Katarína Liptáková
PhD (Economics),
Associate Professor,
Department of Political Science,
Faculty of Political Science and International Relations,
Matej Bel University in Banská Bystrica
1 Kuzmányho Str., Banská Bystrica, 974 01,
Slovak Republic
katarina.liptakova@umb.sk
ORCID ID:
https://orcid.org/0000-0002-6711-1405

Zuzana Rigová
PhD (Engineering),
Department of Quantitative Methods
and Information Systems,
Faculty of Economics,
Matej Bel University in Banská Bystrica
10 Tajovského Str., Banská Bystrica, 975 90,
Slovak Republic
zuzana.rigova@umb.sk
ORCID ID:
https://orcid.org/0000-0002-7525-1619

Peter Cibuľa
Engineer,
PhD Student (Political Science),
Department of Political Science,
Faculty of Political Science and International Relations,
Matej Bel University in Banská Bystrica
1 Kuzmányho Str., Banská Bystrica, 974 01,
Slovak Republic
peter.cibula@umb.sk
ORCID ID:
https://orcid.org/0009-0008-0970-6217

Assessing the inward foreign direct investment and their impact on gross domestic product growth in Central and Eastern Europe countries

Abstract. The article is focused on researching the development of foreign direct investment (FDI) in Central and Eastern Europe countries (CEE) from 2010 to 2020. For FDI, we monitor two indicators - inward flows (as % of GDP) and inward flows (as % of world total) from two points of view (time period and individual countries). We also selected the indicator which considers the size of the country. It is the FDI stocks (as % of GDP), and we follow it in the year 2020. We work with descriptive geographic, demographic and socio-economic characteristics of the studied countries in 2020.

Development of FDI from 2010 to 2020, comparison between years and countries as well as the influence of FDI on Gross Domestic Product (GDP) to find out if there is a relationship between its level and inward FDI are our research targets. The database for our research is freely available data from the World Bank and the United Nations Conference on Trade and Development.

In the discussion section, we evaluate each indicator for each country separately. We apply the coefficient of variation to measure regional differences between CEE countries in the analyzed indicators.

The main result shows that there is a strong direct connection between GDP and inward FDI (flows and stocks) at the beginning, in the middle, and at the end and of the monitored period in the analyzed countries.

Keywords: Foreign Direct Investment; GDP; Inward FDI Flows; Inward FDI Stocks; CEE
JEL Classifications: F43; F62; F63

1. Introduction

Foreign direct investment plays an important and increasing role in global business (The World Economic Forum, 2022) and the financing of the global economy (Táncošová, 2019; OECD, 2002; Camesasca & Kingsbury, 2022; Drahokoupil, 2022). It includes the rapid and substantial transfer

of money internationally, which allows companies to use it more efficiently (Fifeková, 2008; Susic, Stojanovic-Trivanovic, & Susic, 2016; Urbanova, Kozakova, Svetlanska, & Durisova, 2019). FDI directly contributes to a significant increase in investment resources in each economy, which positively affects other areas (Táncošová, 2019). Foreign direct investment is discussed on various levels (Researchfdi, 2021). FDI indicators are among the main economic indicators of national economies (Hudec, 2007).

FDI is the most effective form of integration of the national economy into the international division of labour (Hošková, 2001; Javorčík & Kaminski, 2004). FDI brings skills, technology (Durka, 2015), knowledge, and know-how (Hošková, 2001; Minarčík, 2009; Babuněk, 2012; Szkorupová, 2015; Fifeková & Nemcová, 2015; Pilarska & Walega, 2017; Táncošová, 2019). It is a basis for upgrading production facilities (Bijsterbosch & Kolasa, 2009; United Nations Economic and Social Commission for Asia and the Pacific, 2021) and promotes international trade between countries through access to foreign markets (Banque de France, 2020; Lebiedzik, Majerová, & Nezval, 2006; Dudáš, 2006; Baláž, 2010; Neumannova, 2013; Zysk & Smiech, 2014; Susic, Stojanovic-Trivanovic & Susic, 2016; Czech & Fronczek, 2017; Su, Zhang, Zhang, Abrham, Simionescu, Yaroshevich, & Guseva, 2018).

In general, FDIs are developed in open economies that have a skilled workforce and the potential for growth (Researchfdi, 2021). Due to the lack of domestic savings in them, the involvement and participation of foreign capital is necessary (Darmo & Novák, 2015). To such countries belong the states of Central and Eastern Europe collectively referred to as CEE countries (Sohinger, 2005). FDI is extremely important for them because they are still going through the process of transformation. It is not finished yet, we can see multiple events in the region that have brought various economic, social, political, and institutional changes (Bostan, Toma, Aevoae, Robu, Mardiros, & Topliceanu, 2023).

In the analytical part of this paper, we examine the development of FDI in CEE countries, which currently belong to the European Union in the time horizon of 2010 to 2020. In the past, they were called Eastern Bloc. These are ten countries, when presenting the results of the research they are abbreviated as following: Bulgaria (BGR), Czechia (CZE), Estonia (EST), Hungary (HUN), Latvia (LVA), Lithuania (LTU), Poland (POL), Romania (ROU), Slovakia (SVK) and Slovenia (SVN). We excluded Croatia from the analysis, which joined the EU only in 2013, i.e., not from the beginning of the period under study, as this would distort the results. We want to find out the relationship between the inward of FDI into them and the development of GDP in the monitored period of 2010-2020.

2. Brief Literature Review

FDI positively affects employment (Kornecki & Raghavan, 2011; Durcova, 2012; Popescu, 2014; Czech & Fronczek, 2017; Darmo, Novák, & Lisý, 2020), labour productivity (Velde, 2001; Mišun & Tomšk, 2002; Hudec, 2007; Pandya, 2010; Gallova, 2012; Krajco, Honova, Hon, Melecky, & Stanickova, 2014; Fabuš & Csabay, 2018; Kabat, Cibak, & Filip, 2020; Hudakova, Papcunova, Stubnova, & Urbanikova, 2020; Pankova, 2020; Suhanyi, Suhanyiova, Korecko, Bednarova, Kadarova, Derkawi, & Bacova, 2021), ensures improved living standards and state welfare in the society (Susic, Stojanovic-Trivanovic, & Susic, 2016; Zelity, 2022), increases competitiveness (Fuchsova & Sivicek, 2013; Czech & Fronczek, 2017; United Nations Economic and Social Commission for Asia and the Pacific, 2021), supports currency stability (Jenčová & Litavcová, 2013). FDI leads to an increase in the value added content of FDI related production, represents a benefit to the economy, the spillover effect (de Mello, 1997; Fifeková, 2008; Corporate Finance Institute, 2022).

It is generally argued that the inflow of foreign capital guarantees economic growth (Velde, 2001; OECD, 2002; Hudec, 2007; Herzer, 2010; Matlovič & Matlovičová, 2011; Merková, Rajnoha, & Novák, 2012; Szkorupová, 2015; Simionescu, Lazanyi, Sopkova, Dobes, & Balcerzak, 2017; Pilarska & Walega, 2017; Gural & Lomachynska, 2017; Vojtovič, Klimaviciene, & Pilinkiene, 2019; Pankova, 2020; OECD, 2020, 2022; International Visegrad Fund, 2021, 2022). However, there are also conflicting opinions (e.g., Balasubramanyam, Salisu, & Sapsford, 1996; Bostan, Toma, Aevoae, Robu, Mardiros, & Topliceanu, 2023). The differences in the conclusions reflect the availability and quality of the data, the length of the time series, and the research methods used (Szkorupová, 2015). A lot also depends on the indicators that are monitored in connection with FDI.

In the available literature, there are many indicators that are monitored in relation to FDI. It is most often about FDI flows per capita (Hunya, 2002; Merková, Rajnoha, & Novák, 2012), FDI inflows as % of GDP (Simionescu, Lazanyi, Sopkova, Dobes, & Balcerzak; 2017), inward FDI flows in

absolute amount (Gallova, 2012; Urbanova, Kozakova, Svetlanska, & Durisova, 2019; Mihaylova, 2019; Owczarczuk, 2020). Inward FDI flows are tracked by country (Sunesen et al., 2018), in international comparison (Czech & Fronczek, 2017). It is further monitored outward FDI flow in absolute amount (Giakoulas, 2021), in international comparison (Galgóczi & Drahokoupil, 2017), in the world's outward FDI (Gorynia, Nowak, & Wolniak, 2010). General indicators of FDI are inward FDI by sectors (Hunya, 2002) and different composite indexes (e.g., FDI attractiveness index by Mihaylova, 2020).

Since there are many positive effects associated with FDI, we decided to verify connection between the flow of FDI into the country and the growth of GDP on the example of the countries of Central and Eastern Europe from 2010 to 2020.

These countries have been the subject of various analyses over time, and their economic growth has been the object of numerous studies (e.g., Prochniak, 2011; Vehorn & Vasarevic, 2011; Dombi, 2013; Szkorupová, 2015; Hlavacek & Bal-Domańska, 2016; Batrancea, Mozi, Gaban, Fatacean, Tulai, Bircea, & Rus, 2020). Bostan, Toma, Aevoae, Robu, Mardiros, and Topliceanu (2023) found that in the years 1995-2019, the FDI factor was not interesting for the economic growth of Central and Eastern European countries.

Following recent literature reviews on both economic growth and FDI of the CEE countries, **the research questions** for investigation are proposed as follows:
1. Are the CEE countries similar in terms of development FDI inflows in the years under review?
2. Does the inward foreign direct investment into a country affect its gross domestic product?
3. Does the inward foreign direct investment have impact on the economic growth of the countries of Central and Eastern Europe?

Bostan, Toma, Aevoae, Robu, Mardiros, and Topliceanu (2023) brought two types of factors which may influence the economic growth of the CEE countries, internal (domestic investment and labor force) and external (FDI and trade openness) ones. *The subject of our interest in the paper will be only foreign direct investments and their development tracked through the change in GDP.*

Our research is structured into six parts. The first part is introduction. The second part is dedicated to the review of the scientific literature considering the importance of foreign direct investment in general. The third part is the purpose of the research. The fourth part is devoted to the data collection and research methodology and includes two indicators of direct foreign investment which are further investigated. This section is also focused on the selected geographic, demographic and socio-economic characteristics of the studied countries in 2020. They serve us as basic prerequisites, so that we know which countries we are working with before monitoring FDI in them. The following section presents the discussion and results of the research carried out by us. The last part is the conclusion, which confirm the established research questions.

3. Purpose

We proceed from the assumption that the CEE countries had a very similar initial situation. We want to know how they coped with economic development and FDI inflows after the change, so we compare them, their basic predispositions.

The aim of this study is to identify the development of FDI in the monitored countries in the time period 2010 and 2020 and to determine the relationship between the flows of FDI into the country and GDP changes (through indicators of inward FDI flows, inward FDI stocks).

4. Data and Methodology

We work with descriptive geographic, demographic and socio-economic characteristics of the studied countries in 2020 in order to introduce them and with two indicators of FDI between 2010 and 2020, particular inward flows and inward stocks. The databases of mentioned characteristics and FDI indicators are freely available data from the collection of the World Bank and the United Nations Conference on Trade and Development (UNCTADstat).

In available sources, FDI data is published from different perspectives and in a different format. There are certain problems encountered in literature in finding appropriate indicators of FDI in relation to economic development. The share of FDI flows directed to the country is often suggested. FDI flows comprise mainly three components: acquisition or disposal of equity capital (over 10%); reinvestment of earnings that are not distributed as dividends; inter-company debt. FDI flows are transactions recorded during a reference period, most often one year. They vary greatly from year

to year and should be put in relation to the size of the country. The FDI stocks represents the accumulated value of FDI inflows held at the end of the year (M. Grančay & N. Grančay, 2017). As for FDI stocks, they are most often reported per capita, by country of origin (Sakali, 2013).

In our paper we analyze FDI from several point of view, the development of inward flows of FDI expressed as a percentage of GDP from the analyzed period point of view and from the point of view of the considered countries. We are interested in the view of the CEE countries as a whole and their share in the world, so we also examine the indicator of inward flows of FDI as a percentage of total world. Tracking the FDI stocks as a percentage of GDP is in the available literature less frequent. Therefore, in the last year of the study, we report the stock of inward FDI as percentage of GDP for the analyzed countries. Finally, we determine the relationship of FDI inflows to the economic performance of the country expressed in GDP. In this case, we use the considered indicators expressed in current US dollars.

We present the results of our analysis through tables, graphs and cartograms (pictures of maps). The development of the values of the monitored indicators due to the relatively high number of investigated units (10 countries) and a longer period (10 years) is illustrated using box charts. In this type of graph, we clearly see the following statistical indicators of the data series (values of the indicator in a specific year, respectively in a specific country): minimum, 1st quartile - the first 25% of ordered values, arithmetic mean, median, 3rd quartile - the first 75% of values, maximum and possibly lower, or upper extreme values (outliers). The cartograms[1] show the analyzed indicator for the country with the color-graded intensity of its value and it is belonging to quintiles, i.e., the indicator values are included in five intervals. To measure regional differences between CEE countries in the analyzed indicators, we apply the coefficient of variation (hereinafter CoV). It is one of the basic indicators of variability and is calculated as the ratio of the standard deviation and the arithmetic mean of the marker (Hindls, Hronová, & Seger, 2004).

Table 1 represents the analyzed countries through selected geographic[2], demographic[3] and socio-economic indicators[4], specifically; it represents the state of the monitored indicator at the end of the examined period, i.e., in 2020.

As for geographical indicators, the three largest countries by area are Poland, Romania and Bulgaria (listed in descending order), while the first two are also the countries with the largest population (37.9 and 19.3 million, respectively). The third most populous country is Czechia (10.7 million), which is also the country with the highest population density (up to 138 inhabitants per square kilometer). It is followed by Poland and Slovakia (123 and 113 inhabitants per square kilometer). On the contrary, within the examined sample, Estonia is the country that, in the geographical and demographic indicators considered, is among the three countries with the smallest values. It is the second smallest country in terms of area, with the lowest population density (43,470 km², only 1.3 million inhabitants and around 30 inhabitants per square km). The group

Table 1:
Descriptive characteristics of analyzed CEE countries in 2020

Country	Land area (in sq. km)	Population (in mil.)	Population density (people/ km²)	GDP per capita (in ths. USD)	Labor productivity (in ths. USD)	Labor force rate (in %)	The employment rate (in %)
BGR	**108 560**	6.9	63.9	10.1	49.8	74.2	52.7
CZE	77 200	**10.7**	**138.6**	**22.9**	**78.5**	78.6	**58.3**
EST	43 470	1.3	30.6	**23.1**	71.2	**84.2**	**59.1**
HUN	91 260	9.8	106.8	16.1	66.8	74.4	54.5
LVA	62 090	1.9	30.6	17.7	63.5	**82.0**	56.7
LTU	62 630	2.8	44.6	20.2	**76.6**	82.8	**57.3**
POL	**306 170**	**37.9**	**123.8**	15.7	70.4	72.0	54.3
ROU	**230 080**	**19.3**	83.7	13.0	65.5	71.3	52.3
SVK	48 080	5.5	**113.5**	19.3	65.6	73.6	55.1
SVN	20 136	2.1	104.4	**25.5**	**79.5**	76.5	54.9

Note: the three highest values within the considered characteristic are formatted in bold, and the three lowest are in light grey.

Source: Own processing according to data from the World Bank

---

[1] https://www.efrainmaps.es/english-version/free-downloads/europe/
[2] land country's total area in sq. km
[3] total population in millions, population density expressing the number of people per sq. km of land area
[4] GDP per capita in current U.S. dollars, labour productivity considered as GDP per person employed in thousand USD, total labour force participation rate as % of total population ages 15-64, total employment ratio to population 15+ in %

of relatively small countries also includes Slovenia in terms of area and population and Slovakia with the third smallest area.

As for the socio-economic indicators (see the last four columns of the table 1 and the following cartogram), we observe, that the economic performance of the country does not correspond to the geographical and demographic indicators. It is visible in the example of the two largest and most populous countries, Poland and Romania, which belong to the group with the three smallest values of the presented socio-economic indicators[5].

Figure 1 presents the country's GDP per capita in graduated colors, where the two smallest countries in terms of area and population, Slovenia and Estonia, showed the highest value in 2020. They were followed by the relatively medium-sized countries Czechia and Lithuania. The lowest value of GDP per capita in the monitored year was reported by Bulgaria, Romania and Poland (10.1; 13 and 15.7 thousand USD).

As for the last indicator, the employment rate in %, we prefer it to the unemployment indicators. It is because a low unemployment rate often can mask considerable poverty in a country without well-developed safety nets for workers[6]. Even though we observed relatively small deviations in this indicator (the average value is 55.5% and the standard deviation is 2.15%), Estonia, Czechia and Lithuania showed the highest employment rate in 2020. On the contrary, the three largest countries by area, Poland, Bulgaria and Romania, had the lowest value among the compared countries.
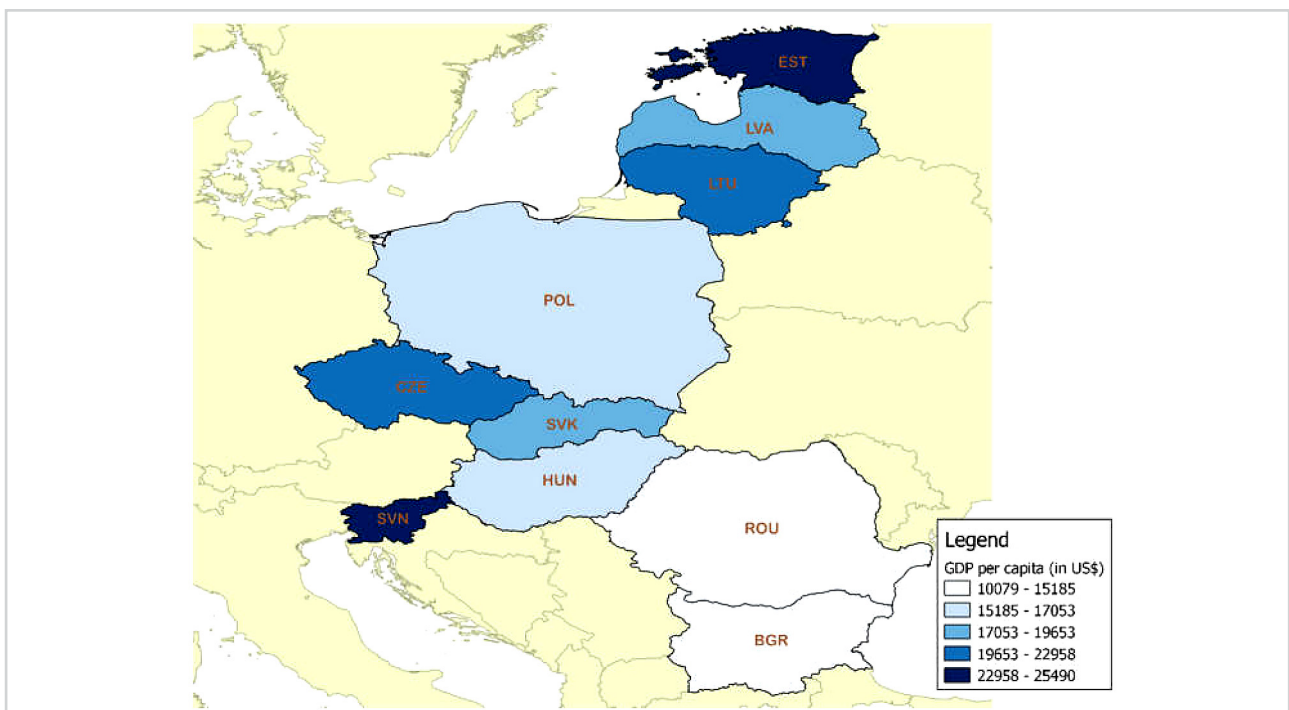
Note: Indicator values are included in quintiles, i.e., to five intervals.

Figure 1:
GDP per capita in analyzed CEE countries in 2020
Source: Own processing based on data from World Bank

5. Results and Discussion

The results of the considered indicator (FDI Inward flows as % of GDP) are presented with box graphs and a table. In the first graph we observe the range of values of the given indicator within a specific year and the trend of the development of values in the monitored time period (2010-2020). In the second graph we point out the range of values of the indicator achieved within the respective country in the monitored period, as well as a comparison of the values of

---

[5] These indicators are GDP per capita, labour productivity, labour force rate and employment in the case of Romania and GDP per capita, labour force rate and employment in the case of Poland.
[6] At the same time, people actually prefer to work in unsatisfactory jobs only because they cannot afford to wait for more suitable job offers without unemployment support or social benefits.

this country with the other investigated countries. In the table we list the specific values of the indicator in the countries and years studied.

As for the indicator of FDI inward flows as a share of GDP (Figure 2), at the beginning of the examined period the value of the indicator grew slightly, from an average value of 2.66% in 2010 to 3.9% in 2012. Then slightly again it fell and grew, and at the end of the examined period it reached the relatively same level again as in 2010 (at an average of 2.43%). In the monitored period, the variability of values (quantile range RQ) changed slightly, the lowest was 0.7% in 2019. In 2010, the value was 1.19%, the highest was 3.22% in 2015. In the examined period, we also observe the upper and lower extremes of the values. The upper extremes in the entire period were shown by Estonia (7.7%, 11.4%, 7%, 9.8% and 10.2%), in the order of 2010, 2012, 2019 and 2020. On the contrary, the lower extremes were shown by Hungary (-11.6% and -4.2%), in 2015 and 2016. We observe that the start of the coronavirus pandemic probably also affected the development of inward flows of FDI, which dropped significantly in all monitored countries. Somewhere they even reached negative values (Hungary). Negative FDI values indicate that investment outflows exceed inflows. This is a situation where the loans from the affiliate to the parent company exceed the loans and capital provided by the parent company to the affiliate.

From the point of view of the countries (Figure 3), Estonia fared best with an average value of this indicator (Inward flows as % of GDP) within the monitored period of 5.5%, but also with
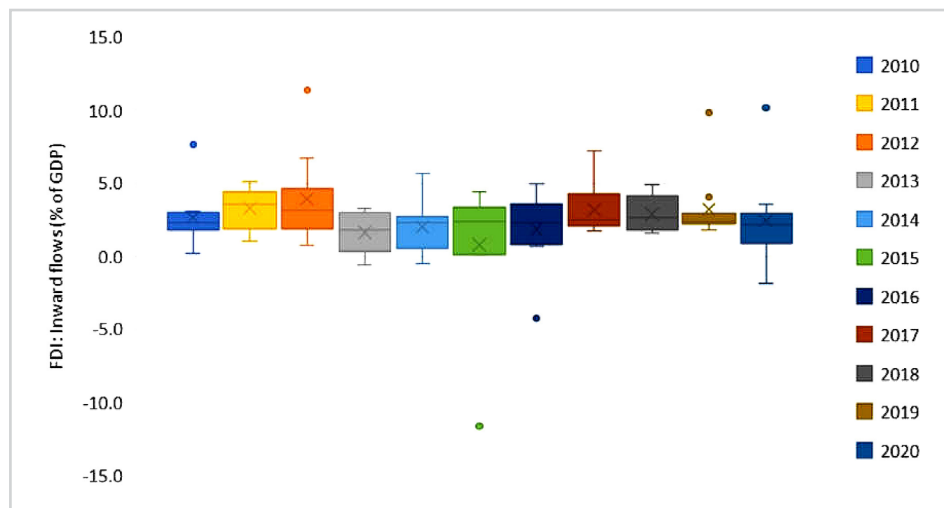

Figure 2:
FDI Inward flows (% of GDP) by a time period
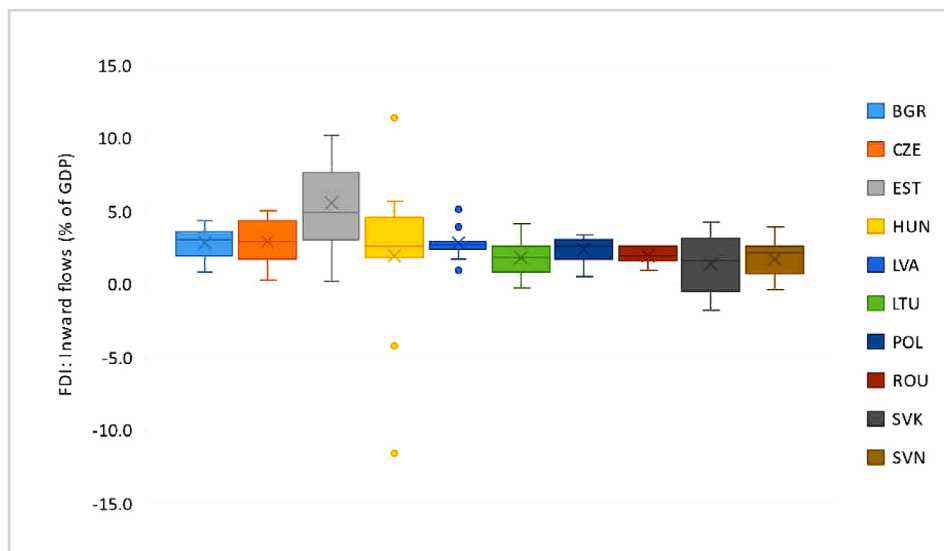Source: Own processing based on data from UNCTADstat

Figure 3:
FDI Inward flows (% of GDP) by CEE countries
Source: Own processing based on data from UNCTADstat

the greatest variability of RQ values = 4.6%. It was followed by the Czech Republic (on average 3%, RQ = 2.6%) and Bulgaria (on average 2.8%, RQ = 1.6%). On the contrary, Slovakia fared the worst, with an average value of the indicator of only 1.3%, but also with the second largest variability of values RQ = 3.7%. It was followed by Slovenia (on average 1.7%, RQ = 1.8%) and Lithuania (on average 1.8%, RQ = 1.7%). The upper and lower extremes of the values were shown by the Hungary and Latvia, which at the same time manifested the lowest variability in the values of this indicator, only RQ = 0.6%. The highest average year-on-year increase of 0.25 percentage points (hereafter p.p.), although relatively negligible, was reported in Estonia. The highest average year-on-year decrease of -0.4 p.p. was in Slovakia.

The aforementioned results can be verified in Table 2. We note that the years 2012, 2017 and 2019 were relatively the best in attracting FDI in the monitored period, the analyzed countries achieved the highest shares of incoming FDI on GDP on average. The year 2015 was significantly the weakest with an average value of the indicator of 0.8% in the examined countries. The year 2017 was exceptional in the case of Slovakia, when our country reported the third highest value of the indicator within this year and at the same time the highest for the entire monitored period (the share of FDI inflow to GDP was 4.2% of GDP).

Table 2:
FDI Inward flows (% of GDP) in the time period 2010-2020 in CEE countries

Country / Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BGR	**3.1**	3.6	3.1	**3.3**	0.8	**4.4**	1.9	3.1	1.7	2.5	**3.6**
CZE	**2.9**	1.0	3.8	1.7	2.6	0.2	**5.0**	4.4	**4.4**	**4.0**	2.6
EST	**7.7**	**4.3**	**6.7**	**3.1**	2.6	0.2	**4.4**	**7.2**	**4.9**	**9.8**	**10.2**
HUN	1.8	**4.6**	**11.4**	2.6	**5.7**	-11.6	-4.2	2.5	**4.0**	2.4	**2.7**
LVA	1.8	**5.1**	**3.9**	**3.0**	**2.9**	2.7	0.9	2.3	2.8	**2.6**	2.6
LTU	2.7	4.1	1.9	1.2	-0.3	2.5	0.7	2.1	1.8	2.1	0.9
POL	2.7	3.0	2.5	0.5	**2.6**	**3.2**	**3.3**	1.7	2.7	1.8	1.7
ROU	1.8	1.3	1.9	1.9	1.6	2.2	2.7	2.6	2.6	2.3	0.9
SVK	2.0	3.5	3.2	-0.6	-0.5	0.1	0.9	**4.2**	1.6	2.3	-1.8
SVN	0.2	2.1	0.7	-0.3	2.1	**3.9**	2.8	1.8	2.6	2.3	1.0
Average	2.7	3.3	3.9	1.6	2.0	0.8	1.8	3.2	2.9	3.2	2.4

Note: the three highest values within the considered year are formatted in bold, and the three lowest are in light grey.

Source: Own processing based on data from UNCTADstat

As for the second view of the indicator of inward flows of FDI, specifically as its share of the total world (see Figure 4), at the beginning of the examined period, up to and including 2015, the bottom 50% of the indicator's values (5 countries) showed relatively stable values. We observe differences in the second half of the values, where relatively higher values were reported in 2012
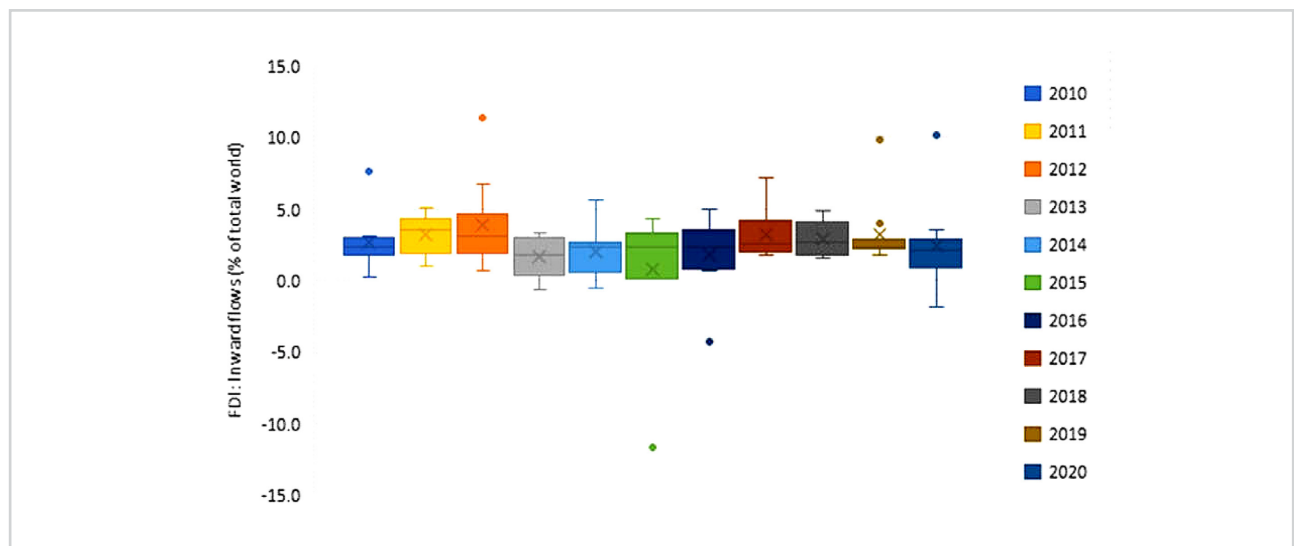

Figure 4:
FDI Inward flows (% of the world) by a time period
Source: Own processing based on data from UNCTADstat

and 2014, when the variability of the indicator values was significantly greater compared to other years in this time period, i.e., until 2015 (RQ2012 = 0.55%, RQ2014 = 0.41%). After 2015, we observe an increase in the share of FDI inward flows in the total world FDI in the studied countries. The best year in FDI acquisition was 2020, with the highest average value of 0.45%, but also with the greatest variability of values in the examined period of 0.69%. The lowest differences in the values of the indicator were reported by the countries in 2015, 0.12%. The biggest variability of values was at the end of the period, in 2020. In the examined period, we also observe the upper and lower extremes of the values. The upper extremes in the entire period were shown by Poland: 0.92%, 0.99%, 0.74% and 0.77%, in the order of 2010, 2011, 2015 and 2016. We explain it by reasoning according to Vlčkova (2018): Poland is much less dependent on foreign capital, particularly due to its larger size. Hungary showed a lower extreme in 2015 (-0.7).

From the point of view of countries (Figure 5), Poland clearly performed best in indicator FDI Inward flows (% of the total world) with an average value within the monitored period of 0.87%, with the third largest variability of RQ values = 0.28%. The Czech Republic followed (on average 0.48%, with the highest variability of values within the examined countries and period RQ = 0.43%). Latvia and Slovenia did the worst, relatively equally, with an average value of the indicator of only 0.05 and 0.08% in the examined period, with relatively even the smallest variability of their values (0.04% and 0.06%). The third country with the lowest share of the indicator was Slovakia, on average 0.08%, with the variability of RQ values = 0.24%. The upper extremes of their values were shown by Bulgaria, Estonia, Lithuania and Poland (0.36%, 0.35%, 0.36% and 1.44% in 2020). The lower extreme was in the case of Hungary (-0.70% in 2015). The relatively highest average year-on-year increase of 0.054 p.p. was reported by the Czech Republic and Hungary and the highest average year-on-year decrease of -0.033 p.p. was in the case of Slovakia.
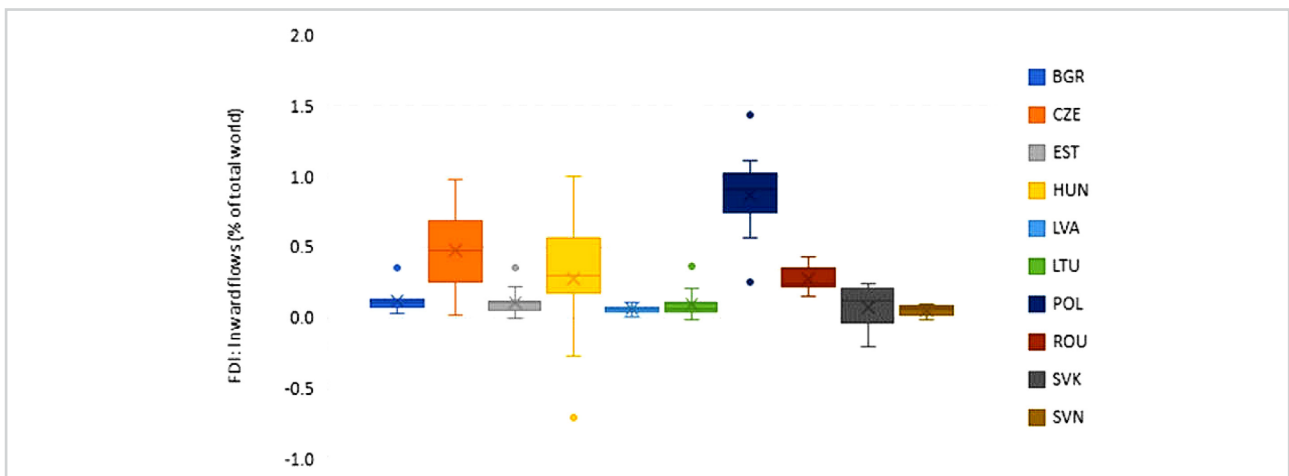

Figure 5:
FDI Inward flows (% of the world) by CEE countries
Source: Own processing based on data from UNCTADstat

Based on the data in Table 3, we conclude, that the years 2018 and 2020 were the relatively best for CEE countries in attracting FDI within the period under review in terms of the global volume of FDI. At this time the countries achieved the highest shares of inward FDI in the world total share on average. The year 2015 was significantly the weakest with an average value of the indicator of 0.05% in the examined countries. In the case of Slovakia, 2011 was an exceptional year. This year, our country reported the third highest value of this indicator among all monitored countries and at the same time the highest value for the entire monitored period (0.22% share of FDI in the whole world).

For illustration, the Table 4 lists and compares the share of FDI inflows of Europe (including Eastern, Northern, Southern and Western) worldwide, the share of the countries analyzed by us worldwide, as well as the share of Central and Eastern European countries in the whole of Europe from 2010 to 2020.

From the point of view of the share of FDI of the world total in the period 2010-2020, CEE countries were the most successful at the end of the examined period (when this share was 4.47%). It represented a 53.3% share of the total inward flows of FDI obtained for the whole of Europe.

Table 3:
FDI Inward flows (% of the total world) in the period 2010-2020 in CEE countries

Country / Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BGR	0.11	0.13	0.12	0.13	0.03	**0.11**	0.05	0.11	0.08	0.12	0.36
CZE	**0.44**	0.14	**0.54**	**0.25**	**0.39**	0.02	**0.48**	**0.58**	**0.76**	**0.68**	**0.98**
EST	0.11	0.06	0.11	0.05	0.05	0.00	0.05	0.12	0.10	0.22	0.35
HUN	0.17	**0.41**	**0.99**	0.25	**0.57**	-0.70	-0.27	0.22	**0.45**	0.29	**0.71**
LVA	0.03	0.09	0.08	0.06	0.06	0.04	0.01	0.04	0.07	0.06	0.11
LTU	0.07	0.11	0.05	0.04	-0.01	0.05	0.01	0.06	0.07	0.20	0.36
POL	**0.92**	**0.99**	**0.85**	**0.25**	**1.02**	**0.74**	**0.77**	**0.56**	**1.10**	**0.91**	**1.44**
ROU	**0.22**	0.15	0.22	**0.25**	0.23	**0.19**	**0.24**	**0.33**	0.43	**0.39**	0.36
SVK	0.13	**0.22**	0.20	-0.04	-0.04	0.01	0.04	0.25	0.12	0.17	-0.20
SVN	0.01	0.07	0.02	-0.01	0.07	0.08	0.06	0.05	0.10	0.10	0.02
Average	0.22	0.24	0.32	0.12	0.24	0.05	0.15	0.23	0.33	0.32	0.45

Note: the three highest values within the considered year are formatted in bold, and the three lowest are in light grey.

Source: Own processing based on data from UNCTADstat

Table 4:
**FDI Inward flows (in %) in the period 2010-2020**

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Europe (% of the total world)	34.7	**36.3**	31.6	30.4	26.0	**37.0**	**38.8**	31.4	27.5	27.3	8.4
CEE countries (% of the total world)	2.20	2.36	**3.18**	1.22	2.38	0.53	1.46	2.33	**3.27**	3.15	**4.47**
CEE countries (% of total Europe)	6.4	6.5	10.1	4.0	9.2	1.4	3.7	7.4	**11.9**	**11.5**	**53.3**

Note: the three highest values within the considered characteristic are formatted in bold, and the three lowest are in light grey.

Source: Own processing according to data from UNCTADstat

In the discussion, we evaluate each indicator for each country separately, as well as the share of FDI of Europe (as % of the world total), and the share of FDI of CEE countries (as % of the world total and as % of the European total).

On the cartogram in Figure 6 we present the share of the inward stocks of FDI on the total GDP of the country for the last year of the examined period in the graduated color of the country. It
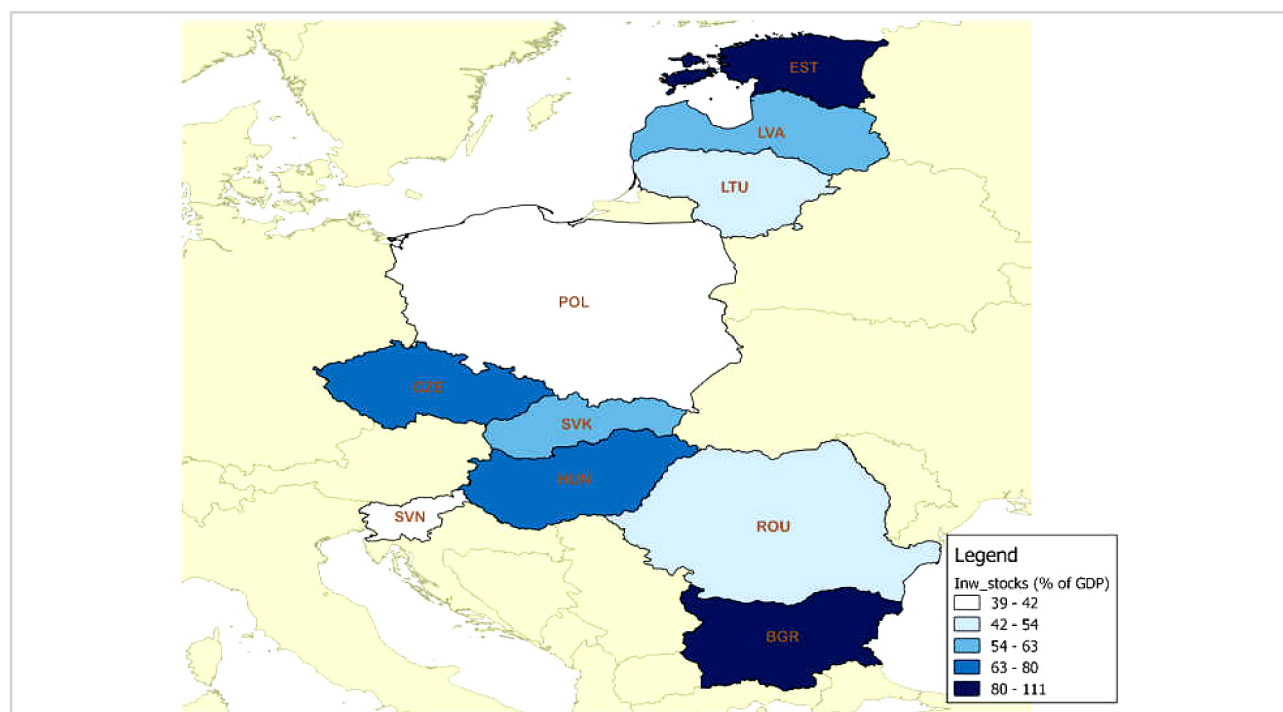
Note: Indicator values are included in quintiles, i.e., to five intervals.

Figure 6:
FDI inward stocks (% of GDP) in analyzed CEE countries in 2020
Source: Own processing according to data from UNCTADstat

Liptáková, K., Rigová, Z., & Cibuľa, P. / Economic Annals-XXI (2023), 202(3-4), 17-30

turns out that the volume of inward stocks of FDI in 2020 was dominated by Estonia and Bulgaria (110.9% and 88.37%), followed by Czechia and Hungary. Slovenia and Poland showed the lowest volume of inward stocks of FDI (38.6% and 41.8%), followed by Lithuania and Romania (42.6% and 43.4%). In this comparison, Slovakia was placed in the middle together with Latvia with a volume of 61.2% and 60.9% (in the order in which they are listed).

The last Figure 7 shows regional disparities in monitored indicators through the coefficient of variation. In the case of the first two analyzed indicators, FDI inward flows as a % of GDP and FDI inward flows as a % from the whole world, we observe relatively large regional differences. If we ignore the year 2015, when Hungary showed the lowest extremes of these values, the highest differences were reported in 2016 (CoV_FDI inward flows (% of GDP) = 141% a CoV_FDI inward flows (% of world total) = 198%). The smallest differences in the indicator FDI inward flows (as % of GDP) were in 2018 and 2011 at the level of 40% and 43%. In the case of the indicator FDI inward stocks (as % of GDP), we observe relatively smaller regional differences, below the level of 38% in the monitored period. They were the lowest in the years 2016 to 2019, less than 35%.

To identify the relationship between the inflow of FDI into the country (monitored in pursuance of individual indicators) and the change in GDP of the country we apply the Pearson correlation coefficient to the considered indicators (at the beginning, in the middle and at the end of the studied period). However, in this case, all indicators are considered in current USD. Table 5 shows a strong direct dependence, i.e., inflows of FDI (either inward flows or inward stocks) affects the country's economic performance.
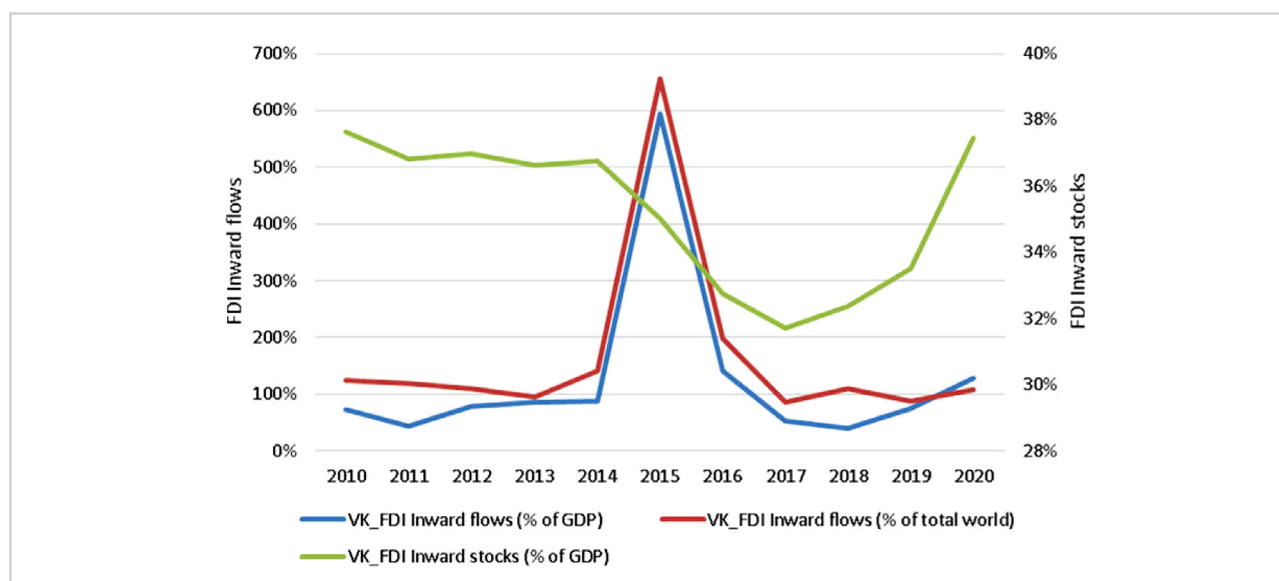

Figure 7:
The coefficient of variation (CoV) of the analyzed 3 indicators in the years 2010-2020 for CEE countries (in %)
Source: Own processing based on data from UNCTADstat

Table 5:
Pearson correlation coefficient for 2010, 2015 and 2020

Indicator	2010_GDP (current USD)	2015_GDP (current USD)	2020_GDP (current USD)
2010_FDI: Inward stock (current USD)	0.951		
2010_FDI: Inward flows (current USD)	0.978		
2015_FDI: Inward stock (current USD)		0.955	
2015_FDI: Inward flows (current USD)		0.582	
2020_FDI: Inward stock (current USD)			0.938
2020_FDI: Inward flows (current USD)			0.827

Source: Own processing according to data from UNCTADstat

6. Conclusion

The development of foreign direct investments in CEE countries in the years 2010-2020 based on the monitored indicators was quite diversified. We monitored inward flows (as % of GDP), inward flows (as % of the total world) from a time period point of view and by individual CEE countries and

the stock of inward FDI (as % of GDP) in the year 2020 by countries. We also looked at the share of the inward flows of FDI of the CEE countries as a whole compared to Europe and the rest of the world in the monitored period.

As for the first indicator (FDI Inward flows as % of GDP), at the beginning of the period under review, its value increased slightly, then decreased slightly, and at the end, it returned to relatively the same level as at the beginning. Variability changed subtly during the observed period. The coronavirus pandemic significantly affected the development of inward flows of FDI in all monitored countries; they fell in 2020, even to negative values in Hungary. From the point of view of countries, Estonia led this indicator, followed by Czechia and Bulgaria. On the contrary, Slovakia fared the worst, with an average value of only 1.3%, followed by Slovenia and Lithuania. The relatively best years within the examined period were 2012, 2017 and 2019, when the analyzed countries on average achieved the highest shares of inward FDI flows as % of GDP. The year 2015 was significantly the weakest, with an average value of 0.8% of the surveyed countries. In the case of Slovakia, 2017 was an exceptional year, our country showed the third highest value of the indicator among all monitored countries within this year, as well as its highest in the entire monitored period (share of 4.2% of GDP, Table 2). The inflow of FDI amounted to 1,417.2 million euros. Several renowned foreign companies came to Slovakia (e.g., the American company Amazon - to Sereď town, the Japanese concern Minebea - to Košice city), which influenced the situation.

Regarding the second view of the indicator of FDI inward flows, specifically as its share of the total world, after 2015 we observe an increase the surveyed countries, where 2020 was the best year for receiving FDI. This indicator was led by Poland, followed by Czechia. Latvia and Slovenia fared the worst, relatively equally. The third country with the lowest share of the indicator was Slovakia. The years 2018 and 2020 were relatively the best within the examined period in terms of the global volume of FDI when the CEE countries achieved the highest shares of inward FDI on average. The year 2015 was significantly the weakest. In the case of Slovakia, 2011 was an exceptional year, when our country showed the third highest value of the indicator among all monitored countries, as well as the highest in the entire monitored period (0.22% share of FDI of world total, Table 3).

Estonia and Bulgaria dominated in the stocks of inward FDI (as % of GDP) in 2020, followed by Czechia and Hungary. Slovenia and Poland showed the lowest volume. Lithuania and Romania were placed just ahead of them. Slovakia and Latvia were placed in the middle of the compared countries. The data on inward stocks of FDI on the total GDP of the country do not fully correspond with the economic results of the monitored countries (Figure 1). The map showed that the two countries with the smallest area and population, Slovenia, and Estonia, had the highest GDP per capita in 2020. They were followed by Czechia and Lithuania. Slovakia and Latvia were placed in the middle. Next in line were Hungary and Poland. Romania and Bulgaria had the lowest value of GDP per capita in the examined period. The most significant differences in the position of individual countries are found in Bulgaria and Slovenia. Bulgaria dominated in the monitored year 2020 in the share of FDI inward stocks in the total GDP of the country (88.4%), at the same time it had the lowest created GDP per capita among the monitored countries (USD 10.1 thousand). Slovenia dominated in 2020 in GDP per capita (USD 25.5 thousand) but had the lowest volume of inward stocks of FDI as % of GDP (38.6%).

To identify the relationship between the inflow of FDI into the country (monitored in pursuance of individual indicators) and the change in GDP of the country we applied the Pearson correlation coefficient to the considered indicators (expressed in current USD) at the beginning, in the middle and at the end of the studied period. The results showed a strong direct dependence, i.e., inflows of FDI (either inward flows or inward stocks) affects the country's economic performance.

When we return to the formulated research questions: Are the CEE countries similar in terms of development FDI inflows in the years under review? Does the inward foreign direct investment into a country affect its gross domestic product, does it have impact on the economic growth of the countries Central and Eastern Europe?

The CEE countries were quite diversified in inward FDI tracked through the two indicators in monitored period. The results of the conducted research in 2010-2020 in CEE countries confirmed the established research questions that the inward of foreign direct investment into a country affects its gross domestic product and has positive impact on the economic growth.

References

1. Babuněk, O. (2012). Foreign Direct Investment in Visegrad Four and the Main Trading Partners. Statistika, 49(4). 14-26. https://journaldatabase.info/articles/foreign_direct_investment_visegrad.html
2. Baiashvili, T., & Gattini, L. (2020). Impact of FDI on economic growth: The role of country income levels and institutional strength. EIB Working Paper, 2020/02. European Investment Bank. https://www.eib.org/attachments/efs/economics_working_paper_2020_02_en.pdf
3. Balasubramanyam, V., N., Salisu, M., & Sapsford, D. (1996). Foreign Direct Investment and Growth in EP and IS Countries. The Economic Journal, 106(434), 92-105. https://doi.org/10.2307/2234933
4. Baláž, P. (2010). International Business. (Medzinárodné podnikanie). Bratislava: Sprint (in Slovak).
5. Banque de France. (2020). Foreign direct investment. https://www.banque-france.fr/en/statistics/balance-payments/foreign-direct-investment
6. Batrancea, I., Mozi, R. M., Gaban, L., Fatacean, G., Tulai, H., Bircea, I., & Rus, M.-I. (2020). An Empirical Investigation on Determinants of Sustainable Economic Growth. Lessons from Central and Eastern European Countries. Journal of Risk and Financial Management, 13(7), 146-161. https://doi.org/10.3390/jrfm13070146
7. Bijsterbosch, M., & Kolasa, M. (2009). FDI and Productivity Convergence in Central and Eastern Europe: An Industry-Level Investigation. Working Paper Series, No. 992. Frankfurt am Main: European Central Bank. https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp992.pdf
8. Bostan, I., Toma, C., Aevoae, G., Robu, I.-B., Mardiros, N. D., & Topliceanu, Ş. C. (2023). Effects of Internal and External Factors for Economic Growth in Emerging Economies: Evidence from CEE Countries. Eastern European Economics, 61(1), 66-85. https://doi.org/10.1080/00128775.2022.2109489
9. Calimanu, S. (2021, May 24). Benefits and advantages of foreign direct investment. ResearchFDI. https://researchfdi.com/benefits-fdi-foreign-direct-investment
10. Camesasca, P., & Kingsbury, K. (2022). Foreign Direct Investment. https://www.concurrences.com/en/dictionary/foreign-direct-investment-fdi
11. Corporate Finance Institute. (2022). What is Foreign Direct Investment? https://corporatefinanceinstitute.com/resources/knowledge/economics/foreign-direct-investment-fdi
12. Czech, K., & Fronczek, M. (2017). The Significance of FDI for Measuring the Degree of Globalisation of the National Economies of the Visegrad Group Countries in Comparison with the EU-28. Globalisation and its Socio-economic Consequences (pp. 307-314). Žilina: University of Zilina. https://www.researchgate.net/publication/349251763_The_significance_of_FDI_for_measuring_the_degree_of_globalization_of_the_national_economies_of_the_Visegrad_Group_countries_in_comparison_with_the_EU-28
13. Darmo, L., & Novák, M. (2015). The Role of Foreign Direct Investment in the Transformation Process of the Slovak Republic. In SGEM 2015: Political Sciences, Law, Finance, Economics and Tourism, Vol II (pp. 947-954). https://scholar.google.com/citations?view_op=view_citation&hl=sk&user=hy3YxqkAAAAJ&sortby=pubdate&citation_for_view=hy3YxqkAAAAJ:8k81kl-MbHgC
14. Darmo, Ľ., Novák, M., & Lisý, J. (2020). Relationship Between Foreign Direct Investment Inflow and Unemployment in the Slovak Republic. Politická Ekonomie (Political Economy), 68(4), 443-461. https://doi.org/10.18267/j.polek.1289
15. de Mello, Jr. L. R. (1997). Foreign direct investment in developing countries and growth: A selective survey. The Journal of Development Studies, 34(1), 1-34. https://doi.org/10.1080/00220389708422501
16. Dombi, A. (2013). The Sources of Economic Growth and Relative Backwardness in the Central Eastern European Countries between 1995 and 2007. Post-Communist Economies, 25(4), 425-447. https://doi.org/10.1080/14631377.2013.844927
17. Drahokoupil, J. (2022). Foreign direct investment. https://www.britannica.com/topic/foreign-direct-investment
18. Dudáš, T. (2006). Foreign direct investment in the world economy (Priame zahraničné investície vo svetom hospodárstve). Bratislava: Ekonóm (in Slovak).
19. Ďurčová, J. (2012). Environment as a Factor for Foreign Direct Investment Location in the Conditions of the V4 Countries. In SGEM2012 12th International Multidisciplinary Scientific GeoConference and EXPO, Vol. IV (pp.919-926). https://doi.org/10.5593/sgem2012/s22.v4012https://www.researchgate.net/publication/268586106_ENVIRONMENTASAFACTORFORFDILOCATIONINTHECONDITIONSOFTHEV4COUNTRIES
20. Ďurka, P. (2015). Analysing of correlation of knowledge capital of V4 countries by selected factors. Procedia Economics and Finance, 20, 177-184. https://doi.org/10.1016/S2212-5671(15)00063-5
21. Economy. (2022). What is «foreign direct investment»? https://www.ecnmy.org/learn/your-world/globalization/foreign-direct-investment
22. Fabuš, M., & Csabay, M. (2018). State aid and investment: the case of Slovakia. In Entrepreneurship and Sustainability Issues, 6(2), 480-488. https://doi.org/10.9770/jesi.2018.6.2(1)
23. Fifeková, E., & Nemcová, E. (2015). Impact of FDI on Economic Growth: Evidence from V4 Countries. Periodica Polytechnica Social and Management Sciences, 23(1), 7-14. https://doi.org/10.3311/PPso.7993
24. Fifeková, M. (2008, November 7). Foreign direct investment and spill over effects (in Slovak). https://euractiv.sk/section/ekonomika-a-euro/opinion/priame-zahranicne-investicie-a-efekty-spillovers
25. Fuchsová, E., & Siviček, T. (2013). FDI as a Source of Patent Activity in V4. In Proceedings of the 11th International Conference on Liberec Economic Forum (pp. 146-155). Liberec: Technical University. https://dspace.tul.cz/server/api/core/bitstreams/18da8311-18cb-4d69-8e40-5f337683f07c/content
26. Galgóczi, B., Drahokoupil, J. (2017). Condemned to be left behind? Can Central and Eastern Europe emerge from its low-wage model? Brussels: ETUI aisbl. https://www.etui.org/sites/default/files/post-FDI-WEB.pdf
27. Gallova, Z. (2012). Foreign Direct Investment in Selected Countries of Balkan and in the Visegrad Group Countries: Does it Crowd out or Crowd in Domestic Investment? In Proceedings of the 13th International Conference on Finance and Banking (pp. 90-97). Karviná: University of Silesia in Opava. https://starfos.tacr.cz/vysledky-vyzkumu/RIV%2F47813059%3A19520%2F12%3A%230001718?query=7e2iaac7zquq
28. Giakoulas, D. (2021). Trends and Patterns of Greek Outward FDI in CEE Countries. International Journal of Business and Economic Sciences Applied Research, 14(2), 14-28. https://doi.org/10.25103/ijbesar.142.02

29. Gorynia, M., Nowak, J., & Wolniak, R. (2010). Foreign Direct Investment in Central and Eastern Europe: The IDP trajectories of selected countries. Economics and Business Review, 10(1), 5-26. https://doi.org/10.18559/ebr.2010.1.899

30. Grančay, M., & Grančay, N. (2017). Foreign Direct Investment in Slovakia: The Tatra Tiger Gone Tame? In Szent-Iványi, B. (Eds). Foreign direct investment in Central and Eastern Europe: post-crisis perspectives. tudies in Economic Transition. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-40496-7_4

31. Gural, A., & Lomachynska, I. (2017). FDI and Financial Development as Determinants of Economic Growth for V4 countries. Baltic Journal of Economic Studies, 3(4), 59-64. https://doi.org/10.30525/2256-0742/2017-3-4-59-64

32. Herzer, D. (2010). How does foreign direct investment really affect developing countries' growth? In IAI Discussion Papers, No. 207 (pp. 1-31). Göttingen: Ibero-America Institute for Economic Research. http://hdl.handle.net/10419/57319

33. Hindls, R., Hronová, S., & Seger, J. (2004). Statistics for economists. Praha: Professional Publishing. https://www.researchgate.net/publication/40335554_Statistika_pro_ekonomy (in Slovak)

34. Hlavacek, P., & Bal-Domańska, B. (2016). Impact of Foreign Direct Investment on Economic Growth in Central and Eastern European Countries. In Engineering Economics, 27(3), 294-303. https://doi.org/10.5755/j01.ee.27.3.3914

35. Hošková, A. (2001). Impact of foreign direct investment on the economy of Slovakia. Bratislava: National Bank of Slovakia, Institute of Monetary and Financial Studies. https://www.nbs.sk/_img/documents/publik/hos58.pdf

36. Hudáková, J., Papcunová, V., Štubňová, M., & Urbaníková, M. (2020). Relationship of Labour Costs and Labour Productivity with Foreign Direct Investment in the V4 Countries. Polish Journal of Management Studies, 22(2), 173-186. https://doi.org/10.17512/pjms.2020.22.2.12

37. Hudec, O. (2007). Regional innovation systems. Strategic planning and forecasting. (Regionálne inovačné systémy. Strategické plánovanie a prognózovanie) Košice: Faculty of Economics of the Technical University in Košice. https://www.academia.edu/15714076/Region%C3%A1lne_inova%C4%8Dn%C3%A9_syst%C3%A9my_strategick%C3%A9_pl%C3%A1novanie_a_progn%C3%B3zovanie (in Slovak).

38. Hunya, G. (2002). FDI in South-Eastern Europe in the early 2000s. WIIW Research Reports No. 273. Vienna: The Institute for International Economic Studies. https://www.oecd.org/czech/1940829.pdf

39. International Visegrad Fund. (2022). Effects of Industry 4.0 on FDI in the Visegrad countries, 2021. The research project within the Visegrad Fund framework. https://industry40fdi.com/our-project

40. Jankovic, E. M., & Yatrakis, P. G. (2011). The Financial Setting for FDI Inflows into Czechia and Slovakia. International Business Research, 4(3), 45-52. https://doi.org/10.5539/ibr.v4n3p45

41. Javorčík, B. S., & Kaminski, B. (2004). The «EU Factor» and Slovakia's Globalisation: The Role of Foreign Direct Investment. Czech Journal of Economics and Finance, 54(9-10), 456-472. https://www.researchgate.net/publication/242514642_The_EU_Factor_and_Slovakia's_Globalization_The_Role_of_Foreign_Direct_Investment

42. Jenčová, S., & Litavcová, E. (2013). Quantification of the influence of direct foreign investments on selected macroeconomic indicators in the conditions of the Slovak Republic. In Finančné trhy (Financial markets), November, 2013. http://www.derivat.sk/index.php?PageID=2165 (in Slovak)

43. Kabat, L., Cibák, L., & Filip, S. (2020). The Remittance Inflows in Visegrad Countries: A source of Economic Growth, or Migration Policy Misting? In Entrepreneurship and Sustainability Issues, 8(2), 606-628. https://doi.org/10.9770/jesi.2020.8.2(37)

44. Kornecki, L., & Raghavan, V. (2011). Inward FDI Stock and Growth in Central and Eastern Europe. In The International Trade Journal, 25(5), 539-557. https://doi.org/10.1080/08853908.2011.604297

45. Krajco, K., Honova, I., Hon, M., Melecky, L., & Stanickova, M. (2014). Analysis of Foreign Direct Investment in the Industry of the Slovak Republic. In Proceedings of the 2nd International Conference of European Integration (pp. 365-371). Ostrava: Technical University.

46. Lebiedzik, M., Majerová, I., & Nezval, P. (2006). Světová ekonomika (World economy). Brno: Computer Press.

47. Lipsey, E. R. (2006). Measuring the Impacts of FDI in Central and Eastern Europe. Working Paper 12808. NBER Working paper series. https://doi.org/10.3386/w12808

48. Matlovič, R., & Matlovičová, K. (2011). Regional disparities and their solution in Slovakia in different contexts. In Folia geographica 18, 8-88. http://www.fhpv.unipo.sk/~matlovicova/vystupy/REGIONALNE%20DISPARITY%20A%20ICH%20RIESENIE%20NA%20SLOVENSKU%20V%20ROZLICNYCH%20KONTEXTOCH%20-%20Matlovic%20-%20Matlovicova%20-%202011%20opt.pdf (in Slovak).

49. Merková, M., Rajnoha, R., & Novák, P. (2012). Quantitative and qualitative diagnostics methods for measuring the effects of foreign direct investment in terms of the wood-processing industry in the Slovak republic. Drewno (Wood), 55(187), 65-86. http://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-article-BATA-0015-0039

50. Mihaylova, S. (2019). Foreign Direct Investment Attraction in Central, Eastern and South- Eastern Europe: the Importance of Public Policy. In Bulgarian Economic Papers (pp. 1-26). https://econpapers.repec.org/paper/skowpaper/bep-2019-07.htm

51. Mihaylova, S. (2020). Foreign Direct Investment Attractiveness of Central, Eastern, and Southeastern European Countries: The Importance of Policy-Related Location Advantages. Croatian Economic Survey, 22(1), 65-101. https://doi.org/10.15179/ces.22.1.3

52. Minarčík, P. (2009). A few notes on selected aspects of the operation and effects of foreign direct investments. Acta Geographica Universitatis Comenianae, 55(2), 97-106 (in Slovak).

53. Mišun, J., & Tomšk, V. (2002). Does Foreign Direct Investment Crowd in or Crowd out Domestic Investment? Eastern European Economics, 40(2), 38-56. https://doi.org/10.1080/00128775.2002.11041015

54. Neumannova, A. (2013). Analysis of Macroeconomic Localization Factors of Foreign Direct Investment to Slovakia. In Š. Majtán (Ed.), Aktuálne problémy podnikovej sféry (pp. 410-416). Bratislava: Ekonóm. https://fpm.euba.sk/www_write/files/veda-vyskum/Zborniky-APPS/2013.pdf

55. Organisation for Economic Cooperation and Development. (2002). Foreign Direct Investment for Development. Maximizing benefits, minimising costs. https://www.oecd.org/investment/investmentfordevelopment/foreigndirectinvestmentfordevelopmentmaximisingbenefitsminimisingcosts.htm

56. Organisation for Economic Cooperation and Development. (2022). Foreign direct investment. OECD iLibrary. https://doi.org/10.1787/9a523b18-en

57. Owczarczuk, M. (2020). Institutional competitiveness of Central and Eastern European countries and the inflow of foreign direct investments. Catallaxy, 5(2), 87-96. https://doi.org/10.24136/cxy.2020.008
58. Pandya, S. S. (2010). Labour Markets and the Demand for Foreign Direct Investment. International Organization, 64(3), 389-409. https://doi.org/10.1017/S0020818310000160
59. Pánková, V. (2020). Capital Mobility in V4 Economies. In 38th International Conference on Mathematical Methods in Economics (pp. 416-422). Brno: Mendeleev University, 2020.
60. Pilarska, C., & Walega, G. (2017). Foreign Direct Investment and Development in the Visegrad Countries- a Panel Data Analysis. In S. Kapounek, & H. Vránová (Eds.). 11th International Days of Statistics and Economics (pp. 1223-1232). Brno: Mendel University in Brno. https://mme2020.mendelu.cz/wcd/w-rek-mme/mme2020_conference_proceedings_final_final.pdf
61. Popescu, G. H. (2014). FDI and Economic Growth in Central and Eastern Europe. Sustainability, 6(11), 8149-8163. https://doi.org/10.3390/su6118149
62. Prochniak, M. (2011). Determinants of Economic Growth in Central and Eastern Europe: The Global Crisis Perspective. Post-Communist Economies, 23(4), 449-468. https://doi.org/10.1080/14631377.2011.622566
63. Sakali, Ch. (2013). Determinants of foreign direct investment in Bulgaria: An econometric analysis using panel data. Journal of Economics and Business, XVI(1), 73-97. https://www.u-picardie.fr/eastwest/fichiers/art168.pdf
64. Simionescu, M., Lazányi, K., Sopková, G., Dobeš, K., & Balcerzak, A. P. (2017). Determinants of Economic Growth in V4 Countries and Romania. Journal of Competitiveness, 9(1), 103-116. https://doi.org/10.7441/joc.2017.01.07
65. Sohinger, J. (2005). Growth and Convergence in European Transition Economies: The Impact of Foreign Direct Investment. Eastern European Economics, 43(2), 73-94. https://doi.org/10.1080/00128775.2005.11041099
66. Su, Wh., Zhang, D., Zhang, Ch., Abrhám, J., Simionescu, M., Yaroshevich, N., & Guseva, V. (2018). Determinants of foreign direct investment in the Visegrad group countries after the EU enlargement. Technological and Economic Development of Economy, 24(5), 1955-1978. https://doi.org/10.3846/tede.2018.5487
67. Suhányi, L., Suhányiová, A., Korečko, J., Bednárová, L., Kádárová, J., Derkawi, H., & Bačová, K. (2021). Relations between the inflow of foreign direct investments and economic indicators in OECD countries. Acta Montanistica Slovaca, 26(4), 810-824. https://doi.org/10.46544/AMS.v26i4.17
68. Sunesen, E. R., Jeppesen, T., Theilgaard, Ch., & Kristensen, I., & Grunfelder, J. (2018). The World in Europe, global FDI flows towards Europe. Extra-European FDI towards Europe. Applied Research. Main Report. Luxembourg: ESPON, https://copenhageneconomics.com/wp-content/uploads/2021/12/espon-fdi-02-main-report-extra-european-fdi-towards-europe.pdf
69. Susic I., Stojanovic-Trivanovic, M., & Susic, M. (2016). Foreign direct investments and their impact on the economic development of Bosnia and Herzegovina. Innovative Ideas in Science 2016, 200, 1-16. https://doi.org/10.1088/1757-899X/200/1/012019
70. Szkorupová, Z. (2015). Relationship between Foreign Direct Investment and Domestic Investment in Central and Eastern Europe Depending on Openness of the Economy. Acta academica karviniensia (Karvinian academic journal), 14(4), 77-87. https://doi.org/10.25142/aak.2014.069
71. Táncošová, J. (2019). The role of foreign direct investment in the economy of Slovakia. Entrepreneurship and Sustainability Issues, 6(4), 2127-2135. https://doi.org/10.9770/jesi.2019.6.4(40)
72. The World Economic Forum. (2022, May 24). Boosting capital for development- Here's how to advance sustainable Foreign Direct Investment. https://www.weforum.org/impact/sustainable-investment
73. United Nations Conference on Trade and Development. (2023). Official web-site, (statistical data). https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx
74. United Nations Economic and Social Commission for Asia and the Pacific. (2021, June 29). Reaping the benefits of FDI 4.0 and digital FDI for sustainable development. https://www.unescap.org/blog/reaping-benefits-fdi-40-and-digital-fdi-sustainable-development
75. Urbánová, M., Kozáková, J., Svetlanská, T., & Ďurišová, E. (2019). Impact of Foreign Direct Investments in V4 Countries - Focus on Slovakia. Agrarian Perspectives XXVIII (pp. 321-328). Prague: Czech University Life Sciences. https://ap.pef.czu.cz/en/r-12193-conference-proceedings
76. Vehorn, Ch. L., & Vasarevic, A. (2011). FDI and Macroeconomic Policies in Central and Eastern European Countries. Zagreb International Review of Economics and Business, 14(1), 123-134. https://hrcak.srce.hr/78729
77. Velde, D. W. (2001, March 1). Policies towards Foreign Direct Investment in Developing Countries: Emerging Best-Practices and Outstanding Issues. London: Overseas Development Institute. https://odi.org/en/publications/policies-towards-foreign-direct-investment-in-developing-countries-emerging-best-practices-and-outstanding-issues
78. Vlckova, J. (2018). Visegrad Countries in Global Production Networks: Values Creation, Control and Capture. Geographia Polonica, 91(4), 427-448. https://doi.org/10.7163/GPol.0129
79. Vojtovič S., Klimaviciene A., & Pilinkiene, V. (2019). The Linkages between Economic Growth and FDI in CEE Countries. Ekonomický časopis (Economic Journal), 67(3), 264-279. https://www.sav.sk/journals/uploads/0410110503%2019%20Vojtovi%C4%8D%20+%20SR.pdf
80. World Bank. (2023). Official web-site, (statistical data). https://databank.worldbank.org/source/world-development-indicators
81. Zélity, B. (2022). The welfare effects of FDI: A quantitative analysis. Journal of Comparative Economics, 50(1), 293-320. https://doi.org/10.1016/j.jce.2021.09.007
82. Zysk, W., & Śmiech, S. (2014). The Influence of Foreign Direct Investment on Foreign Trade in the Visegrad Countries from 2001 to 2011. Entrepreneurial Business and Economics Review, 2(3), 7-18. https://doi.org/10.15678/EBER.2014.020302