state of infrastructure, ability to obtain funding for investment projects, liquidity of the financial market, labour costs, real property acquisition process, protection of investors' rights, state aid system for investors, process of obtaining concessions/permits, cooperation with central administration, political stability, burden of inspections and controls, level of fiscal burden, tax formalities, clarity and consistency of legislation, efficiency of business judiciary, constancy and predictability of law, level of R&D investments, energy costs, approach to climate policy and sustainability, level of quality of life and cultural development – in the EY Europe Attractiveness Survey report, when surveyed on the most important factors relevant to choosing a country to invest in, 16% of the respondents indicated the level of success in dealing with the COVID-19 crisis (EY, 2023).

Table 1. Summary of selected research findings on the correlation between sudden events and aspects of international business, including FDI

Publication	Topics	Country/countries researched; research period	Conclusions
Alfaro & Chen, 2010	relationship between economic growth, local financial markets and FDI	selected 53 countries of the world, 2007-2009	financial crises have an impact on FDI flows and labour productivity in companies
Dornean *et al*., 2012	analysis of the relationship between financial crisis and FDI	10 Central and Eastern European countries, 1994-2011	fluctuations in economic growth affect the level of FDI, and changes in the regulatory environment in crisis-affected countries are important
Fabeil *et al.*, 2020	business continuity strategy and implementation of the post-pandemic recovery plan for companies cooperating abroad	Malaysia, May 2020	the need for rapid, ad hoc business action and implementation of recovery strategies
Kuckertz *et al.*, 2020	international start-ups in times of pandemic	Germany, March 2020	the need to implement protective measures to save micro-enterprises from the consequences of pandemic blockages
Horobet *et al*., 2020	level of population mortality in the EU countries	EU-28, 2020	the need for a targeted health policy at the EU level to reduce workforce mortality
Khan *et al*., 2020	relationship between COVID-19 and the environment and society	selected countries of the world, 2020	the pandemic is an opportunity for transformation towards a green economy, renewable energy sources and sustainable practices in companies
Ajide & Osinubi, 2020	examination of the relationship between COVID-19 and FDI outflows	selected 43 countries of the world	the pandemic causes an outflow of FDI and an increase in the level of risk on international markets
Czech *et al*., 2020	COVID-19 and financial markets	V4 countries, 2020	the pandemic had an impact on the collapse of financial markets and the exchange rates in the V4 countries
Antonietti *et al.*, 2020	COVID-19 and global production networks	EU-28, 2020	countries heavily involved in global production networks and countries hosting large FDI projects are the most vulnerable to pandemic effects
Saurav *et al*., 2020	COVID-19 and the impact on companies with foreign participation (subsidiaries – FDI locations)	305 companies with foreign participation, 2020	97% of companies surveyed experienced reduced demand, disrupted supply chains, reduced profits, reduced staff and investment levels
Seric & Hauge, 2020	COVID-19 and FDI in developing and least developed countries	developing countries and LDCs, 2020	COVID-19 in terms of FDI outflows has particularly affected the least developed and developing countries
Seric e*t al*., 2020	COVID-19 and global supply chains	countries of the world, 2020	COVID-19 has disrupted global supply chains
World Association of Investment Promotion Agencies (2020)	COVID-19 and global FDI flows and operations of investment promotion agencies	174 investment promotion agencies worldwide, 2020	COVID-19 disrupted the operations of agencies and affected fluctuations in global FDI flows; possible development of reshoring and nearshoring phenomena
Gujrati & Uygun, 2020	impact of COVID-19 on the global economy	countries of the world, 2020	increase in global investment risk has been observed, countries should protect their economies

Publication	Topics	Country/countries researched; research period	Conclusions
Walsh, 2020	COVID-19 and the deglobalisation phenomenon	countries of the world, 2020	the pandemic has caused global social and economic disruption, this will affect international business processes causing deglobalisation
Kalotay & Sass, 2021	impact of COVID-19 on the V4 countries	V4 countries, 2020	COVID-19 had an impact on the collapse of FDI flows in the V4 countries, but developments in digitalisation and the ICT sector were observed
Hayakawa e*t al*., 2022	impact of COVID-19 was measured by 3 indicators – number of confirmed cases, number of deaths and indicator of stringency of government policies; differentiation of FDI flows (greenfield and cross-border M&As)	FDI flows from 173 home countries to 192 host countries; 2019-2021	heterogeneous impact of COVID-19 on FDI by sector and mode of capital entry; impact of COVID-19 in host countries adversely affected FDI in the manufacturing sector, regardless of mode of entry; impact of COVID-19 in FDI home countries was insignificant; in the services sector, negative impact of COVID-19 was observed in both host and home countries (more so in terms of greenfield)
Gorynia e*t al*., 2022	impact of the COVID-19 pandemic on globalisation processes	countries of the world, 2022	3 possible scenarios: disrupted globalisation, deglobalisation and rebalanced globalisation
Hysa e*t al*., 2022	the role of FDI determinants in national development, analysis of COVID-19 impact on FDI flows	22 EU countries; Q1, Q2 and Q3 2020	COVID-19 pandemic fuels FDI outflows

Source: own study.

The following main research questions (together with specific research questions marked ‘a’ to ‘d’) were defined to achieve the intended objective:

RQ1: Have capital inflows in the form of foreign direct investment decreased after the pandemic outbreak globally (RQ1a), in the EU countries (RQ1b), the V4 countries (RQ1c) and Poland (RQ1d)?

RQ2: Have capital outflows in the form of foreign direct investment decreased after the pandemic outbreak globally (RQ2a), in the EU countries (RQ2b), the V4 countries (RQ2c) and Poland (RQ2d)?

RQ3: Has the net value of cross-border M&As (analysed by seller region) decreased after the pandemic outbreak globally (RQ3a), in the EU countries (RQ3b), the V4 countries (RQ3c) and Poland (RQ3d)?

RQ4: Has the number of net cross-border M&As (analysed by seller region) decreased after the pandemic outbreak globally (RQ4a), in the EU countries (RQ4b), the V4 countries (RQ4c) and Poland (RQ4d)?

RQ5: Has the value of announced greenfield FDI projects (analysed by source of investment) decreased after the pandemic outbreak globally (RQ5a), in the EU countries (RQ5b), the V4 countries (RQ5c) and Poland (RQ5d)?

RQ6: Has the value of announced greenfield FDI projects (analysed by destination of investment) decreased after the pandemic outbreak globally (RQ6a), in the EU countries (RQ6b), the V4 countries (RQ6c) and Poland (RQ6d)?

RQ7: Has the number of announced greenfield FDI projects (analysed by source of investment) decreased after the pandemic outbreak globally (RQ7a), in the EU countries (RQ7b), the V4 countries (RQ7c) and Poland (RQ7d)?

RQ8: Has the number of announced greenfield FDI projects (analysed by destination of investment) decreased after the pandemic outbreak globally (RQ8a), in the EU countries (RQ8b), the V4 countries (RQ8c) and Poland (RQ8d)?

RESEARCH METHODOLOGY

In this article, we used our own calculations based on the available UNCTAD statistics from the World Investment Reports (WIR) 2010-2023 and the UNCTADstat database. It also uses various research methods, including literature studies, analysis of source texts (content analysis and synthesis method), logical inference method, deductive reasoning, documentary and critical analysis methods, descriptive analysis, comparative analysis as well as simple quantitative methods, *e.g.* time series analysis enriched with aspects of free evaluation of observed trends and tendencies. In my narrative, analyses thematically related to the COVID-19 pandemic and foreign capital flows in the form of foreign direct investment (various aspects – included in the research questions) were used with reference to the countries of the world, the European Union area, the V4 Visegrad Group countries and our country. A literature search was also carried out in relation to various types of crises (sudden events) – including the COVID-19 pandemic – and foreign direct investment.

RESULTS AND DISCUSSION

International trade should be understood as trade in goods, international trade in services, exchange of intangible goods and capital flows, including foreign direct investment (FDI) and portfolio investment flows (Rymarczyk, 2010). According to the International Monetary Fund, global real GDP contracted by 3.1% in 2020 compared to 2019 (IMF, 2021). According to UNCTAD, global exports contracted by 7% in 2020 and global imports by 8% compared to 2019 (UNCTAD, 2023). The COVID-19 pandemic caused more pronounced declines in global flows for foreign direct investment (Figure 1).

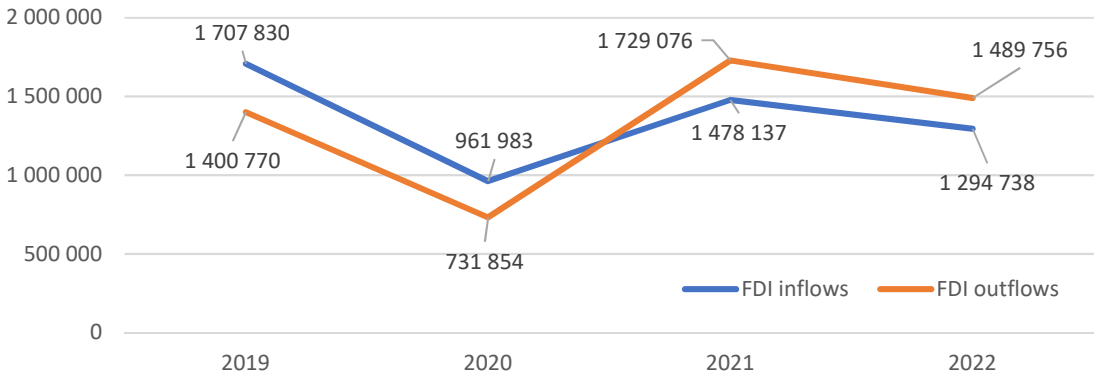

Figure 1. Global foreign direct investment, inflows and outflows, 2019-2022, USD million
Source: UNCTAD (2023).

As we can observe above, global FDI inflows declined from over USD 1.7 trillion in 2019 to just over USD 961 billion in 2020 – almost 44%. In contrast, global FDI outflows declined from over USD 1.4 trillion in 2019 to just over USD 731 billion in 2020 – almost 48%. As we can therefore observe, global capital flows in the form of FDI fell more sharply in 2020 compared to 2019 than real global GDP and global exports and imports. Thus, it seems reasonable to conclude that foreign capital flows in the form of FDI are less resilient to crises, shocks or instability. At this point, it is worth attempting to classify the various sudden events that can affect the global economy. Pandemics and other phenomena of this type – *e.g.* different types of crises – that have a negative (but not only) impact on economies have been named by Taleb as 'black swans' (Taleb, 2020). These are events that are unexpected, unusual, unpredictable, and very unlikely, with nothing in the past to indicate that they might occur. When they do occur, they have a huge impact on economies and social life and after their occurrence, some argue that they could

have been predicted after all... They can also have a positive impact on the environment when they are, for example, innovations, inventions, beneficial investments or scientific discoveries. Pandemics, on the other hand, are an example where the effects are negative. I believe that other colours of so-called 'swans' can be identified. Thus, 'green swans' can refer to climate change – there are even international 'Green Swan' conferences (BIS, 2023). Another 'swan' could be a 'red swan', linked to wars, and armed conflicts on a global or regional scale. My next proposal is a 'yellow swan' associated with major population movements and economic migrations. And the last proposal – a 'blue swan' linked to unexpected events generated by digital technologies, artificial intelligence or changes in so-called cyber-mentality. Interestingly, the development of the COVID-19 pandemic resulted in rapid changes in the development of information and communication technology (ICT). One can speak of a real digital transformation and its development in very many aspects of business activity and international trade (moving away from the so-called analogue economy to a digital, digitised economy – including the development of remote contracting, modern business services and the broadly understood area of Industry 4.0).

This section will present research results with my comments and the effects of verification of the research questions proposed above.

Capital Inflows in the Form of Foreign Direct Investment Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ1

To comprehensively verify the first research question, four figures will be presented to show capital inflows in the form of FDI in four aspects: global flows, in the European Union countries, in the V4 Visegrad Group countries and our country. Figure 2 presents global FDI inflows in USD million in 2010-2022.

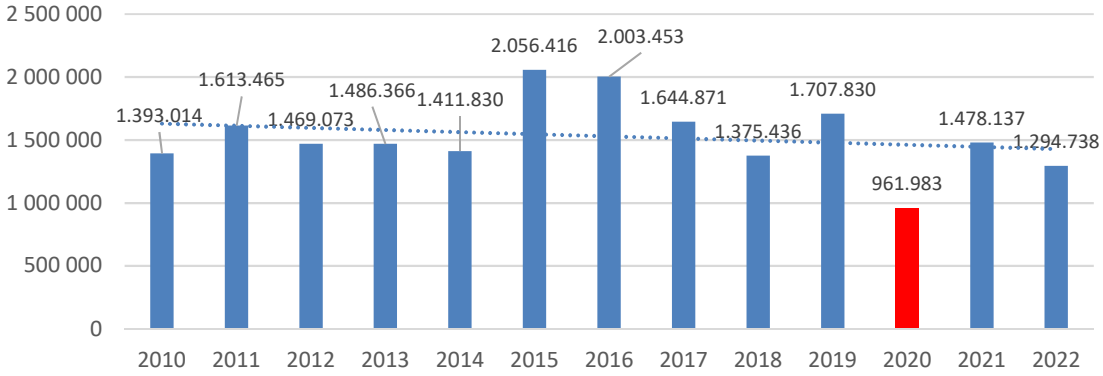

Figure 2. FDI inflows globally in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, global FDI inflows in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 44% (from over USD 1.7 trillion to over USD 0.96 trillion) compared to 2019. This is a very clear change. Indeed, higher inflows were already recorded in 2021 and 2022, but the trend has been downward since 2020 (trend line in Figure 2). Therefore, we can conclude that within the framework of the first research question RQ1, the specific question RQ1a proposed in this article has been positively verified. Figure 3 presents FDI inflows in the European Union countries in USD million in 2010-2022.

As we can observe above, FDI inflows to the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 81% (from USD 0.6 trillion to around USD 0.11 trillion) compared to 2019. This is a very clear and even dramatic change, even greater than the global inflow. Indeed, in 2021 higher inflows were already recorded, but in 2022 an outflow of FDI was recorded and the trend has been downward since 2020 (trend line in Figure 3). Therefore, we can conclude that within the framework of the first research question RQ1, the specific question RQ1b proposed in this article has been positively verified. Figure 4 presents FDI inflows in the Visegrad Group (V4) countries in USD million in 2010-2022.

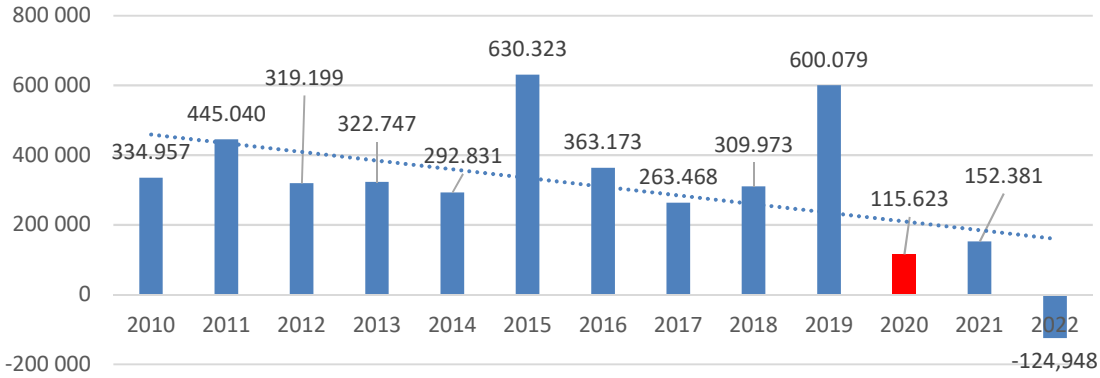

Figure 3. FDI inflows in the EU in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

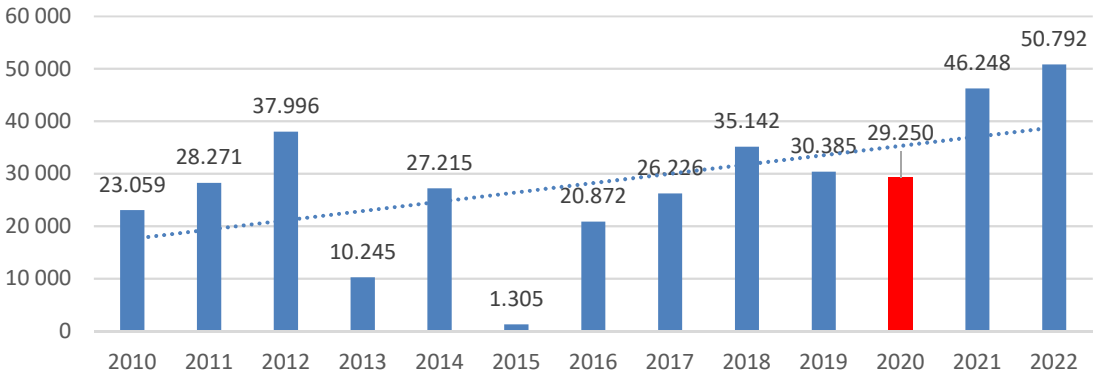

Figure 4. FDI inflows in the V4 countries in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, FDI inflows to the Visegrad Group countries in 2020 (the first year of the COVID-19 pandemic) decreased compared to 2019 by only 4% (from about USD 30 billion to about USD 29 billion). This is a small change compared to the global situation and the situation in the European Union. Furthermore: in 2021 and 2022, higher inflows were already recorded and the trend has been upward since 2020 (trend line in Figure 4). Therefore, we can conclude that within the framework of the first research question RQ1, the specific question RQ1c proposed in this article has been positively verified. Figure 5 presents FDI inflows to Poland in USD million in 2010-2022.

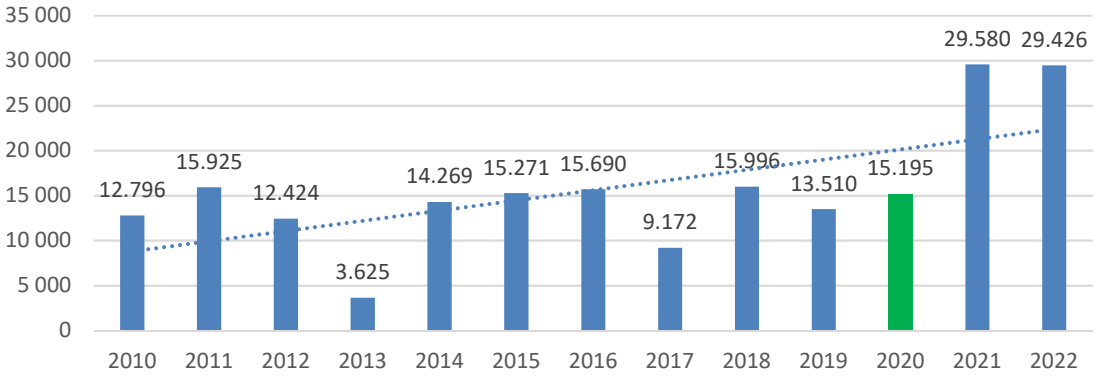

Figure 5. FDI inflows to Poland in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, FDI inflows to Poland in 2020 (the first year of the COVID-19 pandemic) not only did not decrease but increased by 12% (from about USD 13 billion to over USD 15 billion) compared to 2019. This is an interesting and different situation with global trends, in the European Union and the Visegrad Group countries. Moreover, the values of inflows almost doubled in 2021 compared to the previous year and FDI inflows comparable to 2021 were recorded in 2022. The trend has been upward since 2020 (trend line in Figure 5). Therefore, we can conclude that within the framework of the first research question RQ1, the specific question RQ1d proposed in this article has been negatively verified.

Capital Outflows in the Form of Foreign Direct Investment Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ2

To comprehensively verify the second research question, four figures will be presented to show capital outflows in the form of FDI in four aspects: globally, in the European Union countries, in the V4 Visegrad Group countries and in our country. Figure 6 presents FDI outflows globally in USD million in 2010-2022.

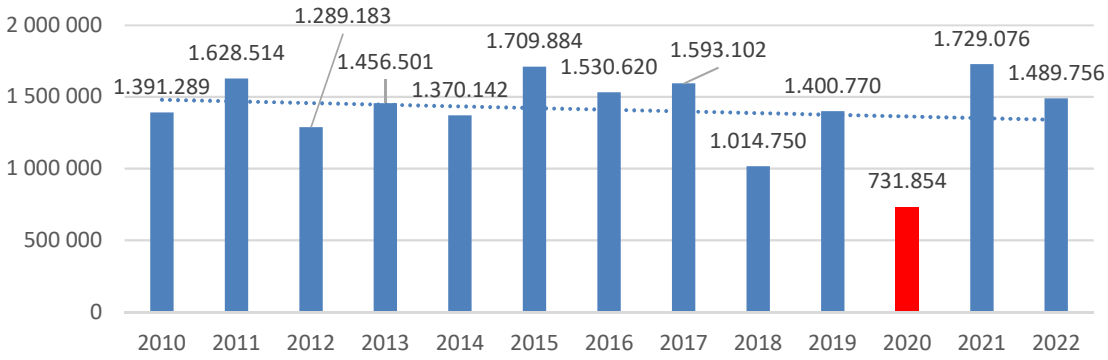

Figure 6. FDI outflows globally in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, global FDI outflows in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 48% (from USD 1.4 trillion to approximately USD 0.73 trillion) compared to 2019. This is a very clear change. Indeed, higher outflows were already recorded in 2021 (a record high in the research period, more than USD 1.7 trillion) and 2022, but the trend has been downward since 2020 (trend line in Figure 6). Therefore, we can conclude that within the framework of the second research question RQ2, the specific question RQ2a proposed in this article has been positively verified. Figure 7 presents FDI outflows in the European Union countries in USD million in 2010-2022.

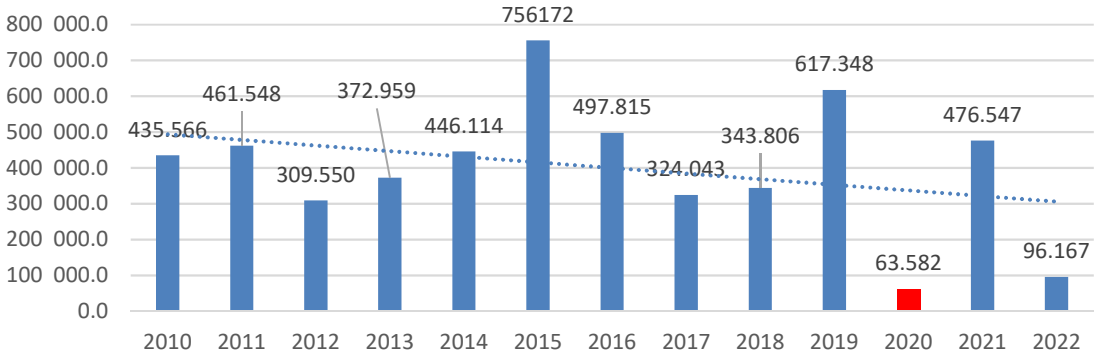

Figure 7. FDI outflows from the EU in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, FDI outflows from the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 90% (from USD 0.6 trillion to approximately USD 63 billion) compared to 2019. This is a very clear and even dramatic change, even greater than in the

case of global outflow. Indeed, higher outflows were already recorded in 2021 (approximately USD 476 billion), but low FDI outflows were recorded again in 2022 (approximately USD 96 billion). This trend has been downward since 2020 (trend line in Figure 7). Therefore, we can conclude that within the framework of the second research question RQ2, the specific question RQ2b proposed in this article has been positively verified. Figure 8 presents FDI outflows in the Visegrad Group (V4) countries in USD million in 2010-2022.

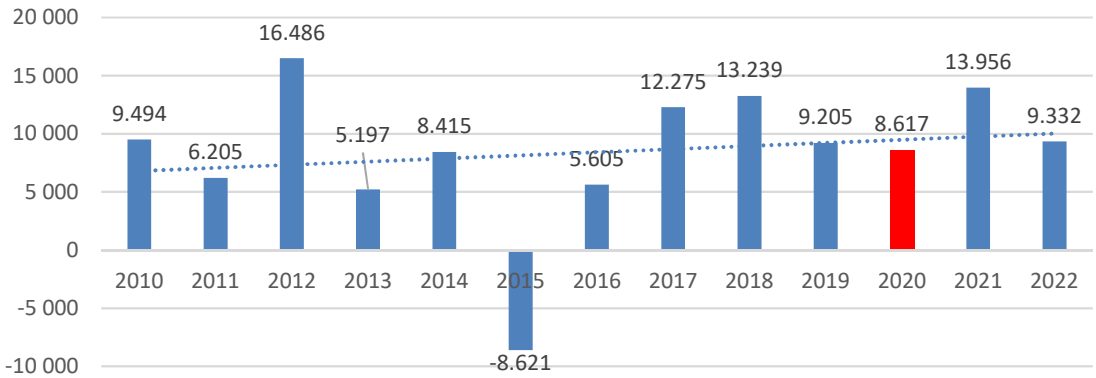

Figure 8. FDI outflows from the V4 countries in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, FDI outflows from the Visegrad Group countries in 2020 (the first year of the COVID-19 pandemic) decreased by only 6% (from approximately USD 9.2 billion to approximately USD 8.6 billion) compared to 2019. This is a small change compared to the global situation and in the European Union. Furthermore: in 2021 and 2022, larger outflows were already recorded (approximately USD 13.9 billion and approximately USD 9.3 billion respectively) and the trend has been upward since 2020 (trend line in Figure 8). Therefore, we can conclude that within the framework of the second research question RQ2, the specific question RQ2c proposed in this article has been positively verified. Figure 9 presents FDI outflows from Poland in USD million in 2010-2022.

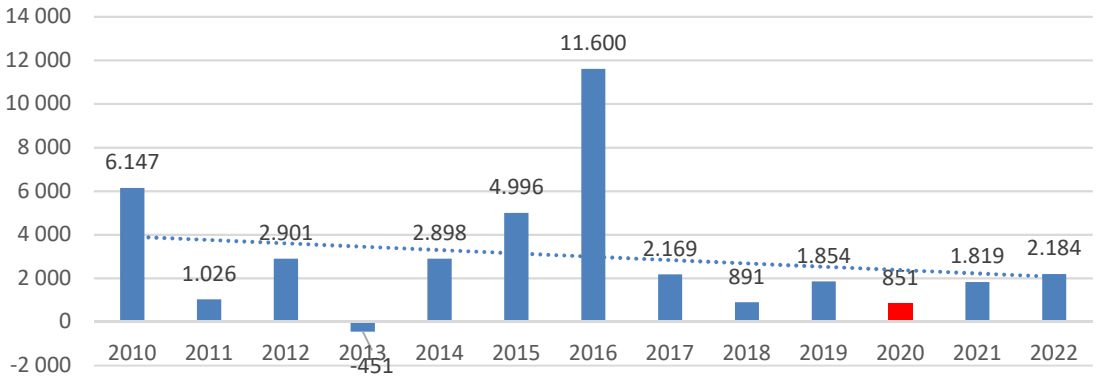

Figure 9. FDI outflows from Poland in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, FDI outflows from Poland in 2020 (the first year of the COVID-19 pandemic) decreased by 54% (from approximately USD 1.8 billion to over USD 0.8 billion) compared to 2019. This is comparable to global trends, but different to the European Union (lower level of change in our country) and the Visegrad Group countries (higher level of change in our country). Indeed, outflows almost doubled in 2021 (to over USD 1.8 billion) compared to the previous year and FDI outflows comparable to 2021 were recorded in 2022 (over USD 2.1 billion). This trend has been downward since 2020 (trend line in Figure 9). Therefore, we can conclude that within the framework of the second research question RQ2, the specific question RQ2d proposed in this article has been positively verified.

Net Value of Cross-border M&As (Analysed by Seller Region) Globally, in the EU Countries, the V4 Countries and Poland – Verification of Research Question RQ3

In order to comprehensively verify the third research question, four figures will be presented to show the net value of cross-border M&As – analysed by seller region in four aspects: globally, in the EU countries, the V4 Visegrad Group countries and our country. Figure 10 presents the net value of cross-border M&As globally in USD million in 2010-2022.

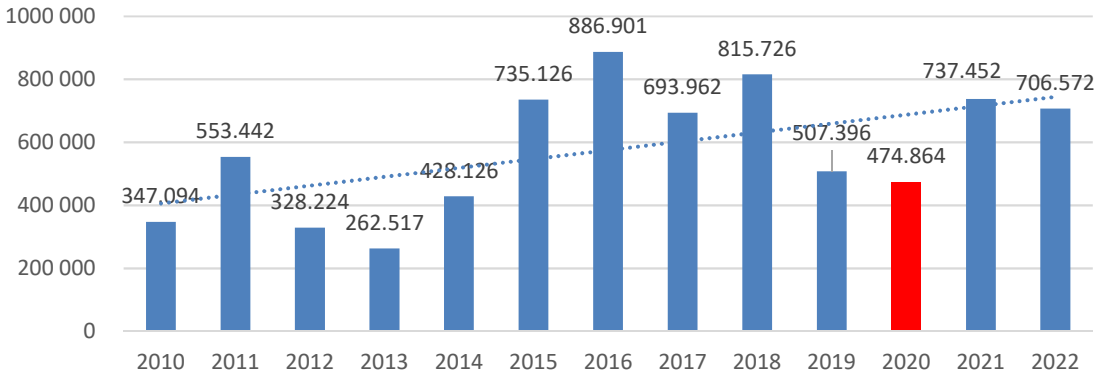

Figure 10. Net value of cross-border M&As globally – by seller region in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the net value of cross-border M&As by seller region globally in 2020 (the first year of the COVID-19 pandemic) decreased by 6% (from approximately USD 0.5 trillion to approximately USD 0.47 trillion) compared to 2019. This is a relatively small change. In 2021 (more than USD 0.73 trillion) and 2022 (more than USD 0.7 trillion), higher M&A values were already recorded and this trend is upward (trend line in Figure 10). Therefore, we can conclude that within the framework of the third research question RQ3, the specific question RQ3a proposed in this article has been positively verified. Figure 11 presents the net value of cross-border M&As by seller region in the European Union countries in USD million in 2010-2022.

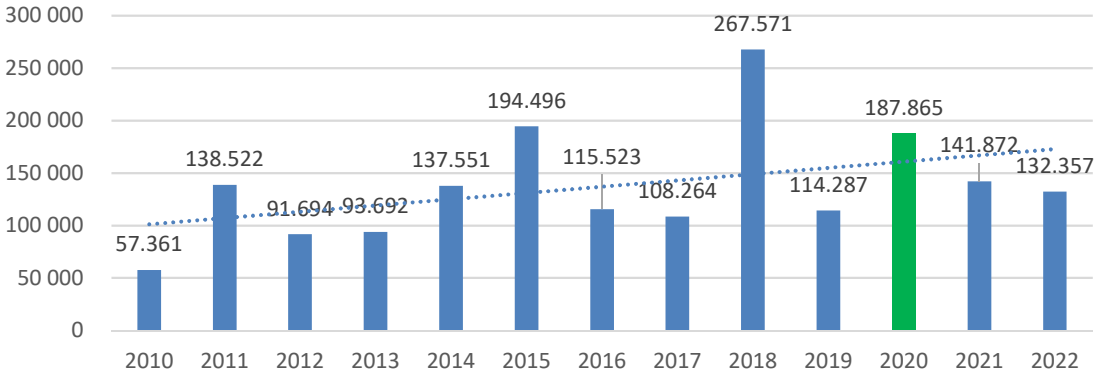

Figure 11. Net value of cross-border M&As in the EU: By seller region in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the net value of cross-border M&As by seller region in the EU countries in 2020 (the first year of the COVID-19 pandemic) increased by 64% (from approximately USD 114 billion to approximately USD 187 billion) compared to 2019. This is a surprising change, as it is different from the global situation (-6%). In 2021 (more than USD 141 billion) and 2022 (more than USD 132 billion), declines in the value of M&As were already recorded, but the trend is upward (trend line in Figure 11). Therefore, we can conclude that within the framework of the third research question RQ3, the specific question

RQ3b proposed in this article has been negatively verified. Figure 12 presents the net value of cross-border M&As by seller region in the Visegrad Group countries in USD million in 2010-2022.

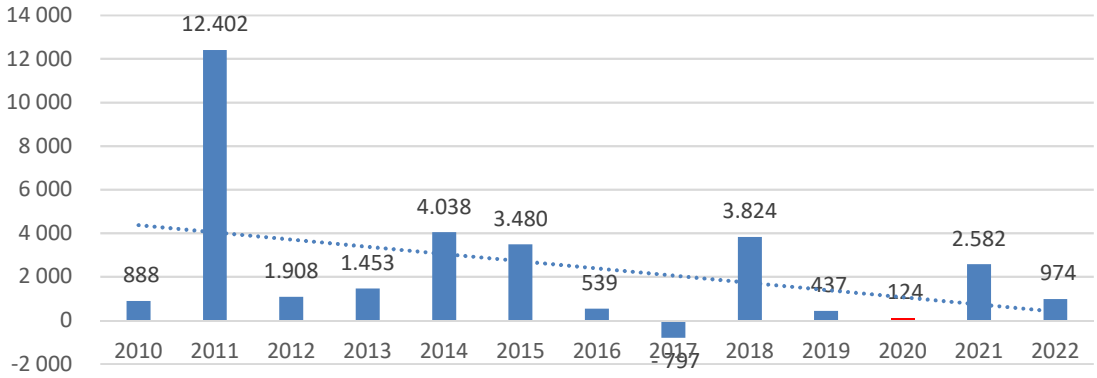

Figure 12. Net value of cross-border M&As in the V4 countries: By seller region in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the net value of cross-border M&As by seller region in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 72% (from approximately USD 437 million to USD 124 million) compared to 2019. This is a very clear change, different from the global situation (-6%) and very different from the EU countries (+64%). In 2021 (more than USD 2.5 billion) and 2022 (more than USD 0.9 billion), higher M&A values were already recorded, but the trend is downward (trend line in Figure 12). Therefore, we can conclude that within the framework of the third research question RQ3, the specific question RQ3c proposed in this article has been positively verified. Figure 13 presents the net value of cross-border M&As by seller region in Poland in USD million in 2010-2022.

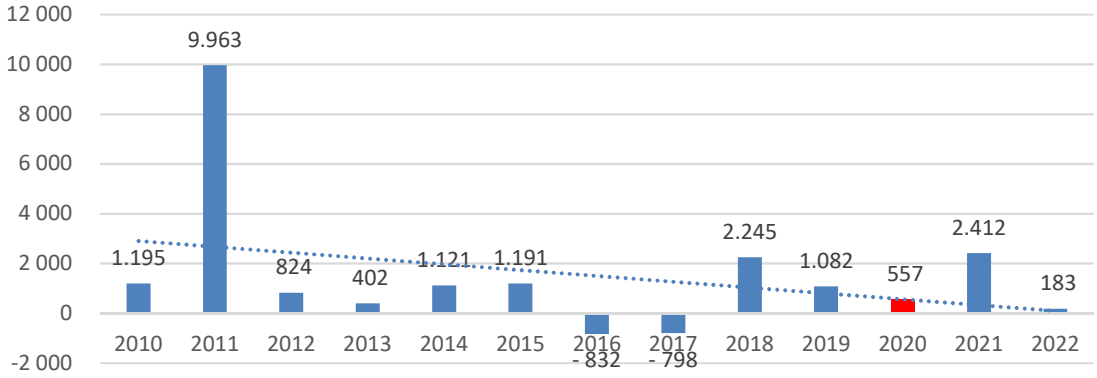

Figure 13. Net value of cross-border M&As in Poland: By seller region in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the net value of cross-border M&As by seller region in Poland in 2020 (the first year of the COVID-19 pandemic) decreased by 49% (from approximately USD 1.08 billion to USD 557 million) compared to 2019. This is a very clear change, different from the global situation (-6%), very different from the EU countries (+64%) and different from the V4 countries (-72%). In 2021 (over USD 2.4 billion), a higher value of this phenomenon was recorded, but already in 2022 (approximately USD 183 million), a lower value of M&As was recorded. The overall trend is downward (trend line in Figure 13). Therefore, we can conclude that within the framework of the third research question RQ3, the specific question RQ3d proposed in this article has been positively verified.

Number of Net Cross-border M&As (Analysed by Seller Region) Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ4

To comprehensively verify the fourth research question, we will present four figures to show the number of net cross-border M&As – analysed by seller region in four aspects: globally, in the EU

countries, the V4 Visegrad Group countries and our country. Figure 14 presents the net number of cross-border M&As globally in 2010-2022.

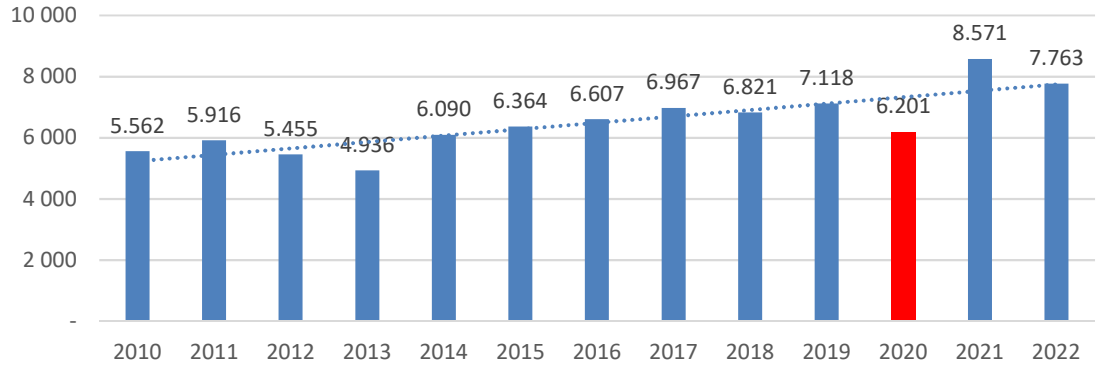

Figure 14. Number of net cross-border M&As globally: By seller region in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of net cross-border M&As by seller region globally in 2020 (the first year of the COVID-19 pandemic) decreased by 13% (from 7.118 to 6.201) compared to 2019. This is a relatively small change. In 2021 (8.571) and 2022 (7.763), a higher number of M&As was already recorded and the trend is upward (trend line in Figure 14). Therefore, we can conclude that within the framework of the fourth research question RQ4, the specific question RQ4a proposed in this article has been positively verified. Figure 15 presents the number of net cross-border M&As by seller region in the EU countries in 2010-2022.

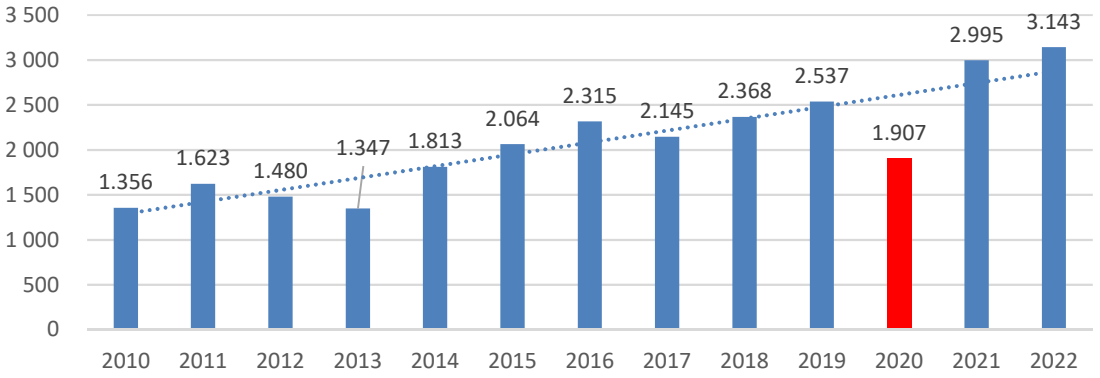

Figure 15. Number of net cross-border M&As in the EU: By seller region in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of net cross-border M&As by seller region in the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by 25% (from 2.537 to 1.907) compared to 2019. This is a fairly significant change. In 2021 (2.995) and 2022 (a record high of 3.143), a higher number of M&As was already recorded and the trend is upward (trend line in Figure 15). Therefore, we can conclude that within the framework of the fourth research question RQ4, the specific question RQ4b proposed in this article has been positively verified. Figure 16 presents the number of net cross-border M&As by seller region in the Visegrad Group countries in 2010-2022.

As we can observe above, the number of net cross-border M&As by seller region in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 55% (from 169 to 76) compared to 2019. This is a significant change. In 2021 (177) and 2022 (a record high of 193), a higher number of M&As was already recorded and the trend is upward (trend line in Figure 16). Therefore, we can conclude that within the framework of the fourth research question RQ4, the specific question RQ4c proposed in this article has been positively verified. Figure 17 presents the number of net cross-border M&As by seller region in Poland in 2010-2022.

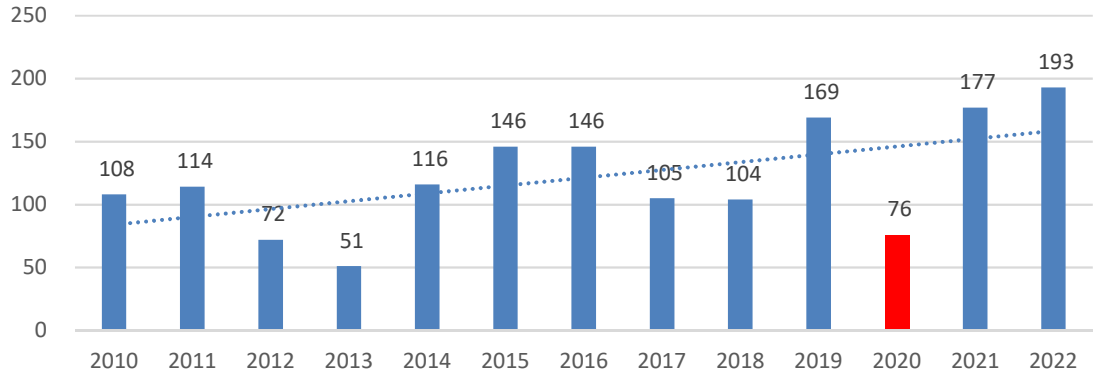

Figure 16. Number of net cross-border M&As in the V4 countries – by seller region in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

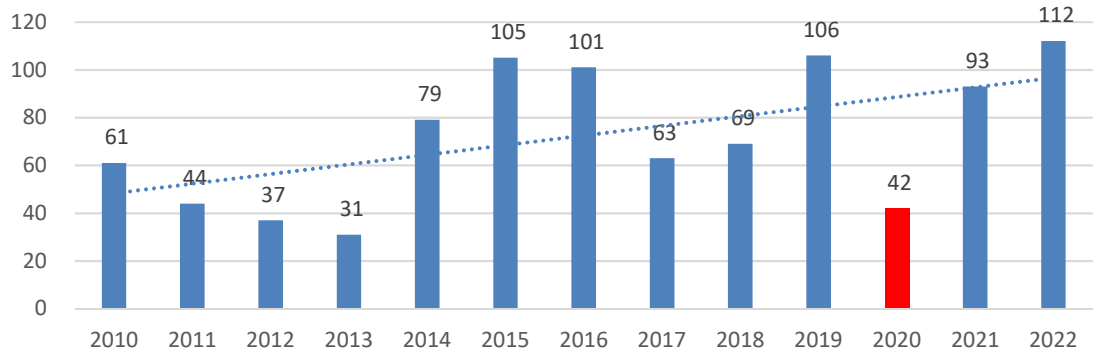

Figure 17. Number of net cross-border M&As in Poland – by seller region in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of net cross-border M&As by seller region in Poland in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 60% (from 106 to 42) compared to 2019. This is a significant change, the largest one in this part of the analysis. In 2021 (93) and 2022 (a record high of 112), a higher number of M&Aswas already recorded and the trend is upward (trend line in Figure 17). Therefore, we can conclude that within the framework of the fourth research question RQ4, the specific question RQ4d proposed in this article has been positively verified.

Value of Announced Greenfield FDI Projects (Analysed by Source of Investment) Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ5

To comprehensively verify the fifth research question, we will present four figures to show the value of announced greenfield FDI projects – analysed by source of investment in four aspects: globally, in the European Union countries, in the V4 Visegrad Group countries and in our country. Figure 18 presents the value of announced FDI projects in question globally in 2010-2022.

As we can observe above, the value of the greenfield FDI projects in question by source of investment globally in 2020 (the first year of the COVID-19 pandemic) decreased by 34% (from USD 0.9 trillion to approximately USD 0.6 trillion) compared to 2019. This is a fairly significant change. In 2021 (approximately USD 0.7 trillion) and 2022 (a record high of more than USD 1.2 trillion), higher values of the projects in question were already recorded and the trend is upward (trend line in Figure 18). Therefore, we can conclude that within the framework of the fifth research question RQ5, the specific question RQ5a proposed in this article has been positively verified. Figure 19 presents the value of announced FDI projects in question in the EU countries in 2010-2022.

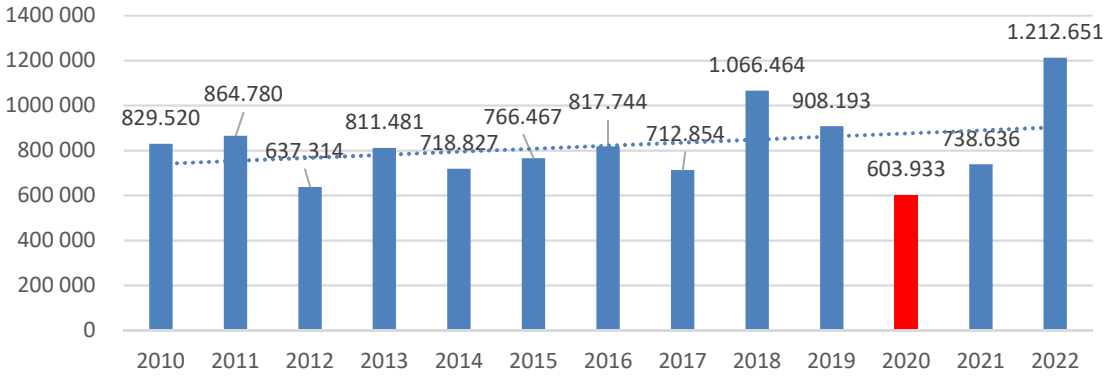

Figure 18. Value of announced greenfield FDI projects globally: By source of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

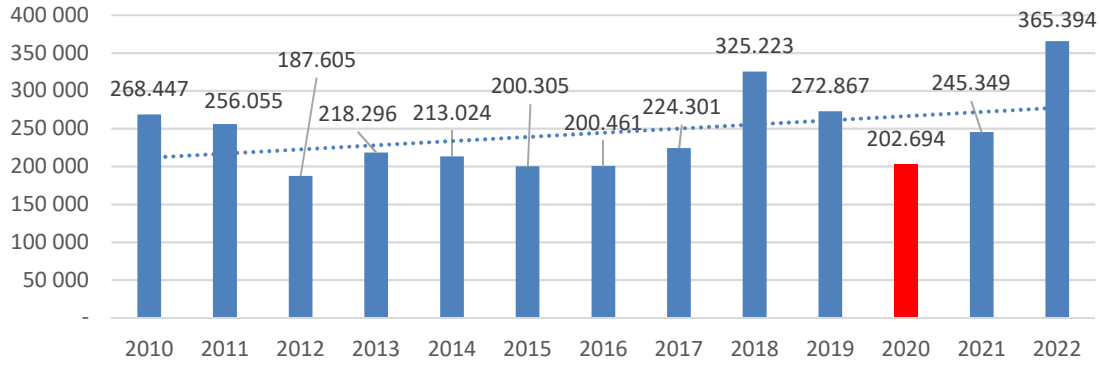

Figure 19. Value of announced greenfield FDI projects in the EU countries: By source of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by the source of investment in the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by 26% (from approximately USD 272 billion to just over USD 202 billion) compared to 2019. This is a fairly significant change. In 2021 (approximately USD 245 billion) and 2022 (a record high of more than USD 365 billion), higher values of the projects in question were already recorded and the trend is upward (trend line in Figure 19). Therefore, we can conclude that within the framework of the fifth research question RQ5, the specific question RQ5b proposed in this article has been positively verified. Figure 20 presents the value of announced FDI projects in question in the Visegrad Group countries in 2010-2022.

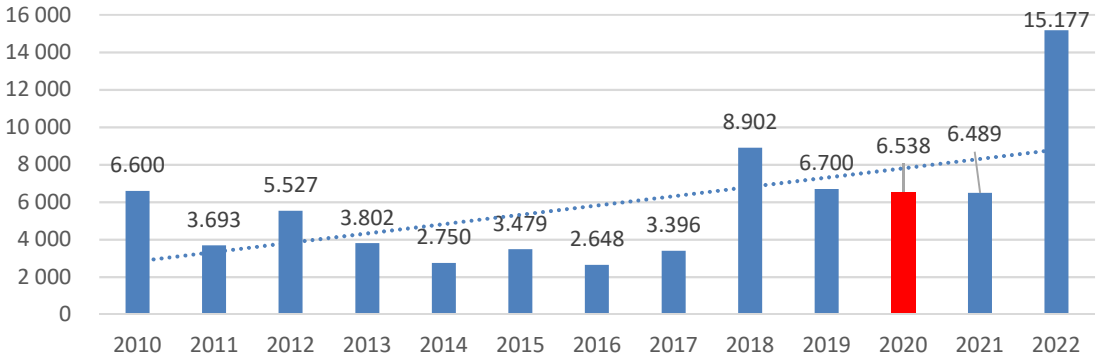

Figure 20. Value of announced greenfield FDI projects in the V4 countries: By source of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by source of investment in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by only 2% (from approximately USD 6.7 billion to just over USD 6.5 billion) compared to 2019. This is a very small change. In 2021, this value still decreased to approximately USD 6.4 billion, but already in 2022, a record high of more than USD 15.1 billion could be observed. The trend is upward (trend line in Figure 20). Therefore, we can conclude that within the framework of the fifth research question RQ5, the specific question RQ5c proposed in this article has been positively verified. Figure 21 presents the value of announced FDI projects in question in Poland in 2010-2022.

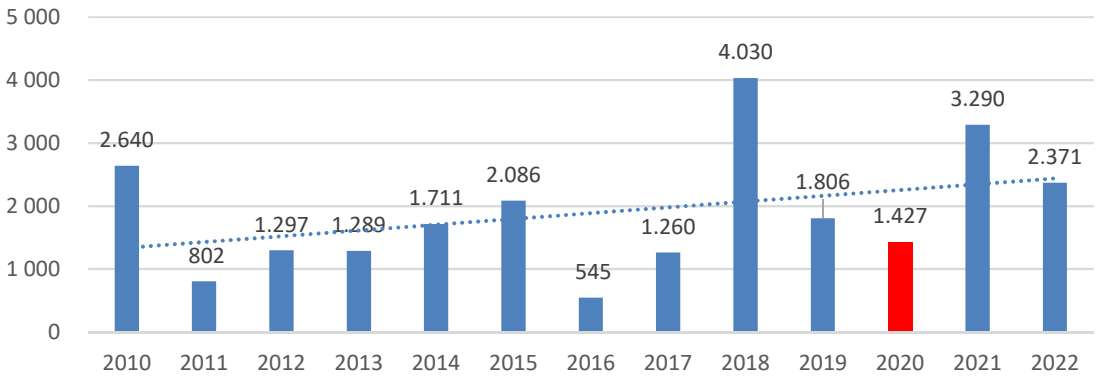

Figure 21. Value of announced greenfield FDI projects in Poland: By source of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by source of investment in Poland in 2020 (the first year of the COVID-19 pandemic) decreased by 21% (from approximately USD 1.8 billion to just over USD 1.4 billion) compared to 2019. This is quite a large change, greater than in all V4 countries combined (-2%). In 2021, this value rose to approximately USD 3.2 billion but then fell again in the following year 2022 to approximately USD 2.3 billion. Nevertheless, the trend is upward (trend line in Figure 21). Therefore, we can conclude that within the framework of the fifth research question RQ5, the specific question RQ5d proposed in this article has been positively verified.

Value of Announced Greenfield FDI Projects (Analysed by Destination of Investment) Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ6

To comprehensively verify the sixth research question, we will present four figures to show the value of announced greenfield FDI projects – analysed by destination of investment in four aspects: globally, in the European Union countries, in the V4 Visegrad Group countries and in our country. Figure 22 presents the value of announced FDI projects in question globally in 2010-2022.

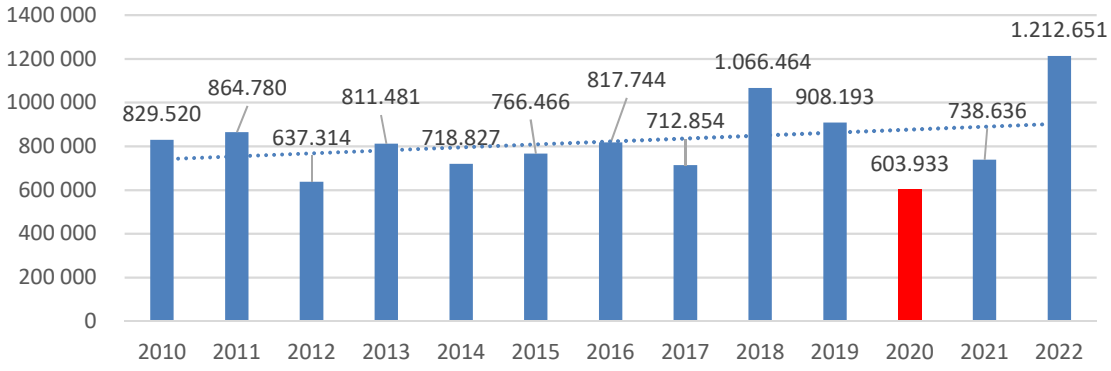

Figure 22. Value of announced greenfield FDI projects globally: By destination of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by destination of investment globally in 2020 (the first year of the COVID-19 pandemic) decreased by 34% (from USD 0.9 trillion to approximately USD 0.6 trillion) compared to 2019. This is a fairly significant change. In 2021 (approximately USD 0.7 trillion) and 2022 (a record high of more than USD 1.2 trillion), higher values of the projects in question were already recorded and the trend is upward (trend line in Figure 22). Therefore, we can conclude that within the framework of the sixth research question RQ6, the specific question RQ6a proposed in this article has been positively verified. It should be noted at this point that the values of the analysed investments by destination of investment are equal to the values of investments calculated by the source of these investments, which is, after all, a logical consequence of these phenomena. Figure 23 presents the value of announced FDI projects in question in the EU countries in 2010-2022.

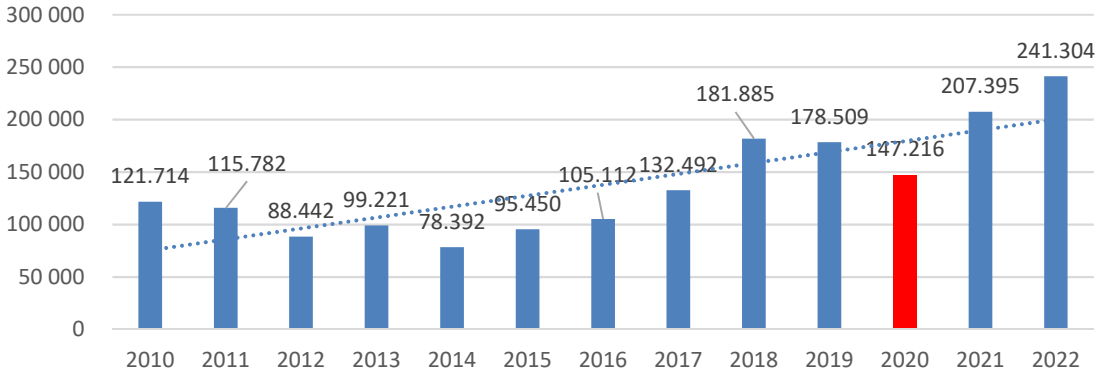

Figure 23. Value of announced greenfield FDI projects in the EU countries: By destination of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by destination of investment in the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by 18% (from approximately USD 178 billion to approximately USD 147 billion) compared to 2019. This is a fairly significant change. In 2021 (approximately USD 207 billion) and 2022 (a record high of more than USD 241 billion), higher values of the projects in question were already recorded and the trend is upward (trend line in Figure 23). Therefore, we can conclude that within the framework of the sixth research question RQ6, the specific question RQ6b proposed in this article has been positively verified. Figure 24 presents the value of announced FDI projects in question in the Visegrad Group countries in 2010-2022.

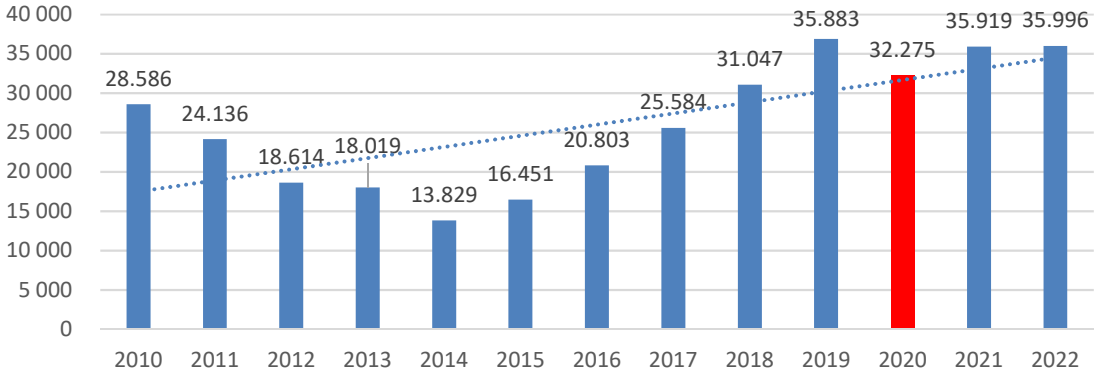

Figure 24. Value of announced greenfield FDI projects in the V4 countries: By destination of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by destination of investment in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by 12%

(from approximately USD 36 billion to approximately USD 32 billion) compared to 2019. This is a relatively small change. In 2021 (approximately USD 35 billion) and 2022 (a post-pandemic record high of almost USD 40 billion), higher values of the projects in question were already recorded and the trend is upward (trend line in Figure 24). Therefore, we can conclude that within the framework of the sixth research question RQ6, the specific question RQ6c proposed in this article has been positively verified. Figure 25 presents the value of announced FDI projects in question in Poland in 2010-2022.

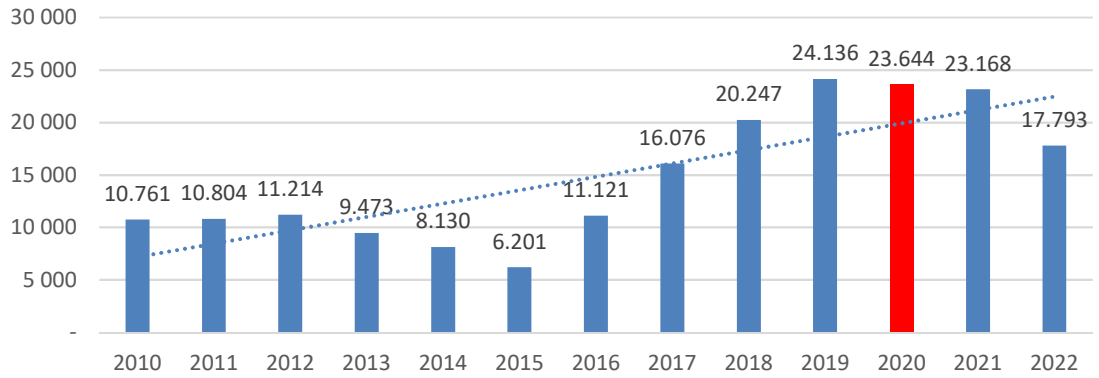

Figure 25. Value of announced greenfield FDI projects in Poland: By destination of investment in 2010-2022, USD million
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the value of the greenfield FDI projects in question by destination of investment in Poland in 2020 (the first year of the COVID-19 pandemic) decreased by 2% (from approximately USD 24.1 billion to approximately USD 23.6 billion) compared to 2019. This is a very small change. In 2021 (approximately USD 23 billion) and 2022 (the least after the pandemic – just over USD 17.7 billion), smaller values of the projects in question were recorded but the trend is upward (trend line in Figure 25). Therefore, we can conclude that within the framework of the sixth research question RQ6, the specific question RQ6d proposed in this article has been positively verified.

Number of Announced Greenfield FDI Projects (Analysed by the Source of Investment) Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ7

To comprehensively verify the seventh research question, we will present four figures to show the number of announced greenfield FDI projects – analysed by the source of investment in four aspects: globally, in the European Union countries, in the V4 Visegrad Group countries and in our country. Figure 26 presents the number of the FDI projects in question globally in 2010-2022.

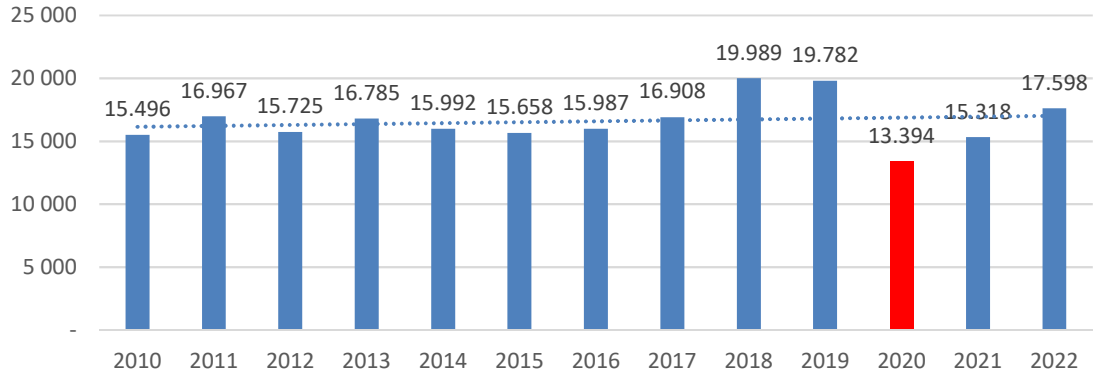

Figure 26. Number of announced greenfield FDI projects globally: By source of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by source of investment globally in 2020 (the first year of the COVID-19 pandemic) decreased by 32% (from 19.782 to 13.394) compared to 2019. This is a fairly significant change. In 2021 (15.318) and 2022 (17.598), a higher number was already recorded but the trend is constant (trend line in Figure 26). Therefore, we can conclude that within the framework of the seventh research question RQ7, the specific question RQ7a proposed in this article has been positively verified. Figure 27 presents the number of FDI projects analysed in the European Union countries in 2010-2022.

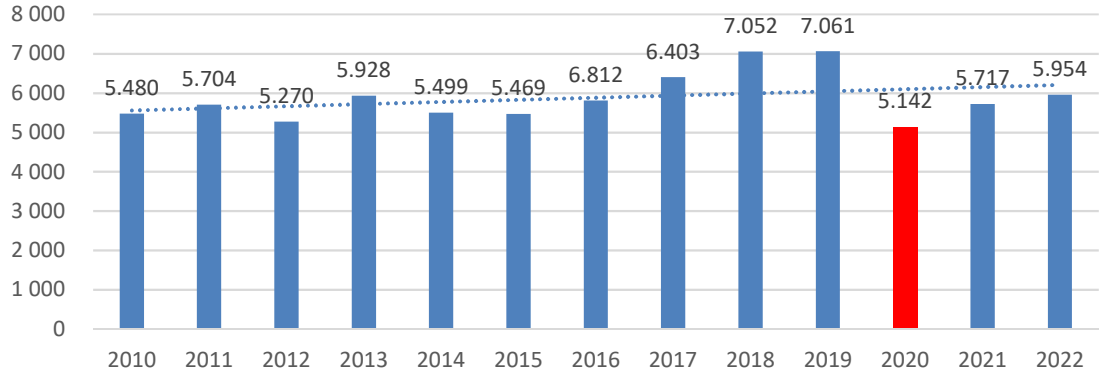

Figure 27. Number of announced greenfield FDI projects in the EU countries: By source of investment in 2010-2022

Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by source of investment in the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by 27% (from 7.061 to 5.142) compared to 2019. This is a fairly significant change. In 2021 (5.717) and 2022 (5.954), a higher number of such investments was already recorded but it has not returned to the pre-pandemic number. The trend is constant (trend line in Figure 27). Therefore, we can conclude that within the framework of the seventh research question RQ7, the specific question RQ7b proposed in this article has been positively verified. Figure 28 presents the number of analysed FDI projects in the Visegrad Group countries in 2010-2022.

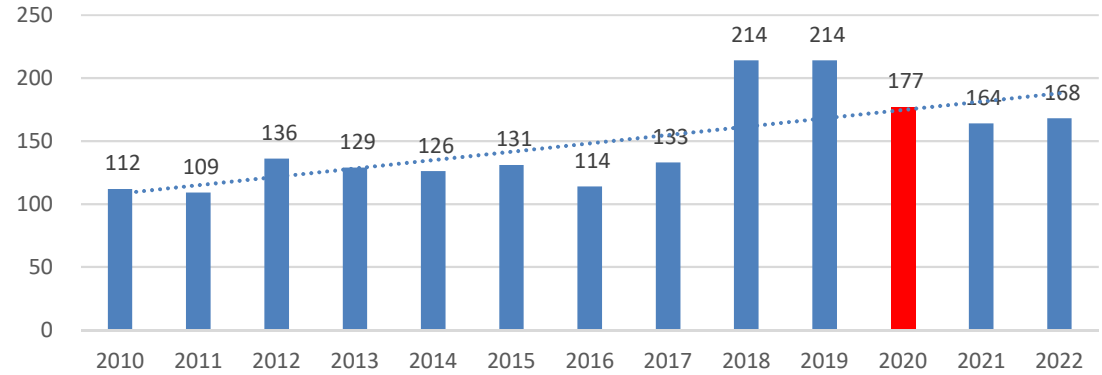

Figure 28. Number of announced greenfield FDI projects in the V4 countries: By source of investment in 2010-2022

Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by source of investment in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by 17% (from 214 to 177) compared to 2019. This is a fairly significant change. Even fewer were recorded in 2021 (164) and 2022 (168). Nevertheless, the trend is upward (trend line in Figure 28). Therefore, we can conclude that within the framework of the seventh research question RQ7, the specific question

RQ7c proposed in this article has been positively verified. Figure 29 presents the number of analysed FDI projects in Poland in 2010-2022.

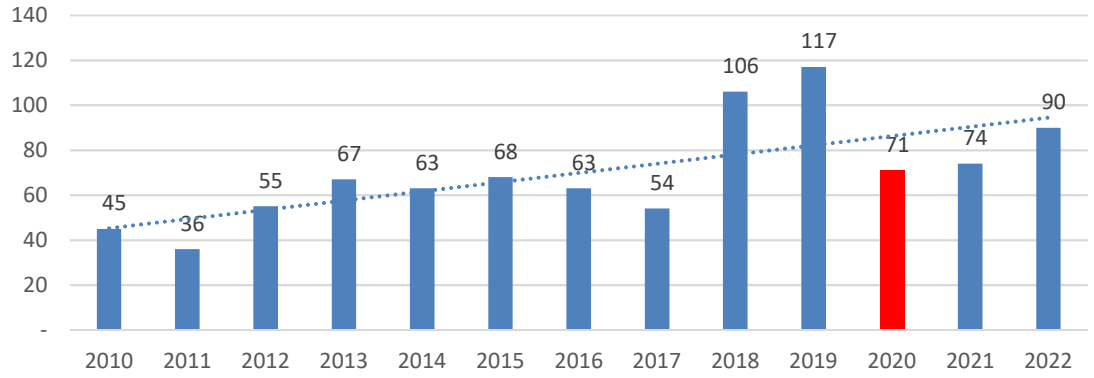

Figure 29. Number of announced greenfield FDI projects in Poland: By source of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by source of investment in Poland in 2020 (the first year of the COVID-19 pandemic) decreased by as much as 39% (from 117 to 71) compared to 2019. This is a very large change, larger than globally (-32%), larger than in the EU countries (-27%) and larger than in the V4 countries (-17%). In 2021 (74) and 2022 (90), higher foreign investor activity was recorded in the area in question, but it did not return to pre-pandemic levels. Nevertheless, the trend is upward (trend line in Figure 29). Therefore, we can conclude that within the framework of the seventh research question RQ7, the specific question RQ7d proposed in this article has been positively verified.

Number of Announced Greenfield FDI Projects (Analysed by Destination of Investment) Globally, in the EU Countries, the V4 Countries and Poland: Verification of Research Question RQ8

To comprehensively verify the last, eighth research question, we will present four figures to show the number of announced greenfield FDI projects – analysed by destination of investment in four aspects: globally, in the European Union countries, in the V4 Visegrad Group countries and in our country. Figure 30 presents the number of analysed FDI projects globally in 2010-2022.

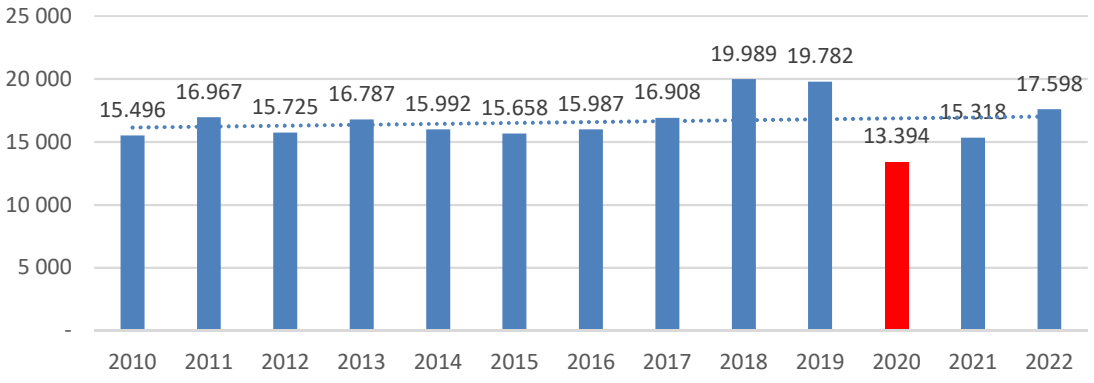

Figure 30. Number of announced greenfield FDI projects globally: by destination of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by destination of investment globally in 2020 (the first year of the COVID-19 pandemic) decreased by 32% (from 19.782 to 13.394) compared to 2019. This is a fairly significant change. In 2021 (15.318) and 2022 (17.598), a higher number was already recorded, but the trend is constant (trend line in Figure 30). Therefore, we can conclude that within the framework of the eighth research question RQ8, the specific question

RQ8a proposed in this article has been positively verified. It should be noted at this point that the values of the investments analysed by destination of investment are equal to the values of the investments calculated by the source of these investments, which is, after all, a logical consequence of these phenomena (analogous situation as in the case of research on values). Figure 31 presents the number of analysed FDI projects in the EU countries in 2010-2022.

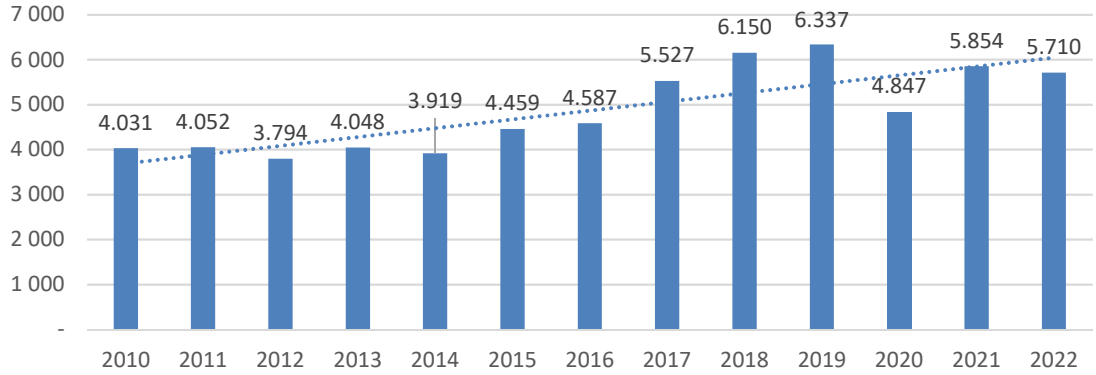

Figure 31. Number of announced greenfield FDI projects in the EU countries: By destination of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by destination of investment in the EU countries in 2020 (the first year of the COVID-19 pandemic) decreased by 24% (from 6.337 to 4.847) compared to 2019. This is a fairly significant change. In 2021 (5.854) and 2022 (5.710), a higher number of such investments was already recorded, but it did not return to pre-pandemic levels. Nevertheless, the trend is upward (trend line in Figure 31). Therefore, we can conclude that within the framework of the eighth research question RQ8, the specific question RQ8b proposed in this article has been positively verified. Figure 32 presents the number of analysed FDI projects in the Visegrad Group countries in 2010-2022.

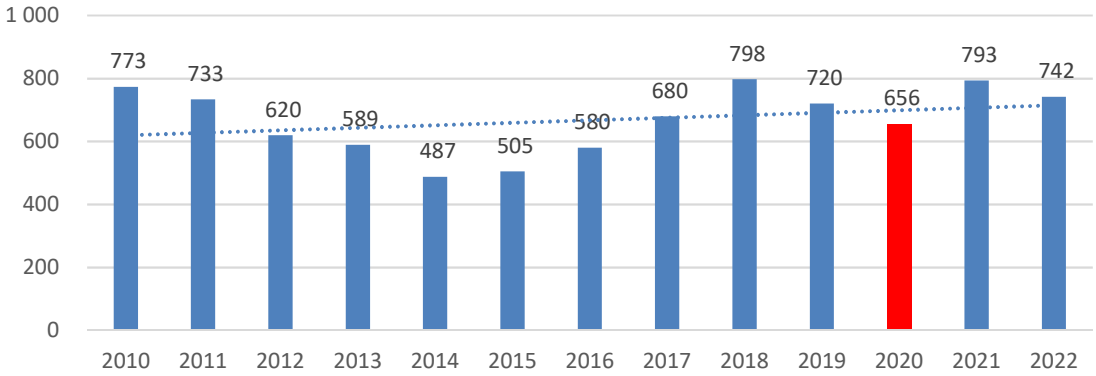

Figure 32. Number of announced greenfield FDI projects in the EU countries: By destination of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by destination of investment in the V4 countries in 2020 (the first year of the COVID-19 pandemic) decreased by 9% (from 720 to 656) compared to 2019. This is a relatively small change. In 2021 (793) and 2022 (742), a higher number of such investments was already recorded and exceeded the number of such investments before the pandemic. The trend is slightly upward (trend line in Figure 32). Therefore, we can conclude that within the framework of the eighth research question RQ8, the specific question RQ8c proposed in this article has been positively verified. Figure 33 presents the number of analysed FDI projects in Poland in 2010-2022.

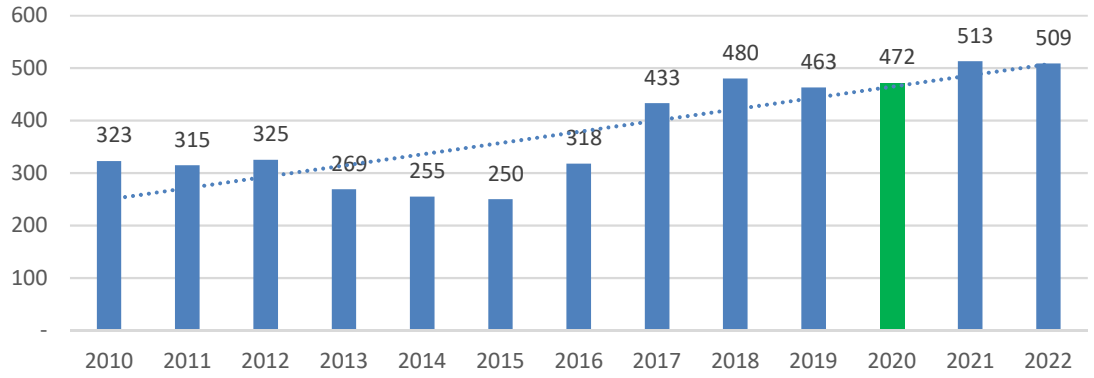

Figure 33. Number of announced greenfield FDI projects in Poland: By destination of investment in 2010-2022
Source: own elaboration based on UNCTADstat (2023).

As we can observe above, the number of announced greenfield FDI projects by destination of investment in Poland in 2020 (the first year of the COVID-19 pandemic) not only – in contrast to global trends, in the EU and V4 countries – did not decrease, but increased by 2% (from 463 to 472) compared to 2019. This is a relatively small change, but there is no decrease in the number of such projects. Moreover: in 2021 (513) and 2022 (a record high of 509), even more such investments were recorded. The trend is definitely upward (trend line in Figure 33). Therefore, we can conclude that within the framework of the eighth research question RQ8, the specific question RQ8d proposed in this article has been positively verified.

Summarising the above analyses, we can state that we verified eight main research questions, each with four specific questions – which means a total of 32 studies. It turned out that in the vast majority of cases, the main questions were completely verified positively (RQ2, RQ4, RQ5, RQ6, RQ7) – which means confirmation of the assumption that capital outflows in the form of FDI, the number of net cross-border M&As (by seller region), the value of announced greenfield FDI projects (by source of investment), the value of announced greenfield FDI projects (by destination of investment) and the number of announced greenfield FDI projects (by source of investment) decreased after the outbreak of the COVID-19 pandemic in all four aspects: globally, in the EU countries, in the Visegrad Group countries and Poland. On the other hand, in the case of main questions RQ1, RQ3 and RQ8, *i.e.* capital inflows in the form of FDI, the net value of cross-border M&As (by seller region) and the number of announced greenfield FDI projects (by destination of investment), it turned out that positive verification of the questions could be observed only partially. In the case of specific questions RQ1d, RQ3b, and RQ8d, it turned out that the verification of the assumptions was negative. This means that capital inflows in the form of FDI in the first year (2020) of the COVID-19 pandemic not only did not decrease in Poland (this is RQ1d), but increased – as can be seen in Figure 5 (globally, in the EU countries and in the V4 countries they decreased). In the case of the net value of cross-border M&As (by seller region), it turned out that in the EU countries (this is RQ3d) these values not only did not decrease (in other analyses they decreased), but increased – as can be seen in Figure 11. In the case of the number of announced greenfield FDI projects (by destination of investment), it also turned out that in Poland (this is RQ8d), this number not only did not decrease but increased (in other analyses they decreased) – as Figure 33 shows. The reasons for this require further, extensive research and analysis, but it seems that the large internal market, presence in the EU, investment attractiveness understood as the investment climate (economic, political, legal, social and other factors) and location attractiveness and, additionally, processes of change in global value chains (shortening, transfer of processes, relocation of investments) may be an opportunity for countries such as Poland. These positive trends may be disrupted by Russia's actions in connection with the war in Ukraine or by economic and political turmoil in the world.

As mentioned at the beginning, there are no scientific studies on foreign direct investment in the approach proposed in this article (those that exist are mentioned in the literature review). However, it would be necessary to further examine selected sectors or industries of economies affected by the COVID-19 crisis.

CONCLUSIONS

The economic crisis triggered by the worldwide spread of the COVID-19 pandemic caused several perturbations globally. The foundations of the market economy collapsed, regulatory restrictions and lockdowns were introduced and we observed a negative impact on international trade, including capital flows in the form of foreign direct investment. In this article, we aimed to identify and analyse selected trends and phenomena occurring in the global economy in conjunction with a description of the changes taking place at the global level, in the European Union countries, the Visegrad Group countries and Poland, which are related to the impact of the COVID-19 pandemic on capital flows in the form of foreign direct investment. Out of eight main research questions, five were fully positively verified (positive verification of all specific questions for each main question) and three main research questions were partially positively verified, because in the case of specific questions RQ1d, RQ3b, and RQ8d, it turned out that the verification of assumptions was negative – once in the case of the European Union countries and twice in the case of Poland. One may be tempted to conclude that the slowdown in the global economy and the deceleration in globalisation processes (deglobalisation or even slowbalisation processes) in terms of FDI flows did not affect Poland as drastically as other countries.

In my opinion, the presented research findings have not only descriptive but also explicative (explanatory) value. They may also have an implication value when we take into account the current level of investment attractiveness of our country and the possible location and relocation of foreign capital in our part of Europe related to the destabilisation of global value chains and the search for safe location havens for foreign direct investment. It is becoming increasingly important for businesses to try to reduce their dependence on projects involving the concentration of production processes far abroad, for example outside the European Union (which in practice means Asia and especially China). Companies will look for ways to increase the so-called resilience of their supply chains, *i.e.* diversification of their supplier base to protect themselves against possible production disruptions by seeking new suppliers in locations they have not used so far (Javorcik, 2020/2021). Thus, paradoxically, the effect of the COVID-19 pandemic may be the emergence of a development opportunity for Poland and other countries in our region – which will mean intensified participation in global value chains. This may be helped by public instruments to support investors but may be hindered by the continuing war between Russia and Ukraine.

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